4TH INTERNATIONAL TRANSLATIONAL MEDICINE CONGRESS OF STUDENTS AND YOUNG PHYSICIANS

BOOK OF ABSTRACTS

OSCON

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MIND & MATTER

living in the 21st century

31ST MARCH - 2ND APRIL 2022

BOOK *of* ABSTRACTS

4TH INTERNATIONAL TRANSLATIONAL MEDICINE CONGRESS OF STUDENTS AND YOUNG PHYSICIANS

OSCON

OSIJEK STUDENT CONGRESS

2022

OSCON

PUBLISHER:

J.J. STROSSMAYER UNIVERSITY OF OSIJEK
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TABLE OF CONTENT

Committees.

I. ORGANISING COMMITTEE

PRESIDENT: NIKA PUŠELJIĆ
VICE PRESIDENT: MATEA SMAJIĆ

I.I. FUNDRAISING SUBCOMMITTEE

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MEMBERS: DORA PETRIČEVIĆ, LORENA STANOJEVIĆ

I.IV. VOLUNTEERS AND DESIGN SUBCOMMITTEE

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PRESIDENT: IVANA JURIĆ
VICE PRESIDENT: VEDRANA PAVLOVIĆ

MEMBERS: ELEONORA STRUJIĆ, IVO VINCETIĆ, DORIAN LASLO, MATEA LUKIĆ

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PROF. INES DRENJANČEVIĆ, MD, PHD

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PROF. SINIŠA ŠIJANOVIĆ, MD, PHD
PROF. ERIKA PINTER, MD, PHD
ASSOC. PROF. ANA STUPIN, MD, PHD
ASSOC. PROF. ANDREA TAMAS, MD, PHD
ASSOC. PROF. ANDRAS GAR"AMI, MD, PHD
ASSOC. PROF. INES BILIĆ ĆURČIĆ, MD, PHD

GENERAL INFORMATION

Date :

MARCH 31ST - APRIL 2ND , 2022

Venue :

STARA PEKARA
TRG VATROSLAVA LISINSKOG 11, OSIJEK

Topic :

MIND & MATTER:
LIVING IN 21ST CENTURY

Guest Attendance Policy :

ALL REGISTERED PARTICIPANTS ARE WELCOMED TO ALL EVENTS AND LECTURES. WEARING OFFICIAL CONFERENCE BADGES IS OBLIGATORY FOR ENTERING ANY EVENTS.

Language :

ENGLISH

welcome

WELCOME MESSAGE

OSCON

WELCOME MESSAGE FROM THE PRESIDENT OF THE ORGANISING COMMITTEE

Dear colleagues,

It is my great honor and privilege to welcome you on the fourth edition of Osijek Students Congress - OSCON 2022.

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 "Mind & Matter - living in the 21st century" and we are trying to put focus on how stress, hectic lifestyles, unhealthy diets, and lack of exercise are affecting our health. As medical students and doctors, we are faced with 21st-century diseases that have overwhelmed medicine. A large part of the burden caused by non-communicable diseases can be avoided by preventive measures, early diagnosis, and detection and mainly by controlling risk factors such as smoking, alcohol, diet, and physical inactivity. Through lectures will learn about the challenges of the modern lifestyle and hopefully will manage to implement that knowledge in our everyday work, because the more we know the better we can face the problems.

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 the 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 and we hope you will have a pleasant and useful time.
Thank you for your attention!

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 fourth OSCON Congress.

This year, we decided to spread our area of interest and chose a topic that not only in a certain way affects each of us, but also presents an important issue in the century we live in. Cardiovascular diseases, respiratory diseases, lack of mobility, overweight, cancer, and mental sickness are just some of the topics we will discuss on this year's OSCON.

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. Considering that, we found the theme "Mind and matter – living in 21st century" ideally suited for this year's OSCON - an excellent place to make new acquaintances and accomplish new skills which will make contributions in our future work.

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.

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.

I am looking forward 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 the Student Council, Josip Juraj Strossmayer University of Osijek, School of Medicine, it is my great honor to welcome you to the 4th Osijek Student Congress (OSCON) - International Translational Medicine Congress of Students and Young Physicians.

For some time now, we have been in extremely demanding conditions that have had a great impact on the education and healthcare system, but this did not stop us from realizing this admirable event. With the aim that after completing formal education we have, not only a diploma, but also practical knowledge, for the fourth year in a row OSCON is organized as an event that brings together young enthusiasts, eager for knowledge and skills from various countries.

"Medicine is of all the Arts the most noble", just as Hippocrates stated, OSCON allows us to live our art, develop in scientific and professional form, and all this ultimately results in broadening our horizons, acquiring new skills, and of course, advances in science. As one of the most important parts of this congress, I would like to emphasize the exchange of experiences and new acquaintances that are the foundation of successful cooperation in the future and progress in the professional life.

I would like to take this opportunity to thank the Dean of School of Medicine and the Student Council, Josip Juraj Strossmayer University of Osijek for their help and support in organization. Special thanks must be given to the entire Organising and Scientific Committee who worked tirelessly to give us the opportunity for growth and development, and without which this magic would not be possible.

At last, I would like to wish you all a pleasant stay in Osijek during these few days, a lot of fun, acquired knowledge, skills, and of course, beautiful memories that will motivate you for further work.

LUKA MEDIĆ

PRESIDENT OF THE STUDENT COUNCIL

about us

ABOUT US

OSCON

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, making it the flagship institution of higher education in Slavonia, and one of the largest and oldest universities in 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. It is ranked as the Croatia's fourth best university among the 49 ranked institutions of tertiary education from the country.

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.

Also, did you know that 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 Tvrda, 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 Tvrda 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 and 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

PROGRAMME

OSCON

31st March

THURSDAY

REGISTRATIONS
09:00 - 11:00
LOBBY

OPENING CEREMONY
11:00 - 11:45
CONFERENCE HALL
3RD FLOOR

SESSION I.
CONFERENCE HALL
12:00 - 13:00
PROF. LADA ZIBAR, MD, PHD
PROF. SANJA MUSIĆ MILANOVIĆ, MD, MPH, PHD

BUFFET LUNCH
13:00 - 14:00
CONFERENCE HALL
3RD FLOOR

STUDENT SESSION I.
14:00 - 16:00
ORAL PRESENTATIONS
MEETING ROOM (GROUND FLOOR)

WORKSHOPS I.
16:00 - 16:45
WORKSHOPS I.
STUDIOS - 2ND FLOOR
- PLACE THE TUBE INTO THE RIGHT PLACE — **STUDIO 3**
- ALS WITHOUT STRESS — **STUDIO 8**
- MEDICAL ETHICS IN PRACTICE — **STUDIO 4**
- THE (ULTRA) SOUND OF THE IV — **STUDIO 7**
- WHEN BABY SURPRISES YOU — **STUDIO 9**
- AN UNWANTED PASSENGER — **STUDIO 2**

16:45 - 17:00
PAUSE

17:00 - 17:45
WORKSHOPS II.
STUDIOS - 2ND FLOOR

CITY TOUR
18:00

April 1st

FRIDAY

STUDENT SESSION II.
09:00 - 13:00

E-POSTERS I. AND II.
CONFERENCE HALL, MEETING ROOM
(3RD FLOOR) (GROUND FLOOR)

BUFFET LUNCH
13:00 - 14:00

CONFERENCE HALL
3RD FLOOR

SESSION II.
CONFERENCE HALL
14:00 - 15:30

ASSOC. PROF. ANA STUPIN
ASSOC. PROF. MARRIANA PAP, PHD
ASSIST. PROF. SUZANA MIMICA, MD, PHD

WORKSHOPS II.
15:30 - 16:15

WORKSHOPS I.
STUDIO - 2ND FLOOR

- HOW TO BECOME A SUCCESSFUL VAMPIRE: A LESSON TO GO — STUDIO 7
- BABY STEPS — STUDIO 8
- DON'T BE AFRAID, LEARN FIRST AID — STUDIO 9
- SWEET TOOTH — STUDIO 3
- OUR DAILY SWAB — STUDIO 2
- IT'S A BEAUTIFUL DAY TO BE A CARDIAC SURGEON — STUDIO 4

PAUSE
16:15 - 16:30

WORKSHOPS II.
STUDIO - 2ND FLOOR
16:30 - 17:15

PUB QUIZ
19:00

CAMPUS CAFFE, OSIJEK

2nd April

SATURDAY

STUDENT SESSION III.
08:30 - 12:30

E-POSTERS III. AND IV.
CONFERENCE HALL, MEETING ROOM (3RD FLOOR) (GROUND FLOOR)

SESSION III.
CONFERENCE HALL
12:30 - 14:00

PROF. MARIJA HEFFER, MD, PHD
STEFAN MRĐENOVIĆ, MD, PHD
JELENA MANDARIĆ MAG. NUTR.

CLOSING CEREMONY
14:00 - 14:30

CONFERENCE HALL
3RD FLOOR

TRIP
15:00

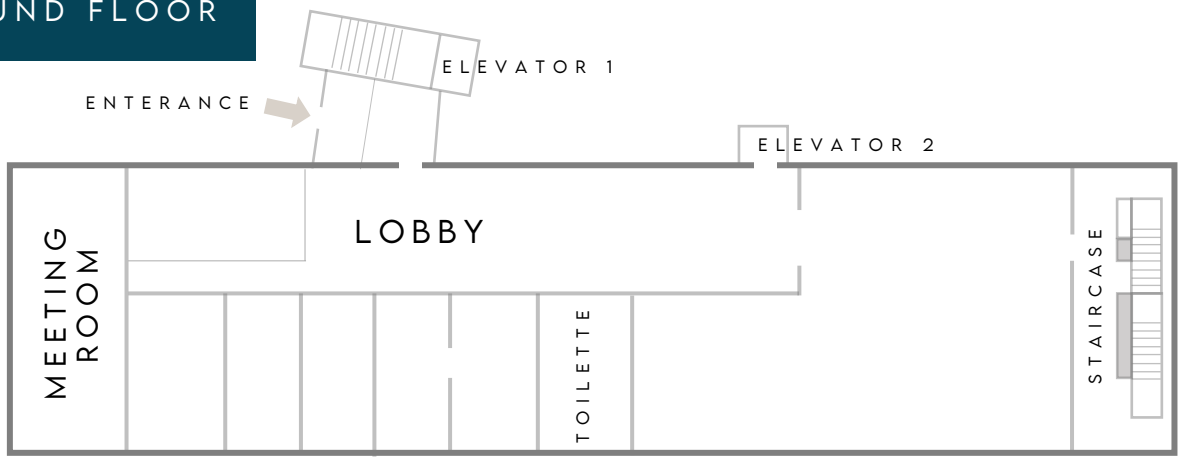
WINERY AND WINE CELLAR "VINA ERDUT"

CLOSING PARTY
20:00

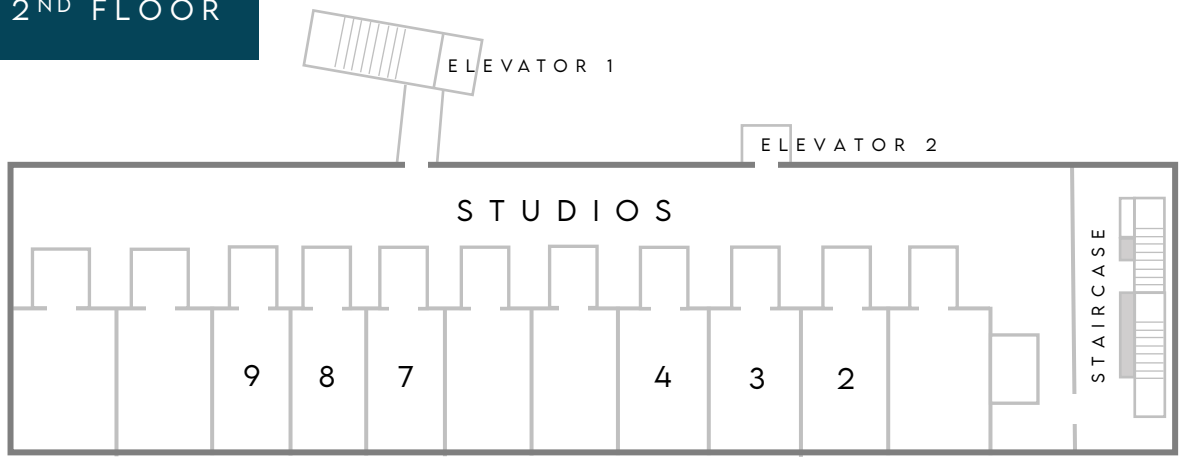
FRANZ KOCH, TVRĐA

Floor Plan

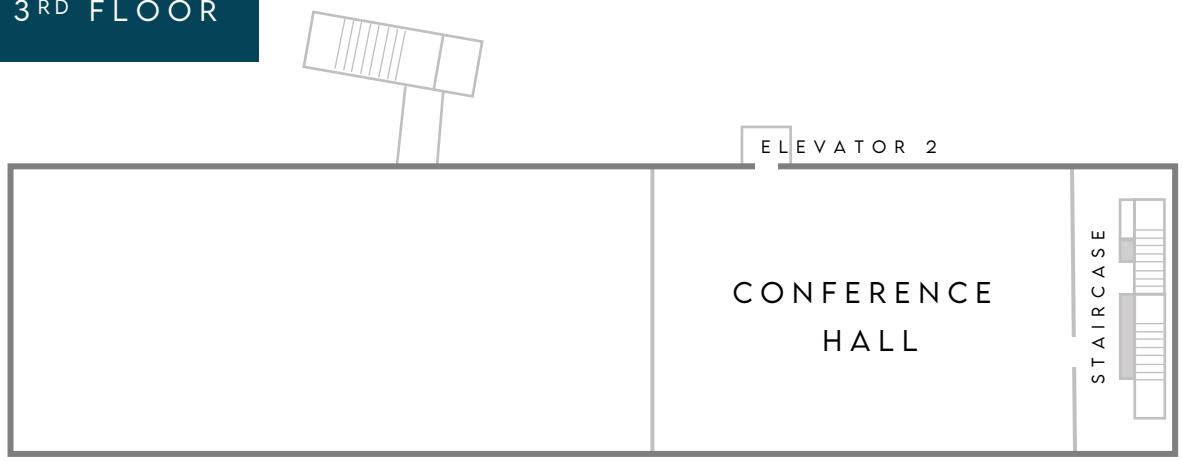
GROUND FLOOR

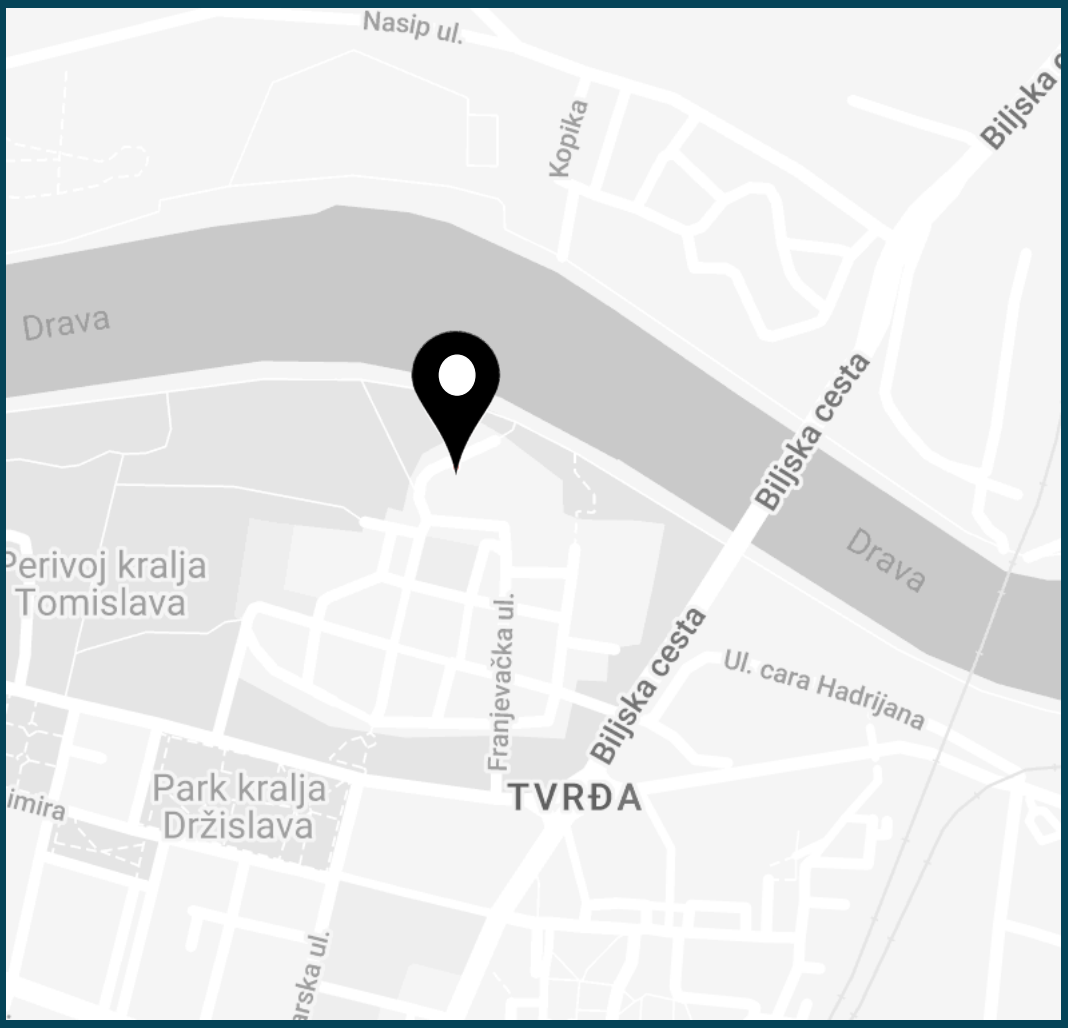


2ND FLOOR



3RD FLOOR





STARA PEKARA
TRG VATROSLAVA LISINSKOG 11, OSIJEK

OSCON 2022

lecturers

LECTURERS

OSCON

Sanja Musić Milanović

ASSOC. PROF. SANJA MUSIĆ MILANOVIĆ, MD, MPH, PHD

Associate Professor Sanja Musić Milanović, MD, MPH, PhD was born in Zagreb where she finished elementary and high school education. Dr. Musić Milanović graduated from the Medical School of the University of Zagreb. She attended the international postgraduate study programme „Master in Public Health Methodology" on Université Libre de Bruxelles, Faculté de Médecine, Ecole de Santé Publique where she earned the title of Master of Science.

Dr. Musić Milanović earned PhD on the Medical School of the University of Zagreb on the topic of demographic, behavioural and socio-economic determinants of obesity in Croatian adults and is also an Associate Professor at the Department for Medical Statistics, Epidemiology and Medical Informatics at the Medical School of the University of Zagreb.

Her areas of work are epidemiology and health promotion. She is Head of the Health Promotion Division on the Croatian Institute of Public Health which is the Reference Centre of the Ministry of Health for Health Promotion. She leads the implementation of the National Programme „Healthy Living".

She is also the National Technical Focal Point in the Expert Group of the World Health Organization and the European Commission on Health Enhancing Physical Activity as well as the member of the Scientific Council for Anthropological Research ofthe Croatian Academy of Sciences and Arts.

1.

Marija Heffer

Prof. Heffer graduated from School of Medicine, University of Zagreb in 1989 and did her postgraduate study in natural sciences. As a part of her scientific training, she studied biochemistry of glycolipids at The Institute for Zoology, Hohenheim University, Stuttgart and at The Institute for Cell Culture Technology, Technical Faculty, University of Bielefeld, Germany.

Additionally, prof. Heffer was a guest scientist in the USA at Johns Hopkins School of Medicine and School of Medicine Yale. Since 2005 she has been appointed as a professor of Cell biology and Neuroscience at Faculty of Medicine, Josip Juraj Strossmayer University of Osijek.

Prof. Heffer is a neuroscientist with a very broad research area of interest, such as effects of stress on brain function, distribution of major gangliosides in various brain regions, roles of lipid rafts, dendritic morphology and spine density variations, genetic variations in circadian rhythm genes etc.

PROF. MARIJA HEFFER, MD, PHD

Regarding prof. Heffer's tremendous knowledge in many fields, such as biology, chemistry, neuroscience, genetics etc., we assure you that her lecture at OSCON will definitively be worth hearing and taking notes to!

2.

Lada Zibar

Prof. Lada Zibar, MD, PhD, is internist and nephrologist at Clinical Hospital Merkur in Zagreb, Croatia, and full professor at Faculty of Medicine, University Josip Juraj Strossmayer in Osijek, Croatia. She graduated from School of Medicine, Zagreb University in 1990. She is also a teacher at School of Medicine, University of Mostar, Bosnia and Hercegovina, and was a guest professor at School of Medicine in Foggia, Italy.

Besides pathophysiology and nephrology, she teaches scientific research methodology, with mentoring students in their own research. She has been educated in many fields such as abdominal ultrasound, kidney biopsy, modern teaching methods in medical schools, etc.

She spent an education time at NY Presbitarian Hospital, Columbia University, New York, USA. She is a member of numerous expert committees, especially those in charge for medicines and transplantation.

PROF.
LADA ZIBAR, MD, PHD

Prof. Zibar has published variouspapers, in the field of nephrology and in many others.Her main interests are transplantation medicine, medical ethics and law and medical statistics. She is editor-in-chief of Liječničke novine, official journal of Croatian physicians.

3.

Jelena Mandarić

JELENA MANDARIĆ,
MAG. NUTR.

Jelena Mandarić is a master of nutrition who runs her own Per Os counseling center in Osijek. She has a master's degree in the field of Food Science and Nutrition.

She finished The Faculty of Medicine University in Novi Sad, course Supplement Phytotherapy, Health Communication, and Health Statistics (2018 – 2019), and the Josip Juraj Strossmayer University of Osijek for Supplement Faculty of Humanities and Social Sciences Osijek (2019 – 2020).

She also volunteered in Health Center „Vaga", „Mammae Breastfed Women Club as a nutrition consultant, and as volunteer staff in „LAG Baranja". Her counseling center offers a broad spectrum of services, such as nutritional counseling and presenting a balanced nutritional strategy, individual weight-management plans, dietotherapy (nutritional advising and offering a plan for optimizing health), and recognizing appropriate behavioral-change modifications and dietary approaches for different ages and populations.

Her commitment to educating young people is reflected in all the activities in which she participates, and this congress is no exception.

4.

Marianna Pap

ASSOC. PROF.
MARIANNA PAP, MD, PHD

Professor Marianna Pap graduated at Medical University, Medical School University of Pecs in 1992.

After that she enrolled PhD programme of Medical biology at University of Pecs and graduated in year 1996. She was Vice Chair at Department of Medical Biology at University of Pech. For several years she was Fulbright lecturer, teaching intensive Cell Biology cours at Boston University in USA.

Since 2004th year she is associated professor at Department of Medical Biology at University of Pecs.

Her scientific interest and research is focused on cell biology, gene technology and cancer biology. She was awarded with numerous awards and honors among others Fulbright fellowship, Rector`s award, Young Scientist Award and Excellent Young Lecturer Award, awarded on Fifth Symposium on Cell and Developmental Biology, Debrecen, Hungary.

5.

She teaches courses on undergraduate and graduate level in the field of cellular and molecular biology at University of Pecs. She has 3 book contributions and 21 peer-reviewed article.

Stefan Mrđenović

Dr. Mrđenović graduated from School of Medicine of the J. J. Strossmayer University of Osijek, where he also attended the Postgraduate Doctorate Course in Biomedical and Clinical Sciences. In February 2013, he started his Specialty Training as a resident at Department of Internal Medicine, Division of Hematology at University Hospital Center Osijek, Croatia – where he currently works.

He earned the title of Postdoctoral Scientist in 2017, at Cedars-Sinai Medical Center, Department of Medicine, Division of Hematology/Oncology, Samuel Oschin Comprehansive Cancer Center in Los Angeles, California (USA).

His main clinical areas of interest are Non-Hodgkin Lymphoma, Hodgkin Lymphoma, Relapsed and Refractory Acute Myeloid Leukemia, Multiple Myeloma, etc.

STEFAN MRĐENOVIĆ, MD, PHD

Dr. Mrđenović is also a member of various Scientific Societies, such as American Society of Hematology, European Hematology Association, European Society for Medical Oncology, Croatian Society for Neuroscience, etc. His research passion also involves Cancer research, Cancer biology, Cancer drug development, Cell signaling, Signaling pathways, Epigenetics, Neuroscience, Neuroimmunology and Neuropharmacology.

6.

Suzana Mimica

ASSIST. PROF.
SUZANA MIMICA, MD, PHD

Suzana Mimica graduated at the Faculty of Medicine, University of Zagreb in 1996. She finished her specialty as a Clinical Pharmacologist in 2004 and is currently the head of the Diagnostic-therapeutic Department for Clinical Pharmacology at the University Hospital Centre Osijek. She is skilled in Pharmacovigilance, Healthcare, Clinical Research, Medical Education and Medicine.

Her workconsists of giving consultations and expert opinions on all aspects of pharmacotherapy problems, as well as testing drug hypersensitivity.

Dr. Mimica earned a doctoral degree (PhD) in the field of Geriatric Pharmacotherapy at the Faculty of Medicine Osijek. She is also assistant professor of Clinical Pharmacology at our Faculty of Medicine Osijek. She teaches Pharmacology for our Rational Pharmacotherapy, and our students gladly choose assistant professor Mimica as a mentor for numerous graduate theses.

She was an alternate delegate at Paediatric Committee (PDCO) of the European Medicines Agency (EMA) and a member of Central Ethics Committee (CEC) of the Ministry of Health of the Republic of Croatia. Dr. Mimica is currently a member of Medicinal Products' Safety Committee of The Agency for Medicinal Products and Medical Devices (HALMED).

7.

Ana Stupin

ASSOC. PROF.
ANA STUPIN, MD, PHD

Ana Stupin, MD, PhD is the associate professor at the Department of Physiology and Immunology, and the Vice Dean for Inter-Institutional Cooperation and Development at the Faculty of Medicine University of Osijek. She graduated medicine at the Faculty of Medicine Osijek in 2009. Stupin has clinical expertise in internal medicine and became a specialist in general internal medicine in 2019.

Her PhD degree in physiology was completed at the Faculty of Medicine Osijek in 2013 with a doctoral dissertation entitled "The effect of high salt diet on microvascular function in the population of young healthy women". Under the project of Unity through Knowledge Fund she was a guest researcher at the Vascular Biology Laboratory in the College of Applied Health Sciences, University of Illinois from 2011-2012. She studies the effects of high-salt diet on vascular function with the emphasis on microcirculation and responses of the microcirculation to functional food intake.

Her other research interests include hypertension, diabetes, hyperbaric medicine, sports physiology and exercise interventions. Stupin was PI and research associate at several scientific projects.

8.

workshops

WORKSHOPS

OSCON

OUR DAILY SWAB

WORKSHOP LEADERS: Marko Živkov, MD; Maja Bogdan, MD, PhD; assoc. prof. Domagoj Drenjančević, MD, PhD; Monika Feher, lab. tech.

INTRODUCTION: For the last two years we are facing the Covid-19 pandemic. Molecular (PCR – polymerase chain reaction) and rapid antigen tests are the main methods of detecting SARS-CoV-2 infection. Both are usually sampled by nasopharyngeal swab. Medical practitioners must know how to properly obtain nasopharyngeal swabs for COVID-19 tests. There are also other types of swabs that are regularly used for the diagnosis of many infectious diseases.

WORKSHOP DESCRIPTION: This workshop will allow you to repeat your knowledge about the anatomy of the upper respiratory tract and to learn how to take a swab by yourself. All of them – nasopharyngeal, oropharyngeal, nasal, conjunctival, ear… This is a valuable skill during pandemics so don't miss the opportunity.

PLACE THE TUBE INTO RIGHT PLACE

WORKSHOP LEADERS: Sonja Škiljić, MD; Mia Edl, Lucija Čolaković, Marko Burić

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.

ALS WITHOUT STRESS

WORKSHOP LEADERS: Nenad Nešković, MD, PhD

INTRODUCTION: Do you think you know everything about Basic life support (BLS)? Now it's time to upgrade! We present to you Advanced life support (ALS). How to defibrillate? What rhythms are suited for defibrillation? What medication can be used? When? Are there some reversible causes of cardiac arrest? If any of the questions caught your attention, don't miss this workshop!

WORKSHOP DESCRIPTION: A certified ALS specialist will lead you through the Advanced life support algorithm of the European Society of Resuscitation. When you learn the basics, you will be given multiple cardiac arrest scenarios on our resuscitation doll. You will improve your skills by giving chest compressions, ventilating the patient, and recognizing which cardiac rhythm is suitable for defibrillating.

SWEET TOOTH

WORKSHOP LEADERS: Petar Šušnjara, mag.med.lab.; prof. Ines Drenjančević, MD, PhD; Mihael Kolar; Goran Dabić

INTRODUCTION: Diabetes is one of the leading public health challenges of modern medicine. We are witnessing very unfavorable statistics at the global level in the form of a steady increase in the number of patients, which makes developing countries even in the lead in increasing the number of patients, especially due to pandemic reasons for obesity. Diabetes is one of the leading risk factors for the development of several cardiovascular diseases such as heart attack, stroke, exacerbation of peripheral arterial disease.

WORKSHOP DESCRIPTION: This workshop aims to acquaint participants with the importance of early detection of diabetes mellitus, risk factors for disease, diagnostic procedures for detection, and parameters for monitoring the course of the disease.

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

WORKSHOP LEADERS: Milan Arambašić, BSc; Branimir Lončarić, MSc

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.

DON'T BE AFRAID, LEARN FIRST AID

WORKSHOP LEADERS: Adam Šoltić, Red Cross Osijek employer; Red Cross Osijek volunteers

INTRODUCTION: During medical school, you are taught to heal people inside the hospital. But what to do in case you find yourself in an outside world, with injured people, without any medical instruments, medicine, devices? Every citizen should be familiar with first aid techniques, especially medical workers. This workshop will not only teach you the basics but give you a real-life example. You will be able to test your knowledge of first aid and try to decide in a short period.

WORKSHOP DESCRIPTION: Volunteers from Red Cross Osijek will give you a quick recap on some of the most common first aid techniques. Afterward, you will group in teams and practice first aid in live simulation - with actors and a realistic view of the injuries.

MEDICAL ETHICS IN PRACTICE

WORKSHOP LEADERS: prof. Lada Zibar, MD, PhD; Tea Štimac, MD, PhD

INTRODUCTION: The workshop will face students with real-life ethical issues in a physician's practice. The examples will be discussed within the frame of medical ethics as it is determined by the Croatian Code of Medical Ethics and Deontology. The Code is obligatory for a licensed physician practicing in Croatia. The Croatian Medical Chamber is in charge of judging potential ethical violations of the physicians. The ethical committee deals with the cases and recognizes the most frequent topics in question.

WORKSHOP DESCRIPTION: The students will be challenged with ten typical situations. Keeping a patient's secret, kind communication, informing patient, respecting patient's wishes, Bonton for critical comments of other physicians' work, being real expert witness, updating professional knowledge, etc. Each of them will be solved according to the ethical rules after an interactive argumentation. The workshop will make the students familiar with the Code of Medical Ethics and Deontology and other legal and moral principles needed for ethical performance in a physician's professional life.

BABY STEPS

WORKSHOP LEADERS: Nora Pušeljić MD, Ema Poznić MD

INTRODUCTION: Systematic, accurate, ongoing physical assessment is a critical component of managing neonates across all settings. The purposes of neonatal assessment include identifying influences of the prenatal environment, evaluating a transition to extrauterine life, recognizing early the subtle indicators or changes that may be harbingers of serious problems, and evaluating a plethora of clinical findings to distinguish between normal variations and problems. Assessment is an integral part of care planning and parent teaching.

WORKSHOP DESCRIPTION: This workshop will help you to understand the unique physical, physiologic, neurologic, and behavioral findings in the neonate and to recognize alterations and prevent or minimize effects for the little ones.

THE (ULTRA) SOUND OF THE IV

WORKSHOP LEADERS: Ninoslava Rajc MD, Višnja Ikić MD

INTRODUCTION: Peripheral intravenous canulation is the most common method of obtaining vascular access and may be done by many members of the health care team. Intravenous access is crucial for the management of majority of patients presenting in emergency departments.. Ultrasonographic guidance, when equipment and trained personnel are available, can facilitate peripheral vein cannulation, especially of deep, nonpalpable veins.

WORKSHOP DESCRIPTION: During this workshop participants will practice various insertion techniques and learn how to recognize vein through palpation. We will also demonstrate ultrasound guided scan techniques. This workshop will introduce you to this this very important technique and help you apply it in the future practice.

IT'S A BEAUTIFUL DAY TO BE A CARDIAC SURGEON

WORKSHOP LEADERS: Matija Drinković, MD; Domagoj Leko, MD

INTRODUCTION: What if we told you - you have a chance to become a cardiac surgeon for a day? What if we told you we are bringing the operating room to you? During this workshop, our cardiac surgeons will guide you through the creation of proximal anastomosis of the coronary artery bypass grafting using a saphenous vein.

WORKSHOP DESCRIPTION: To make this workshop as realistic and useful as possible, we will be using swine hearts with a part of the aorta still attached and human saphenous veins as a graft. You will see microvascular surgical instruments specifically used for such procedures, and it is up to you to try and save your patient.

WHEN BABY SURPRISES YOU

WORKSHOP LEADERS: Ivan Vilović, MSc

INTRODUCTION: How will you react when a pregnant woman starts to deliver a baby in front of your eyes outside a hospital? You are called to help and make sure that both mom and baby are fine and healthy, but what can you do with so little equipment in the emergency vehicle? Are you ready to panic, if not you should be, but there is a bright side, some tricks can be learned, are you ready to learn them all of them? If yes, then join us in the workshop- „When baby surprises you" because he or she really can do just that.

WORKSHOP DESCRIPTION: In this workshop participants will learn what kind of equipment they have in the ambulance vehicle and what can they do when facing baby delivery in the vehicle. They will have the opportunity to learn and practice common and uncommon situations of baby delivery without help from a hospital, how should they react, and how to take care of both mother and baby.

AN UNWANTED PASSENGER

WORKSHOP LEADERS: Luka Švitek, MD

INTRODUCTION: A stylish woman just arrived from a beautiful tropical island. She had been there to take a breath from stressful everyday jobs. On the flight back home, she noticed something on her leg. Just after the moment she arrived she went to the doctor, and he had what to see. It was a strange, unusual but fearsome symptom, he hoped it is not what he thinks it is.

WORKSHOP DESCRIPTION: Who did not watch House MD before entering Medical School? In this workshop you will use some of House's methods, you will have to handle the strange and obscure case of a woman that might be in a life-threatening condition. You will learn how to recognize signs and symptoms, what is important to ask and what is just a waste of time. Using all available tests and diagnostics you will have to solve the puzzle and save her life. Don`t worry, if you fail you will joker call to your workshop leader, he will explain everything. It won`t be easy, but you should try. Remember? Her life depends on you!

e-posters

e-POSTER PRESENTATIONS

OSCON

BASIC SCIENCE

BS01 Wound healing in Dipeptidyl-peptidase Iv (Dpp Iv/Cd26) deficient diabetic mice

Lara Batičić; Dijana Detel; Edvard Bedoić; Jadranka Varljen

BS02 Serum levels of 25-hydroxyvitamin D3 among students of Faculty of Medicine Osijek and its correlation with body mass index

Sara Bonet; Fran Popović; Branko Šego; Stipe Vidović; Tatjana Bačun; Petar Šušnjara; Sven Viland

BS03 Significance and experimental modeling of neonatal hypothermia

Kata Fekete; Zsófia Merkl; Leonardo Kelava; Eszter Pákai; Zsolt Fehér; András Garami

BS04 Zinc in the population of eastern Croatia

Petra Ivančević; Ana-Marija Ćulap; Ema Grba; Mario Horvat; Domagoj Vidosavljević; Vlatka Gvozdić

BS05 Cerebral TRPA1 receptors influence the behavioural pattern of mice

János Konkoly; Viktória Kormos; Balázs Gaszner; Zoltán Sándor; Angéla Kecskés; Dóra Zelena; Erika Pintér

BS06 Dynamics of PAC1 Receptor mRNA Expression in the Subsantia Nigra in the Rotenone Model of Parkinson's Disease in Rats

Zsombor Márton; Dr. Balázs Gaszner

BS07 Histological structure of the albino rat's stomach

Daria Maryniak; Volodymyr Hryn

BS08 The Antimicrobial Susceptibility Profile of Staphylococcus aureus Clinical isolates at University Hospital Center Osijek

Mirela Okolić; Marko Živkov; Ivana Roksandić-Križan; Maja Bogdan

BS09 Investigation of PACAP1-38 eye-drops treatment in glaucoma

Evelin Patko; Edina Szabo; Alexandra Vaczy; Dorottya Molitor; Eniko Tari; Dora Reglodi; Tamas Atlasz

BS10 PAC1 receptor colocalization with Ca2+-binding proteins and cochlea-efferent markers in the auditory pathway of PACAP knock out and wild-type mice

Daniel Pham; Balazs Daniel Fulop; Gergo Gyurok; Balazs Gaszner; Dora Reglodi; Andrea Tamas

BS11 Antimicrobial susceptibility pattern of Acinetobacter baumanii and Pseudomonas aeruginosa

Ana Prica; Marko Živkov; Maja Bogdan;

BS12 Carbapenem and colistin resistant Klebsiella pneumoniae

Ivan Prigl; Rebeka Nađ; Marko Živkov; Marijan Orlović; Maja Bogdan

BS13 The role of Urocortin 1 neurons in the development of non-motor symptoms of Parkinson's disease in the rat

Bence Pytel; Balázs Gaszner

BS14 The potential effects of PACAP 1-38 on the retinal vasculature in glaucomatous rat model

Eniko Tari; Evelin Patko; Edina Szabo; Alexandra Vaczy; Dorottya Molitor; Dora Reglodi; Tamas Atlasz

CASE REPORT

CR01 **The limits of fetal viability – 22+1/7 extremely premature newborn**

Matea Adamčević; Ena Bandov; Gordana Lukić

CR02 **Prurigo diabeticorum: chronic prurigo in a patient suffering from diabetes mellitus**

Shibel Ageel; Karla Bodakoš; Ala Ageel; Lada Zibar

CR03 **An overactive urinary bladder with a total uterine prolapse**

Shibel Ageel; Dorian Garac; Robert Selthofer

CR05 **COVID-19 Pneumonia in Hemodialysis Patient**

Mia Alerić; Ozana Miličević; Iva Barišić; Ivan Durlen

CR06 **Acute exacerbation of unrecognised spondyloarthritis**

Mia Alerić; Iva Barišić; Ozana Miličević; Iva Žagar

CR07 **Fracture of the neck of the talus, a bone prone to avascular necrosis**

Victor Allouch; Barjes El Aklouk; Ivan Benčić; Ali Allouch

CR08 **Blunt thoracic aortic injury in a polytrauma patient, a life threatening emergency**

Victor Allouch; Barjes El Aklouk; Vedran Omerhodžić; Damir Koprek

CR09 **Idiopathic intracranial hypertension from an ophthalmological perspective**

Victor Allouch; Barjes El Aklouk; Sandra Vokurka Topljak

CR10 **Human platelet antigen 5b neonatal alloimmune thrombocytopenia and congenital Cytomegalovirus infection presented in male newborn: a case report**

Lea Arambašić; Darjan Kardum

CR11 **Female newborn presenting with autosomal recessive congenital methemoglobinemia type 1**

Lea Arambašić; Darjan Kardum

CR12 **A case of psychogenic induced extrapyramidal symptoms in a patient with severe depression**

Ena Bandov; Matea Adamčević; Eleonora Strujić; Ivan Erić; Anamarija Petek Erić

CR13 **Traumatic hip dislocation in a young patient**

Marina Baran; Nika Ribarić; Lucija Brkić; Daniel Rajačić

CR14 **First case of angiomyofibroblastoma-like tumor of the scrotum in Croatia**

Iva Barišić; Ozana Miličević; Mia Alerić; Andrija Karačić

CR15 **Ischemic colitis as a complication of two different approaches in AAA treatment – a report of two cases**

Jana Bebek; Predrag Pavić; Andrea Crkvenac Gregorek; Damir Halužan; Tomislav Meštrović

CR16 **A rare presentation of acute myeloid leukemia**

Jana Bebek; Jelena Benčić; Mara Bebek; Delfa Radić-Krišto

CR17 **Acute epiploic appendagitis – an uncommon cause of an acute abdomen**

Mara Bebek; Jana Bebek; Dominik Kralj

CR18 **End stage diagnosis of the ulcerated breast cancer**

Mara Bebek; Maja Milenović; Diana Parać Bebek

CR19 **Cytological and histological diagnosis of multiple endocrine neoplasia type 2b – A case report**

Zlatka Radičević; Darija Damjanović; Adela Benkotić; Biljana Pauzar; Jasmina Rajc

CR20 **Positive urine culture and an indwelling urinary catheter: a cause for concern?**

Marin Boban; Dinko Ezgeta; Tomislav Cigić; Jurica Putrić Posavec; Robert Likić

CR21 **Extracorporeal membrane oxygenation in the treatment of acute respiratory distress syndrome caused by hypersensitivity pneumonitis: farmer's lung disease**

Karla Bodakoš; Zara Miočić; Lea Arambašić; Domagoj Loinjak

CR22 **Primary insufficiency of adrenocortex: Morbus Addison**

Karla Bodakoš; Zara Miočić; Daniel Tripolski; Marija Tripolski

CR23 **ATRA Syndrome as a Treatment Complication in a Young Female with Acute Promyelocytic Leukemia**

Tomislav Cigić; Željko Jonjić; Marko Lucijanić; Željko Prka; Amina Fazlić Džankić; Marin Boban; Dinko Ezgeta

CR24 **Progressive weight loss in uncommon condition of acquired central diabetes insipidus (CDI) : case report**

Filip Cikoja; Christian Kurina; Laura Ivanović – Martić; Tena Zovkić; Ana Bardak; Zvonimir Bosnić

CR25 **Enormous Teratoma In A Young Mother. A Case Report.**

Carmen Clasen; Oskar Maria Voll; Veronica Dinu; Marius Coros

CR26 **Targeted molecular therapy in ALK positive non-small cell metastatic lung cancer**

Tara Cvijić; Suzana Erić

CR27 **Biological therapy in metastatic colorectal cancer**

Tara Cvijić; Mirela Šambić Penc

CR28 **Postinfectious hemiparesis caused by Tick-borne encephalitis virus (TBEV): case report**

Filip Cvitanušić; Mario Horvat; Dario Sabadi; Anamarija Soldo Koruga

CR29 **The role of contrast enhanced ultrasound (CEUS) in the follow-up of patient with hemorrhagic pseudocyst of the pancreas**

Lucija Čolaković; Šimun Rezo; Antonio Kovačević; Mia Edl; Tatjana Rotim; Tajana Turk

CR30 **The case of a 52-year old patient suffering from delusional disorder**

Asja Ćehović; Mirna Habjanović; Dunja Degmečić

CR31 **Severe COVID-19 in a 17-year-old patient**

Ana-Marija Ćulap; Petra Ivančević; Ema Grba; Ivana Haršanji Drenjačević

CR32 **A novel likely pathogenic sequence variant in the RUNX1 gene as the cause of congenital thrombocytopenia – case report**

Marta Despotović; Nina Pereza; Borut Peterlin; Saša Ostojić; Jelena Roganović

CR33 **Immunoglobulin G4-related disease presenting with jaundice**

Vinko Michael Dodig; Robert Marčec; Anton Malbašić; Tajana Filipec Kanižaj

CR34 **Hepatorenal syndrome**

Marin Dujmović; Adel El Mourtada; Ivan Dusper; Stjepan Ištvanić; Boris Čvangić; Stipe Vidović; Dubravka Mihaljević

CR35 **Decompensated alcoholic liver cirrhosis with hyperbilirubinemia and hepatic encephalopathy**

Marina Duka; Sara Đukić; Barbara Havliček; Ivan Dusper; Andreja Bartulić

CR36 **Autosomal dominant polycystic kidney disease**

Ivan Dusper; Adel El Mourtada; Marin Dujmović; Stjepan Ištvanić; Boris Čvangić; Marina Duka; Dubravka Mihaljević

CR37 **Young, healthy and clinically dead: a case of lethal outpatient COVID-19 in an unvaccinated patient**

Điđi Delalić; Ingrid Prkačin

CR38 **Madame, you are COVID neg...positive: when the PCR machine fails us; a case report**

Điđi Delalić; Tanja Brežni; Ingrid Prkačin

CR39 **Newly formed disc herniation in young, previously healthy individuals**

Barjes El Aklouk; Victor Allouch; Maja Buljubašić

CR40 **Non characteristic intussusception in adults**

Dinko Ezgeta; Marin Boban; Vita Jugovac; Jurica Putrić Posavec; Tomislav Cigić; Marko Sever

CR41 **Treatment with two monoclonal antibodies in patient with migraine and relapsing-remitting multiple sclerosis**

Petra Galić; Lea Arambašić; Zara Miočić; Tea Marošević Zubonja

CR42 **Importance of vaccination in a patient presenting with cervical intraepithelial neoplasia CIN II**

Petra Galić; Fran Babić; Luka Medić; Luka Ileš; Christan Kurina; Vesna Bilić-Kirin; Ivana Šimić

CR43 **Necrotizing scleritis associated with rheumatoid arthritis**

Petra Galić; Fran Babić; Lucija Matić; Dora Galić; Anamaria Kurtović; Barbara Bačun; Suzana Matić

CR44 **Multiple myeloma in a patient with normocytic anemia and compressive spinal fractures**

Dorian Garac; Mirela Okolić; Shibel Ageel; Lorena Stanojević; Damir Tolić; Lana Lukenda; Vlatka Periša

CR45 "**Obesity and COVID 19, a case report of vaccinated patient on invasive mechanical ventilation "**

Ema Grba; Veronika Šikić; Ana-Marija Ćulap; Petra Ivančević; Ivana Haršanji Drenjančević

CR46 **„MEN1 syndrome presenting with carcinoid of the lungs in two family members“**

Ema Grba; Veronika Šikić; Anamarija Petek Erić; Ivan Erić

CR47 **Borderline personality disorder and adjustment to physical illness**

Mia Grgić; Mersad Muminović1; Marina Letica Crepulja

CR48 **Brain and a hole in the heart: Cardiovascular challenge!**

Elena Hegna; Valetino Rački; David Bonifačić; Vladimira Vuletić; Ivana Smoljan; Neven Čače; Teodora Zaninović Jurjević

CR49 **Flail chest caused by thoracic blunt trauma**

Mario Horvat; Petra Ivančević; Filip Cvitanušić; Mia Edl; Ivan Koprivčić; Igor Rožić

CR50 **Challenges in Managing Long-standing Crohn's Disease during COVID-19 Pandemic**

Leaua Iuliana-Elena; Diac Ana-Delia; Gîlcă-Blanariu Georgiana; Gabriela Ștefănescu

CR51 **Hereditary angioedema and erosive gastritis in pregnancy: a case report**

Laura Ivanović Martić; Tena Zovkić; Christian Kurina; Mirela Okolić; Jasminka Milas-Ahić

CR52 **Unusual unmasking IRIS in a patient with an advanced infection caused by human immunodeficiency virus (HIV)**

Nikola Janjatov; Nina Trepić; Snežana Brkić

CR53 **Case report: Intracerebral hemorrhage**

Dora Jurić; Nika Jurić; Ervin Jančić

CR54 **Case report: Importance of Weight Loss in the Management of Patients with Type 2 Diabetes Mellitus**

Nika Jurić; Klara Vranešević; Sanja Klobučar Majanović

CR55 **Arthritis in patient with Lyme disease**

Petra Jurić; Dorian Österreicher; Lea Kajba; Romana Marušić; Dora Karl; Dorotea Vidaković; Ana-Marija Samardžić

CR56 **Cardiac arrest after SARS-CoV-2 vaccine**

Petra Jurić; Dorian Österreicher; Ivana Jurić; Ivan Lekić; Aleksandar Kibel; Kristina Selthofer-Relatić; Tatjana Bačun

CR57 **Squamous cell carcinoma of oropharyngeal carcinoma associated with human papilloma virus (HPV (+) OPSCC) - case report**

Ivana Jurić; Lucija Todić; Nika Pušeljić; Petra Jurić; Vedrana Pavlović; Zdravka Krivdić; Suzana Erić

CR58 **Bannwarth syndrome: Rare manifestation of Lyme disease**

Lea Kajba; Petra Jurić; Dora Karl; Ivanka Maduna; Romana Marušić

CR59 **Multistage surgery in the treatment of clival chordoma**

Josipa Kajić; Mirza Pojskić

CR60 **Cholestasis in pregnancy: a case report**

Dora Karl; Ana Mikleušević; Romana Marušić; Dorotea Vidaković; Mirta Kadivnik

CR61 **Intravesical application of Botox: a case report**

Dora Karl; Romana Marušić; Lea Kajba; Petra Jurić; Ivanka Maduna; Ivan Radoja; Josip Galić

CR62 **Post covid Guillain-Barre syndrome and Longitudinal Extensive Transverse Myelitis Overlap syndrome: case report**

Sven Kisić; Edina Đozić; Merita Tirić – Čampara

CR63 **Sexting: love or a lesson?**

Marija Mateja Kokanović; Lucija Lizatović; Dorotea Lošić; Ana Majstorović; Maria Markov; Katarina Dodig-Ćurković

CR64 **A patient with locally advanced cuteaneous squamous cell carcinoma (cSCC) – case report**

Darko Kotromanović; Luka Perić; Maja Kovač-Barić; Zdenka Kotromanović; Sonja Kotromanović; Ivana Šimić; Suzana Erić

CR65 **Mediterranean vs. Vegetarian Diet in Alleviating Cardiovascular Diseases**

Antea Kršek; Ivan Veber; Lara Batičić

CR66 **Granulomatosis with polyangiitis; Wegener's granulomatosis: a case report**

Ivana Kurtović; Ante Listeš; Kaja Lukač; Ivana Kovačević; Jasminka Milas-Ahić

CR67 **Inflammatory myofibroblastic tumor of the spleen: a case report**

Dorian Laslo; Vlatka Periša

CR68 **Vascular Parkinsonism: a case report**

Ante Listeš; Kaja Lukač; Ivana Kurtović; Zvonimir Popović; Svetlana Tomić

CR69 **Atrial septal defect – last minute call for closure: a case report**

Kaja Lukač; Ante Listeš; Ivana Kurtović; Iva Jurić

CR70 **Hidradenitis suppurativa – a case report**

Lana Lukenda; Marija Šola

CR71 **Conservative treatment of obstipation resulting in rectal distension of 16 centimeters**

Karla Lužaić; Lucija Brkić; Rudolf Radojković

CR72 **Vertebral artery dissection and acute pontine infarction: A case report**

Ivanka Maduna; Berislav Ruška; Dorotea Vidaković; Romana Marušić; Lea Kajba; Dora Karl; Hrvoje Budinčević

CR73 **Transgenderism in early age - a risk factor for suicide**

Ana Majstorović; Marija Mateja Kokanović; Lucija Lizatović; Dorotea Lošić; Maria Markov; Katarina Dodig-Ćurković

CR74 **Plasmacytoma of the calcaneus: A Case Report**

Toni Maloča; Petra Markuš; Jelena Miletić; Marta Milošević; Ines Tamaš; Leon Terek; Vlatka Periša

CR75 **Massive ventral hernia in a palliative breast cancer patient**

Drago Marijanović; Ines Trkulja; Leo Matijašević; Lucija Brkić; Petar Matošević

CR76 **Recurrent intentional foreign body ingestion in psychiatric patient**

Drago Marijanović; Ines Trkulja; Andrija Matijević; Lucija Brkić; Trpimir Morić; Petar Matošević

CR77 **Priapism as a rare sign of chronic myeloid leukemia: Case report**

Ana Marković; Vlatka Periša; Iva Mijatović; Jasminka Sinčić-Petričević

CR78 **Large blood vessel embolism as a complication of Covid-19 infection**

Petra Markuš; Ines Tamaš; Toni Maloča; Leon Terek; Marta Milošević; Jelena Miletić;Slavica Kvolik

CR79 **Regulation of glycaemia with the insulin pump in a patient with diabetes mellitus type 1 and celiac disease – a case report**

Romana Marušić; Dora Karl; Adriana Levaković; Petra Jurić; Lea Kajba; Ivanka Maduna; Tatjana Bačun

CR80 **Juvenile hemochromatosis: A case report**

Romana Marušić; Dora Karl; Ivan Lekić; Barbara Bačun; Andreja Bartulić; Tatjana Bačun

CR81 **Oral and ocular dirofilariasis – case report**

Lucija Matić; Maja Ćorić; Jamilah Yassin; Petra Galić; Dora Galić; Suzana Matić

CR82 **Traumatic anterolisthesis of the cervical spine due to ground level fall on the escalator**

Leo Matijašević; Drago Marijanović; Tin Ehrenfreund

CR83 **Cutaneous lesions as an only symptom of COVID-19: a case report.**

Mirna Matišić; Mislav Matišić; Dea Sabo;Ilija Rubil; Barbara Grubišić; Luka Švitek; Mario Duvnjak

CR84 **Mechanical Thrombectomy of Acute Middle Cerebral Artery Occlusion: a case report**

Mislav Matišić; Patrik Čakalić; Fran Kolačko Šćuric; Marko Margetić; Karlo Mroček; Marko Pisačić; Zvonimir Popović

CR85 **Acute renal transplant rejection in a patient with polycystic kidney disease**

Marko Mešin; Stipe Vidović; Branko Šego; Ivana Tolj

CR86 **Multidisciplinary approach in the treatment of vulgar psoriasis: a case report**

Iva Mijatović; Ana Marković; Eleonora Strujić; Melita Vukšić Polić

CR87 **Palpebral reconstruction after posttraumatic ptosis**

Maja Milenović; Mara Bebek; Aleksandar Milenović

CR88 **Cardiac failure presented as an acute respiratory failure in pregnant women with preeclampsia and newly diagnosed valvular disease**

Jelena Miletić; Petra Markuš; Toni Maloča; Marta Milošević; Ines Tamaš; Leon Terek; Damir Mihić

CR89 **Autoimmunity as a first manifestation of primary immunodeficiency in a pediatric patient with DiGeorge syndrome**

Ozana Miličević; Iva Barišić; Daniel Turudić; Ernest Bilić

CR90 **Electroconvulsive therapy (ECT) in treating resistant schizophrenia – is there a place for it in 21st century?**

Marta Milošević; Toni Maloča; Jelena Miletić; Petra Markuš; Ines Tamaš; Ivan Erić; Anamarija Petek Erić

CR91 **Steroid induced hyperglycemia in chemotherapy treated oncology patient**

Zara Miočić; Lea Arambašić; Petra Galić; Karla Bodakoš; Ana Petrović; Ines Bilić-Ćurčić

CR92 **Infective endocarditis masked by COVID-19 infection: a case report**

Zara Miočić; Veronika Šikić; Iva Jurić

CR93 **Difference in treatment of pituitary incidentalomas in two patients with no endocrinopathies**

Zara Miočić; Lea Arambašić; Petra Galić; Karla Bodakoš; Ana Petrović; Ines Bilić-Ćurčić

CR94 **Metastatic mixed non-seminomatous germ cell tumor with PNET component - A Case Report**

Antonia Mrdeža; Nikolina Novak; Marija Gamulin

CR95 **Importance of encouraging consultations in the family phisician's office in the early detection of cancer – A case report**

Antonia Mrdeža; Goranka Petriček; Mirna Babić

CR96 **The importance of the School Health Service for a primary school student with attention deficit hyperactivity disorder**

Božana Mrvelj; Marjeta Majer

CR97 **Pneumonia in *Rhodococcus equi* infection in severely immunocompromised woman**
Rebeka Nađ; Ivan Prigl; Marko Živkov; Marta Biljan, Maja Bogdan; Domagoj Drenjančević

CR98 **Patient entering the wrong doors almost lost in diagnostic struggle**
Nikolina Novak; Antonia Mrdeža; Silvija Čuković-Čavka

CR99 **HLA-B27 Positive Ankylosing Spondylitis in a Young Patient: a Case Report**

Ana Nuić; Jelena Pokos; Ivan Šporčić; Nikolina Zagorac; Jasminka Milas-Ahić

CR100 **The first case of carbapenem resistant *Klebsiella pneumoniae* in a severely immunocompromised patient**

Mirela Okolić; Matea Lukić; Ivan Prigl; Laura Ivanović-Martić; Dorian Garac; Damir Tolić[1]; Ivana Roksandić-Križan

CR101 **Spinal cord stimulation for treating failed back surgery syndrom**

Klara Ormanac; Petra Raguž; Eleonora Strujić; Dea Sabo; Dominik Seletković; Darija Venžera Azenić

CR102 **Improving quality of life in type 1 diabetes mellitus patient by using FreeStyle Libre system**

Lea Paradinović; Dora Petričević; Ivan Prošić; Ema Schönberger; Ines Bilić – Ćurčić; Maja Gradinjan Centner; Silvija Canecki – Varžić

CR103 **A rare case of undifferentiated carcinoma with rhabdoid features arising in the gastrointestinal tract: a case report**

Klara Pavlić; Natalia Pappo; Igor Petrović

CR104 **Parvovirus B19 associated Hemophagocytic Syndrome: case report**

Vedrana Pavlović; Lucija Todić; Ivana Jurić; Nika Pušeljić; Ana Dukić; Damir Mihić

CR105 **A young female patient presenting with recurrent infective endocarditis secondary to intravenous drug abuse: A case report**

Maja Pavlovsky; Aleksandar Kibel; Antonio Kovačević; Šimun Rezo; Lea Paradinović; Lucija Todić; Tatjana Bačun

CR106 **Left ventricular hypertrophy: what to do? – case report**

Leon Perić; Ivo Vincetić; Matea Petrinović; Marko Stupin

CR107 **Impact of sleeve gastrectomy on obesity, type 2 diabetes mellitus and arterial hypertension**

Dora Petričević; Lea Paradinović; Ivan Prošić; Ema Schönberger; Ines Bilić – Ćurčić; Daria Rimac Sladić; Silvija Canecki – Varžić

CR108 **Cutaneous mastocytosis: Report of one case**

Matea Petrinović; Leon Perić; Ivo Vincetić; Vlatka Periša

CR109 **Suicide attempt in a state of alcohol hallucinosis – case report**

Jelena Pokos; Ivan Šporčić; Nikolina Zagorac; Magdalena Zulumović; Ozana Katarina Tot; Anamarija Petek Erić

CR110 **A case of giant cell arteritis diagnosed with PET-CT imaging**

Vinka Potočki; Antonia Precali; Margareta Dobrenić; Ivan Padjen

CR111 **Obstruction of the superior mesenteric artery with elevation of cardioselective enzymes: a case of double infarction**

Vinka Potočki; Luka Antolković

CR112 **Anti – vascular endothelial growth factor (anti – VEGF) drugs for diabetic macular oedema and diabetic retinopathy**

Ana Prica; Vesna Ćorluka; Bojan Puzić; Krešimir Parat

CR113 **Convenience and benefits of hybrid closed loop system**

Ivan Prošić; Dora Petričević; Lea Paradinović; Ines Bilić – Ćurčić; Maja Gradinjan Centner; Daria Sladić Rimac; Silvija Canecki – Varžić

CR114 **Implementation of pharmacogenetics in treating acute myelomonocytic leukemia**

Matilda Pudić; Inga Mandac Smoljanović

CR115 **Early diagnosis and multidisciplinary treatment of CHARGE syndrome**

Nika Pušeljić; Ivana Jurić; Petra Raguž; Lucija Todić; Ana Dukić; Ema Poznić; Silvija Pušeljić

CR116 **Complications of improper ICD electrode extraction in 28 year-old patient**

Jurica Putrić Posavec; Jakov Emanuel Bogdanić; Tomislav Cigić; Dinko Ezgeta; Marin Boban; Vedran Velagić

CR117 **Neuroendocrine tumor of unknown primary origin**

Andrea Racetin; Borislav Belev

CR118 **Cytological and histological diagnosis of multiple endocrine neoplasia type 2b – A case report**

Zlatka Radičević, Darija Damjanović, Adela Benkotić, Biljana Pauzar, Jasmina Rajc

CR119 **Aminotransferase elevation and anemia as the only clinical manifestation of the celiac disease in twins**

Petra Raguž; Klara Ormanac; Dominik Seletković; Eleonora Strujić; Dea Sabo; Nika Pušeljić; Vlatka Konjik

CR120 **Suspicious left-sided supraclavicular lymphadenopathy following COVID-19 vaccination: a case report**

Robert Rončević; Alen Rončević; Anja Tomić

CR121 **Once unthinkable, today everyday life**
Robert Rončević; Zdravka Krivdić Dupan; Ivana Canjko

CR122 **Epileptic seizure as the first manifestation of multiple sclerosis**
Dea Sabo; Eleonora Strujić; Petra Raguž, Klara Ormanac, Mirna Matišić; Jelena Šarić Jurić; Stjepan Jurić

CR123 **HACEK endocarditis and its epiphenomena**
Mihovil Santini; Maja Sirovica; Martina Lovrić Benčić

CR124 **Microduplication 1p13.3 with unclear clinical influence in children with intellectual deficiency and obesity-case report**

Dominik Seletković; Petra Raguž; Nikola Zelić; Domagoj Soldo; Klara Ormanac; Leon Perić; Silvija Pušeljić

CR125 A case series of Trichinosis in people in eastern Croatia

Matea Smajić; Damir Tolić; Luka Medić; Marta Poje; Ema Schönberger; Ljiljana Perić; Petra Smajić

CR126 **Alcohol and cannabinoid dependence in emotionally unstable personality**

Domagoj Soldo; Dominik Seletković; Jelena Pokos; Dunja Degmečić

CR127 **Regression of psychomotor development caused by acute necrotizing encephalopathy: a case report**

Eleonora Strujić; Ena Bandov; Iva Mijatović; Klara Ormanac; Petra Raguž; Dea Sabo; Andrea Šimić Klarić

CR128 **Malignant arterial hypertension accompanied by severe proteinuria - causes and treatment**

Branko Šego; Fran Popović; Mario Špoljarić; Neven Tripić; Stipe Vidović; Matej Lovrić; Ivana Tolj

CR129 **Young boy with gelastic epilepsy: long-term follow up**

Luka Šižgorić; Andrija Miculinić ; Matilda Kovač Šižgorić; Hrvoje Jednačak

CR130 **Ranking neurological disability in patient with an anterior spinal artery syndrome: a case report**

Mario Špoljarić; Krunoslav Buljan

CR131 **37-year-old patient with non-traumatic, non aneurysmal perimesencephalic subarachnoid hemorrhage (SAH): a case report**

Mario Špoljarić; Krunoslav Buljan

CR132 **Individualized approach in early treatment and sequencing of multiple sclerosis**

Ivan Šporčić; Jelena Pokos; Nikolina Zagorac; Magdalena Zulumović; Tea Marošević Zubonja

CR133 **SARS-CoV-2 and EBV coinfection – entity more common than we think?**

Luka Švitek; Dario Sabadi; Nika Vlahović; Petra Smajić; Bernarda Berišić; Ljiljana Perić; Dubravka Lišnjić

CR134 **Pneumothorax as a complication of Covid-19 infection in patients on non-invasive ventilation**

Ines Tamaš; Petra Markuš; Toni Maloča; Leon Terek; Marta Milošević; Jelena Miletić; Slavica Kvolik

CR135 **Case report - Perioperative procedures in a COVID-19 positive neurosurgical patient**

Leon Terek; Petra Markuš; Toni Maloča; Jelena Miletić; Marta Milošević; Ines Tamaš; Slavica Kvolik

CR136 **Lemierre's syndrome-case report**

Lucija Todić; Ivana Jurić; Nika Pušeljić; Vedrana Pavlović; Maja Pavlovsky; Ana Dukić; Damir Mihić

CR137 **Cardiometabolic consequences of obesity**

Damir Tolić; Dorian Garac; Mirela Okolić; Matea Smajić; Ines Bilić-Ćurčić

CR138 **Amoebic colitis in an HIV-infected male patient**

Nina Trepić; Nikola Janjatov; Vanja Andrić

CR139 **Interdisciplinary approach and early integration of palliative care in improving the outcome of treatment in a lung cancer patient**

Nina Trepić; Tomi Kovačević

CR140 **Massive pulmonary embolism following HIPEC in treatment of appendiceal mucinous adenocarcinoma**

Ines Trkulja; Marin Davidović; Lucija Brkić; Petar Matošević

CR141 **Immune deregulation in patient with PANDAS, case report**

Ema Turkalj; Marijana Udovičić; Matilda Kovač Šižgorić; Mirjana Turkalj

CR142 **How to diagnose primary ciliary dyskinesia, case report**

Marijana Udovičić; Ema Turkalj; Željko Ferenčić; Mirjana Turkalj

CR143 **Individual, holistic physical therapy as a major part of conservative treatment of sciatica at 21 century**

Ivan Veber; Antea Kršek; Marinko Žulj

CR144 **Total avulsion of ingrown toenail in family practice**

Dorotea Vidaković; Ana Gmajnić; Stefan Topuzović; Ivanka Maduna, Petra Jurić; Dora Karl; Rudika Gmajnić

CR145 **Patient with anteroseptal STEMI and drug-resistant hyperlipidemia**

Stipe Vidović; Marko Mešin; Branko Šego; Marin Dujmović; Hrvoje Roguljić

CR146 **Mucinous breast cancer: A case report**

Ivo Vincetić; Marko Vincetić; Leon Perić; Matea Petrinović; Kristina Bojanić

CR147 **Cardiac amyloidosis: A case report**

Ivo Vincetić; Leon Perić; Matea Petrinović; Marko Vincetić; Marko Stupin

CR148 **"Broken Heart Syndrome": A case report**

Ivo Vincetić; Matea Petrinović; Marko Vincetić; Leon Perić; Marko Stupin

CR149 **Acute myocarditis masquerading as acute coronary syndrome: A case report**

Oskar Maria Voll; Carmen Clasen; Alina Scridon

CR150 **Comminuted left femur fracture with dynamic condylar screw plate osteosynthesis: A case report**

Oskar Maria Voll; Carmen Clasen; Felix Wiethuechter; Flaviu Moldova; Tiberiu Bataga

CR151 **Papillary urothelial carcinoma in a patient with a positive smoking history - case report**

Klara Vranešević; Dora Jurić; Dean Markić

CR152 **Pulmonary embolism and cardiomyopathy due to coronavirus disease 2019 (COVID-19)**

Nikolina Zagorac; Ivan Šporčić; Magdalena Zulumović; Jelena Pokos; Lana Maričić

CR153 **Ganglioneuroma of the adrenal gland: a case report**

Nikolina Zagorac; Ana Nuić; Jelena Pokos; Magdalena Zulumović; Goran Kondža

CR154 **A case report of a patient with multivessel coronary artery disease and postinfarction angina pectoris**

Magdalena Zulumović; Jelena Pokos; Nikolina Zagorac; Ivan Šporčić; Anto Stažić; Tatjana Bačun

CLINICAL MEDICINE

CM01 **Endocrine management of transgender individuals in a tertiary referral hospital centre**

Dora Cesarec; Anton Malbašić; Tina Dušek

CM02 **Analysis of risk factors and preventions on survival of patients with acute myeloid leukemia in University Hospital Osijek**

Marijan Ćuk; Boris Čvangić; Stjepan Ištvanić; Branka Lončar; Jasminka Sinčić-Petričević; Stefan Mrđenović

CM03 **Assessing cost-saving enabled by etanercept biosimilar approval**

Matej Dobrošević; Vinko Michael Dodig; Robert Marčec

CM04 **Impact of demographic characteristics on outcomes of COVID-19 patients in the Respiratory Center in Clinical Hospital Center Osijek**

Mia Edl; Lucija Čolaković; Antonio Kovačević; Mario Horvat; Šimun Rezo; Slavica Kvolik

CM05 **Dietary supplementation of capsaicinoids reduces caloric intake: a meta-analysis of controlled human trials**

Leonardo Kelava; Kata Fekete; Zsófia Merkl; Zsolt Fehér; Eszter Pákai; András Garami

CM06 **The influence of unhealthy lifestyle habits on the cardiometabolic profile of young seemingly healthy adults in Osijek-Baranja County**

Matea Lukić; Marko Burić; Antonio Burić; Lorena Stanojević; Kristina Kralik; Livija Sušić

CM07 **The development of hypothermia in young children**

Zsófia Merkl; Kata Fekete; Leonardo Kelava; Eszter Pákai; András Garami; Zsolt Fehér

CM08 **The role of biochemical parameters in determining the etiology of acute pancreatitis**

Nataša Mišić; Ana Milenković; Marijeta Božinović; Snežana Tešić-Rajković

REVIEWS

CM09 **Ectopic neurons in the dentate gyrus in human temporal lobe epilepsy**
Abigél Molnár; József Janszky; Tamás Dóczi; László Seress; Hajnalka Ábrahám

CM10 **Neck-shaft angle measurement in children – can we trust in conventional radiographs?**
Viktória Nyakas; Dániel Kovács; Péter Maróti; Gergő Józsa; Péter Than; Ádám Tibor Schlégl

CM11 **A retrospective study of next generation sequencing at the Faculty of Medicine in Rijeka (Croatia) from 2017 to 2021**

Željka Poslon; Borut Peterlin; Saša Ostojić; Nina Pereza

CM12 **Epidemiological, clinical and therapeutic characteristics of very low birth weights infants with retinopathy of prematurity**

Ema Poznić; Nora Pušeljić; Nika Pušeljić; Ivana Jurić; Višnja Tomac; Silvija Pušeljić

CM13 **Initial deviations in laboratory parameters of very low birth weight infants as indicators for the development of necrotizing enterocolitis**

Nora Pušeljić; Ema Poznić; Luka Perić; Nika Pušeljić; Alen Rončević; Ivana Jurić; Silvija Pušeljić

CM14 **The concept of personalized medicine in the diagnosis and treatment of drug resistent epilepsy with autism spectrum disorder**

Luka Šižgorić; Andrija Miculinić; Ivo Barić; Matilda Kovač Šižgorić

CM15 **Comparison of external ventricular drain related infections before vs during the COVID-19 Pandemic**

Dora Spantler; Zoard Istvan Batai; Erzsebet Ezer; Tihamer Molnar

CM16 **The efficacy of preoperative radiotherapy for patients with signet-ring cell rectal carcinoma: a retrospective case-control study**

Albina Azatovna Zagidullina; Sergey Sergeevich Gordeyev

R01 **Congenital heart disease, prenatal diagnosis and management**

Lucija Barić; Klara Jurišić; Astrid Kalazić; Ena Kolak; Petra Lukač; Luka Medić; Lea Paradinović

R02 **Risk factors for recurrence after atrial aibrillation catheter ablation: A literature review**

Carmen Clasen; Oskar Maria Voll; Lucy Zimmermann; Marian Pop

R03 **Hypertension after aortic coarctation repair: A literature review**

Carmen Clasen; Oskar Maria Voll; Sofia Leonardi; Marian Pop

R04 **Pain management in patients with chronic kidney disease**

Điđi Delalić; Ingrid Prkačin,

R05 **Ectopic cervical pregnancy: Treatment route**

Klara Jurišić; Lucija Barić; Petra Lukač; Luka Medić; Ena Kolak; Astrid Kalazić

R06 **Do we ignore the facts because of unfounded guidelines? Aspiration during vaccination**

Josip Kajan; Marko Sablić; Marija Heffer

R07 **Neurotransmitter modulation by the gut microbiota**

Astrid Kalazić; Luka Medić; Lucija Barić; Klara Jurišić; Petra Lukač

R08 **The gut microbiota in multiple sclerosis: An overview of clinical trials**

Ena Kolak; Lucija Barić; Klara Jurišić; Petra Lukač; Luka Medić

R09 **Capgras delusion in posterior cortical atrophy-a quantitative multimodal imaging single case study**

Ena Kolak; Lucija Barić; Klara Jurišić; Petra Lukač; Luka Medić

R10 **Skin and soft tissue infections caused by body piercing**
Mario Koporčić; Ivan Bobić; Andrija Karačić

OTHER

R11 Systematic review and meta-analysis on the prognostic role of exosomal biomarkers in pancreatic ductal adenocarcinoma

Veronika Lillik; Stefania Bunduc; Noémi Gede; Szilárd Váncsa; Dorottya Kató ; Alexandra Mikó; Péter Hegyi

R12 Fibrodysplasia ossificans progressiva (FOP)

Petra Lukač; Luka Medić; Lucija Barić; Klara Jurišić; Ena Kolak; Jakov Kovačević; Astrid Kalazić

R13 Medical imaging contrast media consumption: Overview in Croatia

Anton Malbašić; Dora Cesarec; Vinka Potočki; Antonia Bukovac; Gabrijela Buljan; Vinko Michael Dodig; Sandro Gašpar

R14 Tetralogy of Fallot

Luka Medić; Lucija Barić; Petra Galić; Klara Jurišić; Astrid Kalazić; Ena Kolak; Petra Lukač

R15 Stem cell-derived viral antigen-specific T cells suppress HIV replication and PD-1 expression on CD4+ T cells

Luka Medić; Lucija Barić; Klara Jurišić; Astrid Kalazić; Ena Kolak; Petra Lukač; Matea Smajić

R16 Genetic advances in autism

Rebeka Nađ; Karla Bubalo; Vlatko Perković

R17 Mind over muscle

Katarina Opačak

R18 Alcoholism as an obstacle for liver transplantation - pro et contra

Marta Poje; Matea Smajić; Ivan Prigl; Luka Medić; Lada Zibar

R19 MicroRNA - New biomarker for early diagnosis of unstable angina? Literature review

Oskar Maria Voll; Carmen Clasen; Sofia Leonardi; Marian Pop

OT01 Macronutrients in the diet of preschool children in North Macedonia

Jansun Bukovetz; Shaban Memeti; Igor Spiroski

OT02 Investigation of changes in the chemical composition of teeth enamel after professional teeth cleaning

Tymur Iengalychev; Vladislav Yevtushok; Yana Yushchenko; Antonina Belyaeva; Tetiana Tyshkovska; Iryna Tkachenko

OT03 Erectile function in university students in Osijek during pandemia COVID-19

Kurina Christian; Krešo Sara; Stojković Fran; Jurić Tomislav; Zibar Lada

OT04 The relationship between burnout, mental wellbeing and cognitive emotion regulation strategies among emergency department workers

Krisztina Pálfi; Réka Kereszti; Boróka Gács

OT05 Assessment of Micro- and Macronutrients Intake During Pregnancy-Implementation of Epic-Norfolk Food Frequency Questionnaire

Lorena Stanojević; Matea Lukić; Martina Vulin; Ana-Maria Metzger; Lucija Magušić; Ines Drenjančević; Ana Stupin

OT06 Torque fracture testing of autologous and autogenous bone block fixating mini-screws

Réka Stefanics; Roland Told; József Szalma

OT07 The effect of high-intensity rapid polymerization on degree of conversion and monomer elution of bulk-fill resin composites

Donát Tamás Szebeni; Katalin Böddi; Zsuzsanna Őri; Edina Lempel

abstracts

ABSTRACTS

OSCON


OSCON
BS
BASIC SCIENCE

BS01

Wound healing in Dipeptidyl-peptidase Iv (Dpp Iv/Cd26) deficient diabetic mice

Lara Batičić[1], Dijana Detel[1], Edvard Bedoić[2], Jadranka Varljen[1]

1 - Department of Medical Chemistry, Biochemistry and Clinical Chemistry, Faculty of Medicine, University of Rijeka, Braće Branchetta 20, 51000 Rijeka, Croatia
2 - Student of the Faculty of Medicine, University of Rijeka, Braće Branchetta 20, 51000 Rijeka, Croatia

Introduction: Dipeptidyl-peptidase IV/CD26 molecule (DPP IV/CD26) is widely known, except for its involvement in a multitude of physiological and pathological processes, for the role in regulation of glycaemia. Complications caused by diabetes such as infections, ulcerations and gangrene are the main causes for hospitalization. DPP IV/CD26 inhibitors are available as a treatment option for patients with diabetes type II. Inhibition of DPP IV/CD26 accelerates healing of chronic diabetic ulcerations by induction of a histological pattern consistent with enhanced angiogenesis. We hypothesized a significant role of DPP IV/CD in mechanisms of cutaneous wound healing in hyperglycemia. Our aim was to research the process of wound healing in conditions of CD26 deficiency in experimental hyperglycemia in order to acquire more insights on the role of DPP IV/CD26 in cutaneous reparation and regeneration.

Materials and methods: A streptozotocin-model of diabetes was induced in wild-type mice and CD26 deficient type. Experimental wounds were performed on mice dorsal regions and animals were sacrificed on determined time schedule. Pathohistological, histomorphometrical, immunohistochemical and immunobiochemical analyses were performed on wound samples and control skin while serum samples were analysed for DPP IV/CD26 activity and concentration of target angiogenic factors.

Results: Our hypothesis was confirmed by this study since we shown that DPP IV/CD26 plays an important role in the regulation of blood glucose concentration and its inactivation improves state associated with hyperglycemia. Moreover, the process of cutaneous wound healing is improved in conditions of DPP IV/CD26 deficiency with elevated local expression of proangiogenic factors.

Conclusion: Inhibition of DPP IV/CD26 has beneficial effects on the wound healing process in hyperglycemia, which supports the significance of DPP IV/CD26 inhibition as a therapeutic option for treatment of diabetes.

Keywords: diabetes mellitus, DPP IV/CD26, hyperglycemia

BS02

Serum levels of 25-hydroxyvitamin D3 among students of Faculty of Medicine Osijek and its correlation with body mass index

Sara Bonet[1], Fran Popović[1], Branko Šego[1], Stipe Vidović[1], Tatjana Bačun[2,3], Petar Šušnjara[4,5], Sven Viland[6]

1 - Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 - Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Department of Internal Medicine, Osijek, Croatia
3 - Clinical Medical Center Osijek, Department of Endocrinology, Osijek, Croatia
4 - Department of Physiology and Immunology, Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
5 - Scientific Center of Excellence for Personalized Health Care Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
6 - Department of Medical Biology and Genetics, Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia

Introduction: Vitamin D is a fat-soluble vitamin with steroid structure. A great number of epidemiological studies suggest an increasing presence of hypovitaminosis of vitamin D among humans.Vitamin D deficiency itself is defined by serum levels of 25-hydroxyvitamin D3 (25-OH-D3) below 20 ng/ mL. The aim of this study was to evaluate serum levels of 25-hydroxyvitamin D3 among students of the Faculty of Medicine Osijek and to assess correlation with body mass index (BMI).

Materials and methods: Concentrations of 25-OH-D3 were measured by LC/MS-MS procedure on Shimadzu LCMS 8050, using RECIPE kit for serum levels of 25-OH-D3 and 25-OH-D2. BMI and percentage of body fat were measured using bioelectrical impedance analysis. In order to determine the normality of the distribution of numerical data, the D'Agostino - Pearson test was performed. The Pearson and Spearman correlation coefficients were calculated. The significance level is set to $\alpha = 0.05$. 60 respondents participated in the research. Of these, 16 are men (26.7%) and 44 are women (73.3%).

Results: Mean value for serum levels of 25-OH-D3 was 11.37 ng/mL (SD = 1.60). D'Agostino-Pearson test showed a significant deviation from the normal distribution for BMI ($p = 2.38 * 10^7, p < \alpha$) and body fat percentage ($p = 0.0259, p < \alpha$). By conducting a Spearman test, there was found no correlation between the percentage of body fat and the concentration of 25-OH-D3 ($r_s = 0.151,\ p = 0.249$) and no correlation between BMI and 25-OH-D3 levels ($r_s = 0.169, p = 0.196$)

Conclusion: Serum levels of 25-OH-D3 are below expected, therefore presenting a potential risk factor for development of various health conditions. No correlation of vitamin D to BMI was found.

Keywords: 25-Hydroxyvitamin D3, Body Mass Index, Vitamin D

BS03

Significance and experimental modeling of neonatal hypothermia

Kata Fekete[1]; Zsófia Merkl[1]; Leonardo Kelava[1]; Eszter Pákai[1]; Zsolt Fehér[1,2]; András Garami[1]

1 – Department of Thermophysiology, Institute for Translational Medicine, Medical School, University of Pécs, Hungary
2 – Department of Anaesthesiology and Intensive Therapy, Medical School, University of Pécs, Hungary

Introduction: Newborns, especially preterm neonates, have limited capacities for thermogenesis. Brown adipose tissue, a heat-producing organ, develops intensely just before birth. In our study, we investigated the role of brown adipose tissue in maintaining the core temperature of mature and preterm newborns by using an animal model.

Materials and methods: We based our new animal model on extensive literature search: 7- and 2-day-old Wistar rats were used to model full-term and preterm neonates, respectively. At each age, two groups were formed: cold-exposed (18°C) and thermoneutral (33°C). Temperature was simultaneously measured at different parts of the animals' body (interscapular region, brain, sacrum) using thermocouples and FLIR C3 thermal camera.

Results: No significant difference was found between the temperatures of body parts in a thermoneutral environment ($p>0.05$). In 7-day-old rats exposed to cold, the interscapular region (i.e., a main site of brown adipose tissue) had higher temperature (22.4±0.2°C) than the brain (21.5±0.2°C) and the torso (21.0±0.1°C). In 2-day-old animals exposed to cold, the interscapular temperature was also higher (21.8±0.2°C) than that of the brain (21.0±0.2°C) and the torso (21.0±0.1°C), however the temperature of brown fat was significantly lower than in 7-day-old rats ($p<0.05$). The differences were more pronounced with thermal imaging than with thermocouples.

Conclusion: The cold-induced brown fat activation can be demonstrated in our animal model, which is suitable for applied physiological research. The shown difference in brown fat activity between mature and preterm neonates demonstrates the importance of brown fat in maintaining normal core temperature in neonates exposed to cold.

Keywords: brown adipose tissue, hypothermia, neonatal, thermogenesis, thermoregulation

BS04

Zinc in the population of eastern Croatia

Petra Ivančević[1], Ana-Marija Ćulap[1], Ema Grba[1], Mario Horvat[1], Domagoj Vidosavljević[1,2], Vlatka Gvozdić[3]

1 - Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 - Department of Gynecology and obstetrics, Vukovar General Hospital, Vukovar, Croatia
3 - Department of Chemistry, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia

Introduction: Zinc is the second most common trace metal in the human body, necessary for cellular function and anti-inflammatory response. Blood serum zinc levels were collected from samples of 608 subjects in 9 settlements of eastern Croatia. The obtained data was analyzed with regard to age, sex, place of residence, and socio-demographic characteristics.

Materials and methods: Samples from 608 subjects were analyzed from year 2011. to 2021. by the inductively coupled plasma mass spectrometry method.

Results: Serum zinc levels of the subjects from settlements of Osijek-Baranja County are much higher than those of Vukovar-Srijem County, which comes as a surprise since measured zinc concentration in soil revealed the soil is deficient with zinc. According to Radushkin, subjects from nine settlements have high zinc levels, above 710 microgram/liter. This study revealed that healthy subjects have slightly higher serum zinc levels than diseased, men have slightly higher serum zinc levels than women and subjects younger than 60 have slightly higher concentrations than older subjects. Depending on the place of residence, differences in serum zinc concentration were found in subjects that consume water from local sources and those that use bottled water. Subjects who reported smoking cigarettes have somewhat higher serum zinc levels than those who deny smoking. Alcohol consumption doesn't affect serum zinc levels.

Conclusion: The most significant differences in serum zinc concentration of subjects were related to the place of residence, which doesn't correlate with the zinc concentration found in the soil nor with local water consumption.

Keywords: Croatia, serum, zinc

BS05

Cerebral TRPA1 receptors influence the behavioural pattern of mice

János Konkoly[1,2], Viktória Kormos[1,2,3], Balázs Gaszner[2,3], Zoltán Sándor[1,2], Angéla Kecskés[1,2], Dóra Zelena[2,4,5], Erika Pintér[1,2]

1 - Department of Pharmacology and Pharmacotherapy, Medical School, University of Pécs, H-7624 Pécs, Hungary;
2 - Centre for Neuroscience, Szentágothai Research Centre, H-7624 Pécs, Hungary;
3- Department of Anatomy, Medical School, Research Group for Mood Disorders, University of Pécs, H-7624 Pécs, Hungary
4 - stitute of Physiology, Medical School, University of Pécs, H-7624 Pécs, Hungary;
5- Institute of Experimental Medicine, H-1085 Budapest, Hungary

Introduction: Transient receptor potential ankyrin 1 (TRPA1), a non-selective cation channel, plays a role in diverse pathophysiological conditions (e.g.: neuropathic pain and neurodegenerative disorders). Furthermore, it seems to contribute to the innate-fear responses of mice. Here, we analysed its role in different behavioural pattern.

Materials and methods: We investigated the expression pattern of *Trpa1* mRNA in the olfactory tract of mice by combined RNAscope in situ hybridization and immunohistochemistry. The effects of different predator odours were investigated parallel with serum ACTH and corticosterone levels. Calcium imaging experiments were performed to reveal if these compounds can directly act on TRPA1 receptors or not. Social behavioural tests were used to examine the importance of TRPA1 in the social behaviour of *Trpa1* wild type (WT) and knockout mice (KO).

Results: The expression of *Trpa1* mRNA was revealed in the olfactory bulb and piriform cortex. Fox odour activated directly the TRPA1 receptors, while cat odour cannot act on these channels. KO animals showed less aversion against fox odour, but using cat odour, relevant differences in the behaviour of WT and KO animals cannot be detected. The social interest of KO animals was decreased during the behavioural tests.

Conclusions: TRPA1 may play a role in the processing of aversive odours and influence the social interaction of mice. Therefore, TRPA1 may be a promising drug target in the therapy of behavioural illnesses in the future.

Keywords: TRPA1, social behaviour, piriform cortex, olfactory bulb

BS06

Dynamics of PAC1 Receptor mRNA Expression in the Subsantia Nigra in the Rotenone Model of Parkinson's Disease in

Zsombor Márton[1], Balázs Gaszner[1]

1-Department of Anatomy, University of Pécs Medical school, Hungary

Introduction: Parkinson's disease (PD) is characterized by progressive neurodegeneration of the dopaminergic subtantia nigra (SN). The role of pituitary adenylate cyclase-activating polypeptide and its PAC1 receptor (PAC1R) in neuroprotection is well known. Earlier we found decreased PAC1R levels in the striatum in a macaque PD model. Levodopa/benzerazide therapy partially reversed PAC1R protein changes in some examined regions, in contrast to SN, where no significant change was seen. The rotenone model in rats is a simple, cost-effective alternative of the primate model.

Objective: Here we aimed to determine the translation value of the rotenone model by testing the PAC1R expression in rats. We hypothesized that SN *Pac1r* mRNA and PAC1R protein contents, do not change in the rat PD model and upon levodopa/benserazide therapy, in line with our observations in macaques.

Methods: PD-like condition was induced by 6 weeks subcutaneous rotenone treatment *vs.* vehicle-treated controls. Half of rotenone-treated rats was also injected with levodopa/benserazide in the 4-6th weeks. Motor coordination was assessed in rotarod test, while mood status in open field and sucrose preference tests. *Pac1r* RNAscope and PAC1R immunofluorescence was assessed by morphometry.

Results: The rotenone treatment-evoked motor deficit was improved by levodopa/benserazide treatment unlike the increased anxiety and anhedonia. In SN, the PAC1R protein immunoreactivity did not change. In contrast, rotenone treatment was downregulated *Pac1r* mRNA that was reversed by levodopa/benserazid therapy.

Conclusion: The translational value of the rat model is supported by SN PAC1R protein levels. Further studies are needed to test the rat model at mRNA level.

Keywords: PAC1R, Parkinson's, rats, rotenone.

BS07

Histological structure of the albino rat's stomach

Daria Maryniak[1], Volodymyr Hryn[1]

1 - Ukrainian Medical Stomatological Academy, Poltava, Ukraine

Introduction: In experimental medicine, rats are the most preferred experimental animals for simulating various pathological conditions. The legitimacy of extrapolating its results to humans should be preliminarily confirmed by the degree of morphological and functional identity of the studied organs.

Materials and methods: Thirty adult albino male rats weighing 200,0 ± 20,0g participated in the study. Albino rat stomach specimens fixed in 10% neutral buffered formalin solution have been studied. The study was performed using conventional histological methods to obtain serial paraffin sections 4 μm thick, stained with hematoxylin-eosin. Specimens obtained were studied on a "Konus" light microscope equipped with a Sigeta DCM-900 9.0MP digital photomicrograph accessory and Biorex 3 (serial number 5604) software suitable for these studies.

Results: A peculiar feature of the albino rat's gastric fundus mucosa is that it is covered by a relatively thick layer of stratified squamous partially keratinized epithelium, which is characteristic of surfaces exposed to mechanical action. The mucosa of the gastric/glandular part homologous to humans differs from it by the high density of tubular glands, in which all necessary exocrine cells are located in the walls of the tubular glands, which provide the enzymatic digestion process in an acidic medium.

Conclusion: The albino rat fundus is designed to act as a special mixer for the food bolus and move it to the glandular part of the stomach. The histological structure of the gastric mucosa shows that only the pyloric and gastric/glandular parts are homologous to the human stomach.

Keywords: albino rats, stomach"

BS08

The Antimicrobial Susceptibility Profile of Staphylococcus aureus Clinical isolates at University Hospital Center Osijek

Mirela Okolić[1], Marko Živkov[1], Ivana Roksandić-Križan[1,2], Maja Bogdan[1,2]

1 -Faculty of Medicine, J.J. Strosmayer University of Osijek, Osijek, Croatia
2 - University Hospital Center Osijek, Osijek, Croatia

Introduction: *Staphylococcus aureus* is considered to be a significant agent of skin and soft tissue infections. Blood stream infections and meningitis caused by *S. aureus* mostly appear due to surgical procedures and use of intravenous catheters. Our goal was to determine antibiotic susceptibility of *S. aureus* isolates from cerebrospinal fluid (CSF) and blood from 18.05.2020. to 31.12.2021. at University Hospital Center Osijek.

Materials and methods: MALDI-TOF was used for identification purposes. The antibiotic susceptibility of isolated bacteria was determined with standard disk diffusion method and gradient minimal inhibitory concentration (MIC) on Muller-Hinton agar. The results were interpreted according to EUCAST guidelines. The susceptibility was determined for penicillin, cloxacillin (cefoxitin), erythromycin, clindamycin, trimethoprim-sulfamethoxazole, rifampicin, gentamicin, linezolid, vancomycin, teicoplanin, moxifloxacin, tetracycline and tigecycline.

Results: During this research, we examined antibiotic susceptibility of 69 isolates from which 2 were detected in CSF and the 67 in blood culture. Isolates from CSF showed sensitivity to all previously mentioned antibiotics (except penicillin). Almost half of the isolates detected in blood were resistant to cloxacillin. Susceptibility to erythromycin (47%), clindamycin (52%), trimethoprim-sulfamethoxazole (98%), rifampicin (97%), gentamicin (81%), tigecycline (98%) was also detected. They all showed sensitivity to linezolid, vancomycin and teicoplanin. The isolates from intensive care unit with COVID-19 positive patients were the most dominant (38%), followed by internal medicine (23%) and infectology unit (12%). Conclusion: The most common bacteria type that has been isolated from primary sterile samples is *Staphylococcus aureus*. Usual drugs of choice are antibiotics like linezolid, vancomycin and teicoplanin. To stop antibiotic overuse and spreading of bacterial resistance, antimicrobial stewardship should be followed.

Keywords: *Staphylococcus aureus*, antibiotics, susceptibility

BS09

Investigation of PACAP1-38 eye-drops treatment in glaucoma

Evelin Patko[1], Edina Szabo[1], Alexandra Vaczy[1], Dorottya Molitor[1], Eniko Tari[1], Dora Reglodi[1], Tamas Atlasz[1,2,3]

1 - Department of Anatomy, MTA-PTE PACAP Research Team, University of Pecs Medical School, 7624 Pecs, Hungary
2 - Szentagothai Research Center, University of Pecs, 7624 Pecs, Hungary Department of Sportbiology, University of Pecs, 7624 Pecs, Hungary
3 - Department of Sportbiology, University of Pecs, 7624 Pecs, Hungary Szentagothai Research Center, University of Pecs, 7624 Pecs, Hungary

Introduction: Approximately 4.5 million people worldwide are blind due to glaucoma, which makes it the second most common cause of irreversible blindness. This progressive condition develops by the blockage of the aqueous humor drainage system leading to intraocular hypertension. Progression of the condition causes the loss of the retinal ganglion cells and their axons. PACAP has shown protection against retinal degenerations in several diseases, such as excitotoxicity, hypoxia, or diabetic retinopathy. Also, we proved that PACAP passes through ocular barriers and so, retinoprotection can be achieved also by eye drops.

Aim: Accordingly, the aim of the present study was to examine the possible neuroprotective effects of topically administered (eye drops) PACAP in glaucoma.

Methods: We used 20 adult, male *Sprague-Dawley* rats for this study. Polystyrene microbeads (10µl, 10µm) were injected into the anterior chamber of the right eyes with 33G Hamilton syringe, while the control group received the same volume of PBS serving as control. After the microbeads injections we treated the eyes with PACAP1-38 eye drops for 4 weeks. Intraocular pressure (IOP) was monitored with tonometer and retinal morphological changes were followed with Optical Coherence Tomography.

Results: In the PACAP1-38 treated group we observed a lower IOP and less severe damage in the retinal thickness and GCL compared to the microbeads injected, control animals.

Conclusion: Based on our results, we proved that topical administration of PACAP is neuroprotective in glaucoma, providing the basis for future therapeutic administration.

Keywords: retina, glaucoma, PACAP1-38, eye drops

BS10

PAC1 receptor colocalization with Ca^{2+}-binding proteins and cochlea-efferent markers in the auditory pathway of PACAP knock out and wild-type mice

Daniel Pham[1], Balazs Daniel Fulop[1], Gergo Gyurok[1], Balazs Gaszner[1], Dora Reglodi[1], Andrea Tamas[1]

1 - Department of Anatomy, MTA-PTE PACAP Research Team, Medical School, University of Pécs, Hungary

Introduction: The neuroprotective pituitary adenylate cyclase activating polypeptide (PACAP) also affects the auditory system. In PACAP knock out (KO) mice, we showed elevated hearing tresholds, higher apoptosis rate and increased synthesis of Ca^{2+}-binding proteins of hair cells in the organ of Corti. In this study, we examined the role of PACAP in the auditory pathway of 1.5, 4, and 8-month-old PACAP KO and wild-type (WT) mice.

Materials and methods: The co-localization of PACAP specific PAC1 receptor (PAC1R) was visualized by immunostaining with calretinin-parvalbumin Ca^{2+}-binding proteins and with choline acetyltransferase (ChAT)-tyrosine hydroxylase (TH) in the auditory pathway.

Results: In the ventral cochear nucleus (VCN) parvalbumin positive cell number significantly increased with age in both genotypes, however, parvalbumin-PAC1R positive cell number had a less pronounced increase. In the dorsal cochlear nucleus (DCN), PAC1R colocalized rather with parvalbumin than with calretinin in both WT and KO young genotype group. In the superior olivary complex (SOC), PAC1R was detected in the third of both ChAT and TH positive cells.

Conclusion: The age-related increase of parvalbumin in the auditory pathway is known, however its reduction in the PAC1R positive cells of VCN shows that PACAP affects this age-related process. Our results in the DCN show that PACAP action is not equivalent on all cell types. PAC1R positivity in the SOC proves that PACAP plays a role in the descending control of the cochlea. Altogether we showed that additional to the cochlea, PACAP also influences the function of the auditory pathway.

Keywords: auditory pathway, cochlear nucleus, PACAP

BS11

Antimicrobial susceptibility pattern of *Acinetobacter baumanii* and *Pseudomonas aeruginosa*

Ana Prica[1], Marko Živkov[1], Maja Bogdan[1, 2]

1 – Faculty of Medicine, J.J. Strossmayer University of Osijek, Osijek, Croatia
2 – University hospital Center Osijek, Osijek, Croatia

Introduction: In modern medicine and the ever-evolving field of pharmacology, an overuse of antibiotics in hospitals has rapidly accelerated antibiotic resistance in various species of bacteria. In this study, we are taking a closer look at the behaviour of two Gram – negative opportunistic pathogens in humans: *Acinetobacter baumanii* and *Pseudomonas aeruginosa*.

Methods and materials: Having been taken from various patients at the Health center in Osijek over an 18 month period, the isolates were isolated via conventional microbiological cultivation methods on both solid and liquid media: the aforementioned were identified using the Maldi tof technology. Antibiotic resistance was tested using the disk diffusion method on Mueller-Hinton agar (microdilution for colistin) alongside of "The European committee on antimicrobial susceptibility testing" (EUCAST) guidelines for interpretation (to interpret the sensitivity diameters).

Results: In regards to the obtained results for the bacteria in question, they are as follows: *A. baumanii* has best responded to colistin, while it was most resistant to ciprofloxacin. Furthermore, P. aeruginosa showed great sensitivity to amikacin and resistance to imipenem.

Conclusion: To summarize, with multiple bacteria strains acquiring resistance, it is most probable to examine the effects of certain antibiotics via techniques mentioned above and to ultimately treat said or different microorganisms with an adequately prescribed amount and type of medication.

Keywords: *Acinetobacter baumanii*, agar, antimicrobial susceptibility pattern, Maldi tof, *Pseudomonas aeruginosa*

BS12

Carbapenem and colistin resistant *Klebsiella pneumoniae*

Ivan Prigl[1], Rebeka Nađ[1], Marko Živkov[1], Marijan Orlović [1,2], Maja Bogdan[1,2]

1 – Faculty of Medicine, J.J. Strossmayer University of Osijek, Osijek, Croatia
2 – University Hospital Center Osijek, Osijek, Croatia

Introduction: *Klebisella pneumoniae* is a bacterium from Enterobacteriaceae family that develops antibiotic resistance more easily than most bacteria due to production of β-lactamase and carbapenemase. The primary goal of this research is to test and determine antibiotic susceptibility of *K. pneumoniae* isolates in primary sterile cultures (hemoculture and cerebrospinal fluid) taken in a 18-month period.

Materials and methods: Identification was performed by conventional methods or by using MALDI-TOF mass spectometry. Antibiotic susceptibility (ampicillin, amoxicillin-clavulanic acid, piperacillin-tazobactam, cefuroxime, ceftazidime, ceftriaxone, cefepime, ertapenem, imipenem, meropenem, ciprofloxacin, gentamicin, amikacin, trimethoprim-sulfamethoxazole, ceftazidime-avibactam, ceftolozane-tazobactam, fosfomycin, colistin) was tested by disk diffusion method, gradient minimal inhibitory concentration on Mueller–Hinton agar or by broth microdilution for colistin and the results were interpreted according to EUCAST breakpoints.

Results: The 32 primoisolates were included in this study. The results of antimicrobial susceptibility testing show: 32 ampicillin resistant samples (100%), 16 amoxicillin-clavulanic acid resistant samples (53%), 17 piperacillin-tazobactam resistant samples (53.13%), on average 52.72% resistant samples to different cephalosporins, 15 ciprofloxacin resistant samples (46.88%), 14 gentamicin resistant samples (43.75%), 4 amikacin resistant samples (12.50%), 8 trimethoprim-sulfamethoxazole resistant samples (47.06%), 1 ceftazidime-avibactam resistant samples (6.25%), 5 ceftolozane-tazobactam resistant samples (35.71%), 2 parenteral fosfomycin resistant samples (25.00%), 4 colistin resistant samples out of 8 that were tested (50.00%) and on average 11.46% resistant samples to different carbapenems.

Conclusion: Alongside already observed antibiotic resistances in *K. pneumoniae* treatment, we notice a certain incidence of colistin and carbapenems resistant isolates, which brings the question of future treatment of *K. pneumoniae* infections. Therefore, antimicrobial stewardship and infection prevention are of utmost importance due to lack of potent antimicrobial agents for treatment of developed infections.

Keywords: *Klebsiella pneumoniae*, antibiotics, susceptibility

BS13

The role of Urocortin 1 neurons in the development of non-motor symptoms of Parkinson's disease in the rat

Bence Pytel[1], Dr. Balázs Gaszner[1]

1 – Department of Anatomy, University of Pécs Medical School, Hungary

Introduction: Parkinson's disease (PD) is a neurodegenerative disorder characterized by dopaminergic cell loss in the substantia nigra (SN) and the presence of Lewy-bodies (LB), which cause motor control deficiencies (tremor, rigor, hypokinesia). In addition to these manifestations, non-motoric symptoms like depression and anxiety were also described. These mood alterations affect the quality of life in a more significant manner than the deteriorating motor functions. Morphological changes were also described in various brainstem nuclei, including the centrally projecting Edinger-Westphal nucleus (cpEW). It has already been confirmed that Urocortin 1 (Ucn1) expressing neurons of cpEW contribute to stress adaptation response and to emotional reactions. We hypothesised, that besides neurodegenerative changes in SN, morphological changes on Ucn1 neurons will occur, which contribute to mood disorders.

Matherials and methods: Rats were exposed to six week-long subcutaneous rotenone treatment to induce PD and its symptoms. Rotarod, open field (OFT), and sucrose preference tests (SPT) were used regularly to evaluate the changes in mood-condition and motoric responses. Morphological changes were assessed by multiple immunofluorescence labeling.

Results: Rats in the treatment group showed declined motor functions as well as anxiety-, and depression like behaviour. The model's validity was confirmed by the loss of dopaminergic neurons in SN, correlated with decreased number of urocortinergic cells, and the appearance of alpha-synuclein aggregates in the cpEW. Results showed an elevated Ucn1 immunoreactivity with decreased Ucn1 mRNA expression.

Conclusion: Ucn1 neurons of the cpEW may contribute to non-motor symptoms of Parkinson's disease in the rat.

Keywords: Edinger-Westphal, rat, rotenone, Parkinson's, urocortin-1

BS14

The potential effects of PACAP 1-38 on the retinal vasculature in glaucomatous rat model

Eniko Tari[1], Evelin Patko[1], Edina Szabo[1], Alexandra Vaczy[1], Dorottya Molitor[1], Dora Reglodi[1], Tamas Atlasz[1,2,3]

1 - Department of Anatomy, MTA-PTE PACAP Research Team, University of Pecs Medical School, 7624 Pecs, Hungary
2 - Szentagothai Research Center, University of Pecs, 7624 Pecs, Hungary Department of Sportbiology, University of Pecs, 7624 Pecs, Hungary
3 - Department of Sportbiology, University of Pecs, 7624 Pecs, Hungary Szentagothai Research Center, University of Pecs, 7624 Pecs, Hungary

Introduction: Glaucoma is one of the leading cause of blindness worldwide. A major risk factor of glaucoma is elevated intraocular pressure (IOP). In our previous study, we successfully described the neuroprotective effects of PACAP1-38 eye drops in a glaucoma model induced by microbeads injections in Sprague Dawley (SD rat. Currently, the vascular theory is getting more attention as a new aspect of the pathomechanism of glaucoma. Pieces of evidence show that not only mechanical factors but vascular factors may play a role in the pathogenesis of glaucoma.

Aim: In our present study, our goal was to examine the possible protective effects of PACAP1-38 eye drops treatment on the retinal vasculature.

Methods: We induced glaucoma through injection of polystyrene microbeads into the anterior chamber of SD rats, PBS receiving rats served as controls. IOP measurements were made every two weeks. We examined the retinal vasculature, with isolectin staining of the retinal whole-mounts. Retina vascularity was analysed using Angio Tool.

Results: Significantly increased IOP was observed in the glaucomatous vehicle treated group (Beads+S). In the PACAP1-38 treated group (Beads+P) the IOP remained in a normal range. Several vascular parameters changed in the Beads+S group such as total blood vessel length, total number of junctions, total number of end points and lacunarity. These parameters remained in a normal range in the Beads+P group.

Conclusions: Our results show that PACAP1-38 protects the vascularity of the retina and has a possible potential therapeutic value in glaucoma.

Keywords: glaucoma, PACAP1-38, retina

OSCON

CR

CASE REPORT

CR01

The limits of fetal viability – 22+1/7 extremely premature newborn

Matea Adamčević[1]; Ena Bandov[1]; Gordana Lukić[2]

1 – Faculty of Medicine Osijek, University Josip Juraj Strossmayer of Osijek, Osijek, Croatia
2 – University Hospital Centre Osijek, Clinic of Pediatrics, Department of Neonatology and Neonatal Intensive Medicine, Osijek, Croatia

Introduction: Fetal viability is the point at which a fetus can survive outside the uterus. It is generally considered to be around 23 or 24 weeks, but there is no universal consensus and some hospitals will resuscitate and actively treat newborns born in the 22nd week of pregnancy.

Case report: We received and treated an extremely premature newborn boy (22+1/7), born per vias naturalis, after the administration of Misoprostol, with a birth weight of 530 g and Apgar score 0/1/2. After primary cardiopulmonary resuscitation and intubation in the delivery room, the newborn was transferred to the Department of Neonatology and Neonatal Intensive Care. After admission to the department, he received surfactant, and was taken care of in an incubator with intensive supervision measures. Invasive mechanical ventilation, parenteral nutrition, empirical antibiotic therapy, and copious supportive measures have been initiated. Before being discharged home an MRI of the brain was done, a Dandy-Walker brain anomaly was found. A neurosurgeon was consulted, with no indication for active neurosurgical treatment. The patient was discharged home at less than 4.5 months and weighing 2840 g. He was clinically stable, independent of oxygen supplementation, and full enteral intake was achieved with a permanent orogastric tube. Neurodevelopmental gymnastics exercises, antirachitic and antianemic prophylaxis were started.

Conclusion: In Croatia, we consider a live-born child to be a child born at 22 weeks and ≥ 500 g. Neonatal therapies continue to affect neonatal outcome, mainly in neonates born at the limit of viability. Pushing the survival limit of an extremely premature newborn represents an improvement in our ability to deliver prenatal, perinatal and postnatal care.

Keywords: Extremely Premature, Fetal Viability, Newborn

CR02

Prurigo diabeticorum: chronic prurigo in a patient suffering from diabetes mellitus

Shibel Ageel[1], Karla Bodakoš[2], Ala Ageel[3], Lada Zibar[2,4]

1- Faculty of Medicine Novi Sad, University of Novi Sad, Novi Sad, Serbia
2- Faculty of Medicine Osijek, University of Osijek, Osijek, Croatia
3- Polyclinic Ageel, Osijek, Croatia
4- Clinical Hospital Merkur, Zagreb, Croatia

Introduction: Diabetes mellitus (DM) is a metabolic disease that affects multiple organ systems, including the skin. Prurigo diabeticorum (PD) is a rare chronic skin complication caused by metabolic derangements of the disease. Our goal was to show the possibility of occurrence of this chronic skin complication in patients suffering from diabetes mellitus.

Case presentation: 82-year old female patient presented to Polyclinic Ageel with symptoms of moderate to severe itching in multiple regions of her body, mostly at the upper and lower extremities. Chronic skin changes were seen at those and other sites of the body including the face, as erythema, nodules, papules, lichenification, crusts, and excoriations. Medical history showed that for the last 17 years she has been suffering from type 2 DM, being on insulin therapy for the last year. The patient had uncontrolled hyperglycemia. PD was diagnosed. Other differential diagnosis was rejected by physical and laboratory findings. Suitable symptomatic therapy was advised. The effectiveness of therapy was limited by non-compliance and ongoing poor glycemia regulation, without secondary infection, so far.

Conclusion: Diabetic prurigo should not be missed within the differential diagnosis of skin changes due to itching in a diabetic patient. Skin changes of PD may also lead to skin abscesses due to secondary infections, all of which shows us the importance of proper glucoregulation. However, it remains additionally challenging in a non-compliant elderly patient.

Keywords: glucoregulation; hyperglycemia; non-compliance; prurigo; type 2 diabetes mellitus

CR03

An overactive urinary bladder with a total uterine prolapse

Shibel Ageel[1], Dorian Garac[2], Robert Selthofer[2,3]

1 – Faculty of Medicine Novi Sad, University of Novi Sad, Novi Sad, Serbia
2 – Faculty of Medicine Osijek, University of Osijek, Osijek, Croatia
3 – Department of Obstetrics and Gynecology, Clinical Medical Center Osijek, Osijek, Croatia

Introduction: An overactive urinary bladder is a condition in which there is a frequent and sudden urge to urinate. Uterine prolapse occurs when the muscles of the pelvic floor are weakened, which causes the uterus to protrude into the vagina. Uterine prolapse mostly causes stress incontinence. Our goal was to show the possibility of occurrence of urgency incontinence with a uterine prolapse in everyday practice.

Case report: A 67-year-old female presented to the department of Obstetrics and gynecology because she was noticing uterine prolapses after standing for a longer period of time. The patient also complained of urinary incontinence, especially during the night and in case of lifting heavy objects. The patient didn't complain of constipation, urine culture was sterile, and the gynecologic examination showed a prolapse of the uterine cervix and a part of the body of the uterus through the vaginal introitus. The patient was diagnosed with mixed urinary incontinence and a total uterine prolapse. Total vaginal hysterectomy and anterior colpoplasty were done, after which the symptoms of urinary incontinence significantly decreased.

Conclusion: Uterine prolapse mostly causes stress incontinence, but urgency incontinence, which was dominant in this case of mixed urinary incontinence, can also be caused by uterine prolapse due to alterations in anatomical positions. Practitioners should not overlook urinary symptoms in case of a genital prolapse in female patients.

Keywords: urinary incontinence; uterine prolapse; vaginal hysterectomy

CR05

COVID-19 Pneumonia in Hemodialysis Patient

Mia Alerić[1]; Ozana Miličević[1]; Iva Barišić[1]; Ivan Durlen[2]

1 - School of Medicine, University of Zagreb, Zagreb, Croatia
2 - Department of Nephrology and dialysis, Clinical Hospital Dubrava, Zagreb, Croatia

Introduction: Clinical presentation of SARS-CoV-2 is highly variable, from an asymptomatic course, to severe pneumonia. Elderly and multimorbid patients more often develop serious illness. Kidney failure is a severe condition that requires hemodialysis. Hemodialysis patients have a high prevalence of comorbidities.

Case report: A 60-year-old woman presented to the emergency department with malaise, coughing and nausea. Her medical history includes end-stage kidney disease. Fever and dry cough started 10 days ago. Sputum testing (PCR) confirmed SARS-CoV-2 infection. Patient continued receiving hemodialysis in isolation facilities. 3 days later patient had no symptoms and no acute findings on chest X-ray. After 5 days patient complained of fatigue, chest pain and dyspnea. The following vital signs had been recorded: BP: 190/100 mmHg; HR: 97 beats/min; RR: 15/min; temperature: 38.5°C; and SpO2: 97%. Chest X-ray showed no acute findings. After 8 days patient had the same symptoms and SpO2 of 92%. Chest X-ray showed increased interstitial markings. Patient refused hospitalization. After 10days patient was brought in by ambulance with symptoms of malaise, loss of appetite and severe cough. Chest X-ray showed inhomogeneous, peripheral opacity in the right lung. SpO2 decreased to 90%. Hospitalisation and the use of dexamethasone and non-invasive oxygenation led to a stabilization. The patient was discharged after 5 days.

Conclusion: Given the high prevalence of comorbidities among dialysis patients, this population may be particularly susceptible to COVID-19 pneumonia. It is crucial to quickly identify SARS-CoV-2 infection and limit the spread of the virus.

Keywords: COVID-19; hemodialysis; SARS-CoV-2

CR06

Acute exacerbation of unrecognised spondyloarthritis

Mia Alerić[1]; Iva Barišić[1]; Ozana Miličević[1]; Iva Žagar[2]

1 - School of Medicine, University of Zagreb, Zagreb, Croatia
2 – Clinic for rheumatic diseases and rehabilitation, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Spondyloarthritis represents a family of inflammatory rheumatic diseases that cause arthritis. The main clinical manifestations are inflammatory back pain, peripheral arthritis, enthesitis and anterior uveitis. The predominant symptom is lower back pain, which is very common symptom in general. Hence, patients are not referred early enough to a rheumatologist for appropriate diagnosis.

Case report: A 23-year-old man was referred to the hospital for diagnostic testing due to rheumatologic manifestations, without family history of rheumatic, dermatological or gastroenteric conditions. Symptoms included intermittent swelling and pain of the right knee for over 7 years, and in the past three years periodical lower back and left hip pain, and morning stiffness lasting up to 3 hours. Use of NSAIDs led to pain relief. Exacerbation of back and hip pain occurred after a minor cold. Treatment with intramuscular injections of dexamethasone, diclofenac and diazepam led to significant reduction of pain. On physical examination, the patient was walking slowly with a crutch in right hand. Squatting was limited due to right knee pain. A thorough laboratory and radiographic evaluation was undertaken. Results revealed a CRP of 75,1 mg/L. MRI of both hips showed a bone marrow oedema and minimal joint effusion in both hips. Bone x-ray showed erosions, with adjacent sclerosis involving the SI joints bilaterally. Patient was diagnosed with spondyloarthritis.

Conclusion: A delayed diagnosis results in delayed treatment initiation and loss of function. Therefore, physicians must be able to differentiate between noninflammatory and inflammatory back pain.

Keywords: back pain; rheumatic diseases; spondyloarthritis

CR07

Fracture of the neck of the talus, a bone prone to avascular necrosis

Victor Allouch[1]; Barjes El Aklouk[2]; Ivan Benčić[3]; Ali Allouch[4]

1- Internship, Department of Surgery, General Hospital Bjelovar, Bjelovar, Croatia
2- Internship, Family medicine, Sesvete Health Centar, Sesvete, Croatia
3- Department of traumatology, Sestre Milosrdnice University Hospital Center, Zagreb, Croatia 4- Department of Surgery, General Hospital Bjelovar, Bjelovar, Croatia

Introduction: Talus fractures are relatively rare, but due to the importance of this bone in the biomechanics of the ankle joint, they can be the cause of very severe disabilities. The neck of the talus is the biomechanically weakest part of that bone, and fractures and dislocations of this part of the bone account for 50% of all talus injuries. The most common complications of talus neck fractures are skin necrosis and secondary arthrosis. The incidence of avascular necrosis in type 2 fractures according to Hawkins is over 20%. It is recognized after 6-8 weeks of initial trauma and is radiologically manifested by subchondral sclerosis.

Case report: A 21-year-old girl was involved in a car accident in which she pressed the brake pedal with her foot in dorsal flexion combined with eversion. Clinical examination and radiological examination revealed a multifragmentary intra-articular fracture of the distal part of the tibia and a fracture of the talus neck, type 2 according to the Hawkins classification. Under general anesthesia, reposition and fixation of the talus neck fracture with two cannulated screws and fixation of the intraarticular fracture of the medial tibial maleolus with one cannulated screw are performed. The lower leg splint is placed, and the leg is placed on the Brown rail. Postoperative recovery by the time of submission of this paper proceeds smoothly.

Conclusion: From the above, it can be seen that talus neck fracture type 2 according to Hawkins, even with the best surgical care, often necrotizes due to circulatory damage. Until the submission of this paper, the patient had not developed signs suggestive of avascular necrosis of the talus.

Keywords: avascular necrosis, fracture, talus

CR08

Blunt thoracic aortic injury in a polytrauma patient, a life-threatening emergency

Victor Allouch[1]; Barjes El Aklouk[2]; Vedran Omerhodžić[3]; Damir Koprek[4]

1 – Internship, Department of Surgery, General Hospital Bjelovar, Bjelovar, Croatia 2 – Internship, Family medicine, Sesvete Health Centar, Sesvete, Croatia
3 – Emergency Department, General Hospital Bjelovar, Bjelovar, Croatia
4 – Department of Surgery, General Hospital Bjelovar, Bjelovar, Croatia

Introduction: Blunt thoracic aortic injury (BTAI) remains the second most common cause of mortality among all non-penetrating traumatic injuries, second only to intracranial hemorrhage. It may be fatal if not diagnosed and treated expeditiously. Endovascular options allow safe and effective management of these dangerous injuries. In this case report we present a polytrauma patient with a life-threatening injury of the aorta, the workup and tratment of these injuries.

Case report: A 61-year-old motorcyclist suffered a car accident, a head on collision with a van. Clinical findings included indentation and palpatory pain of the anterior right chest wall, deformity and palpatory pain in the right shoulder with outer rotation of the upper arm, lacero-contusion wounds of the right and left thigh with left knee deformity and hemorrhage, shortening of the left leg. Clinical neurovascular assessment of the limbs was normal. MSCT scan was performed according to the polytrauma protocol and showed a posterior mediastinal hematoma, with an esophageal and tracheal dislocation. In addition, there was a fracture of the 3rd thoracal vertebrae, serial fracture of 2nd-5th rib right, anterior luxation of the glenohumeral joint, supracondylar fracture left with fragmentation. The patient had an endovascular treatment of the aorta and is till this day alive and well.

Conclusion: Motor vehicle accidents, particularly head on collisions, account for 81% of the cases of BTAI. Up to 80% of patients presenting with BTAI die before hospitalization, and in the remaining survivors, in- hospital mortality is as high as 46%. Swift diagnosis and treatment is the key for survival in these patients.

Keywords: aorta, BTAI, endovascular tretment, polytrauma

CR09

Idiopathic intracranial hypertension from an ophthalmological perspective

Victor Allouch[1]; Barjes El Aklouk[2]; Sandra Vokurka Topljak[3]

1 – Internship, Department of Ophthalmology, General Hospital Bjelovar, Bjelovar, Croatia
2 – Internship, Family medicine, Sesvete Health Centar, Sesvete, Croatia
3 – Department of Ophthalmology, General Hospital Bjelovar, Bjelovar, Croatia

Introduction: Idiopathic intracranial hypertension (IIH) is a rare neurological disorder of unkown cause, characterized by elevated intracranial pressure in the absence of a tumor or other disease. It is likely due dysregulation of cerebrospinal fluid (CSF) dynamics. Main symptoms are headaches, vertigo,tinnitus and changes in visual field. If left untreated, IIH will cause permanent loss of vision. In this case report we present a patient with the diagnosis of IIH.

Case report: A 63 year old female patient visited the department of ophthalmology complaining about blurred vision. She had small refractory errors on both eyes, intraocular pressure (IOP) and perimetry were borderline. We found drusen on optical coherence tomography (OCT). Fundoscopy was normal, without papilloedema. The working diagnosis were ARMD and chronic normotensive glaucoma so the patient was given latanoprost drops. On the check-up IOP of both eyes was normal, but visual acuity impairment and progressive visual field loss were noticed and patient reported vertigo. Therefore, MRI of the brain and orbits was performed. The results were pathological findings that correlated with IIH. The patient was sent to a neurologist who prescribed acetazolamide therapy and on the ophtalmological checkup there was vision and perimetry improvement.

Conclusion: Every patient with progresion of visual field loss that is not in correlation with ocular disease, should be refered to neuroimaging to exclude central pathology that could influence visual pathway. In this case report we can see that regular check-ups and doctors engagement in a patients problem can prevent long term complications of the disease, no matter how rare and atypical it may be.

Keywords: headache, IIH, ophthalmology, vision loss

CR10

Human platelet antigen 5b neonatal alloimmune thrombocytopenia and congenital Cytomegalovirus infection presented in male newborn: a case report

Lea Arambašić[1]; Darjan Kardum[1,2]

1 – Faculty of medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 – Neonatal Intensive Care Unit, Department of Pediatrics, Clinical Hospital Centre Osijek, Osijek, Croatia

Introduction: Human platelet antigen (HPA) 5b neonatal alloimmune thrombocytopenia (NAIT) is a condition caused by production of maternal antibodies against fetal platelets alloantigens, inherited from the father. Congenital Cytomegalovirus infection (cCMV) affects hearing, speech, and language development.

Case report: We represent a case of a male newborn, gestational age 38 weeks, that was admitted immediately after birth due to "blueberry muffin" skin appearance. Apgar scores were 10 and 10 at 5 and 10 minutes of life. Visible dark-bluish skin nodules were disseminated diffusely throughout the body, predominantly on the head. He was transferred to the Neonatal Intensive Care Unit. Oxygen therapy was required so he was placed in an incubator. Empirical antimicrobial therapy was started. Laboratory exams showed severe thrombocytopenia (10 x 10^9/L), as well as leucopenia and hypoglycemia. Head ultrasound discovered ventriculomegaly, bilateral subependymal hemorrhage and bilateral lenticulostriate vasculopathy grade III. Detection of CMV by polymerase chain reaction in neonatal urine sample showed more than 10 000 000 virus copies and confirmed c*CMV* infection. HPA genotyping and serologic methods found HPA 5b NAIT. During initial hospitalization patient received four times intravenous immunoglobin therapy and three times platelet transfusion and needed long term antiviral therapy. Both cCMV infection and HPA 5b NAIT were the causes of thrombocytopenia.

Conclusion: This case report emphasizes importance of differential diagnosis when newborn is presented with thrombocytopenia, as it can be caused by more than one condition. This ensures proper and timely treatment preventing life threatening bleeding episodes.

Keywords: blueberry muffin, congenital cytomegalovirus, neonatal alloimmune thrombocytopenia

CR11

Female newborn presenting with autosomal recessive congenital methemoglobinemia type 1

Lea Arambašić[1]; Darjan Kardum[1,2]

1 – Faculty of medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 – Neonatal Intensive Care Unit, Department of Pediatrics, Clinical Hospital Centre Osijek, Osijek, Croatia

Introduction: Methemoglobin (MetHb) represents an abnormal form of hemoglobin unable to bind oxygen. Mutation in CYB5R3 gene causes autosomal recessive congenital methemoglobinemia, described as type 1 (CYB5R3 enzyme deficiency restricted to erythrocytes) and type 2 (affecting all cells).

Case presentation: We present a case of a female neonate who was initially hospitalized in the fourth day of life due to suspicion of congenital heart disease. Apgar scores were 10 and 10 at 5 and 10 minutes of life. Mild periorbital cyanosis was visible, with oxygen saturation (sO2) ranging from 88% to 92% using pulse oximetry. Patient was placed in an incubator with supplemental oxygen therapy. Evaluation by pediatric cardiologist showed atrial septal defect (ASD) that did not correlate with hypoxemia. After seven days spent in incubator, sO2 was 92% without cyanotic spells, so she was discharged. Upon discharge cyanosis was present again, so hemoglobin electrophoresis was done. Examination revealed MetHb levels ranging from 15% to 20%. Treatment was started with parenteral ascorbic acid administration and oral riboflavin. Methemoglobin levels decreased to 7% - 15%, after which no signs of skin discoloration or hypoxemia were found. Maternal and paternal MetHb levels were 0.2%. Considering patient's clinical manifestations, autosomal recessive congenital methemoglobinemia type 1 is most likely the cause of her condition.

Conclusion: Ascorbic acid, methylene blue, riboflavin and vitamin B2 are suggested therapeutic options. MetHb must be held below 20%. This highlights the need for proper investigations in infants that are found to be hypoxemic on congenital heart disease screening.

Keywords: CCHD screening; congenital methemoglobinemia; cyanosis; CYB5R3; neonatal hypoxemia

CR12

A case of psychogenic induced extrapyramidal symptoms in a patient with severe depression

Ena Bandov[1], Matea Adamčević[1], Eleonora Strujić[1], Ivan Erić[1,2], Anamarija Petek Erić[1,3]

1 – Faculty of Medicine Osijek, University Josip Juraj Strossmayer of Osijek, Osijek, Croatia
2 – University Hospital Centre Osijek, Clinic of Surgery, Department of Cardial and Thoracic Surgery, Osijek, Croatia
3 – University Hospital Centre Osijek, Clinic of Psychiatry, Department of Acute and Biological Psychiatry and Intensive Treatment, Osijek, Croatia

Introduction: Extrapyramidal symptoms are often induced with medications like antipsychotics or can be a sign of neurological conditions such as early Parkinson's disease. They include akathisia, bradykinesia, dystonia, parkinsonism, rigidity, tardive dyskinesia and tremor. Very rarely, motor disorders of psychogenic origin may occur.

Case report: A 55-year-old patient with a history of long-term outpatient psychiatric treatment for anxiety and depressive disorder came to the Clinic of Psychiatry due to deteriorating mental state in the past two weeks in the form of low mood, tension, anxiety, decreased energy, difficulty concentrating, remembering and functioning on a daily basis. She had scant contact and constantly paced the clinic in small steps. She was tense, anxious and hypomimic and her hands were stiff (Cogwheel phenomenon). The laboratory findings were orderly. Based on psychological testing, it was concluded that this is a person of limited intelligence with pronounced cognitive impairments of organic origin and psychological decompensation of the psychotic level with predominant depressive symptoms and social dysfunction. Computed tomography of the brain showed no abnormalities. During the stay at the clinic, a "wash out" was performed for symptomatology suggestive of iatrogenic-induced akathisia. Therapy with lorazepam, biperiden, and low doses of promazine was gradually introduced and motor disorders receded.

Conclusion: Although the iatrogenic basis of psychomotor disorders was suspected, in this case, the initially present stereotypical motor disorders similar to akathisia and nihilistic perseveration were the result of regressive psychotic manifestation in a simple neurotic personality structure with maladaptive adjustment mechanisms.

Keywords: anxiety, depression, psychomotor agitation

CR13

Traumatic hip dislocation in a young patient

Marina Baran[1]; Nika Ribarić[1], Lucija Brkić MD[1,2], Daniel Rajačić[2]

1 – School of Medicine University of Zagreb, Zagreb, Croatia
2 – Department of Surgery, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: The hip joint is one of the strongest and the most stable in the human body. Typically, considerable force is required to dislocate the hip. The most common causes of hip dislocations in young people and adults are car accidents. Caudal dislocation is very rare. This case report shows the importance of prompt treatment of hip dislocation and atypical presentation.

Case report: A 46-year-old female was admitted to the emergency department (ED) following a car accident. The patient was hit by a car at a low speed while crossing the road. Left leg abduction and reduced movement were noted in the physical exam. The neurovascular status was intact. Radiography revealed caudal dislocation of the left hip with no fracture. The closed hip reduction was achieved by distraction under general anesthesia. Coxofemoral immobilization was immediately placed. Two days after surgery, the patient was verticalized using a walking frame. At a two-month follow-up, radiography showed a congruent hip joint. Immobilization was removed, and the patient was walking using a crutch.

Conclusion: Hip dislocations are time-sensitive emergencies that must receive prompt treatment. If feasible, a closed hip reduction should be attempted. Aims of reduction are length restoration and angulation correction. Immobilization in the perioperative period is imperative.

Keywords: Closed Fracture Reduction, Hip Dislocation, Traumatology

CR14

First case of angiomyofibroblastoma-like tumor of the scrotum in Croatia

Iva Barišić[1], Ozana Miličević[1],Mia Alerić[1] Andrija Karačić[2]

1 - School of Medicine, University of Zagreb, Zagreb, Croatia
2 - Department of General Surgery, University Hospital Sveti Duh, Sveti Duh 64, Zagreb, Croatia

Introduction: The aim of this study is to report the first case of an AMF-like tumor in the Croatian and Southern Eastern European population.

Case report: We report a rare case of an AMF-like tumor in a 67-year old Croatian man. To the best of our knowledge, this is the first case of an AMF-like tumor reported in the Croatian population. The tumor was composed of spindle-shaped cells and small vessels. The man presented with a painless mass the size of a tangerine in the left groin and it had gradually increased in size during recent months. Five years before presentation he had undergone surgery for a hydrocele, otherwise, his medical history was not relevant. On physical examination, a painless mass was palpated and it was clearly separable from the testis. The skin overlying the mass was normal. Neither an inguinal hernia nor signs of relapse of the hydrocele were found. Tumor markers for all testicular tumors, such as AFP and HCG were normal. Complete surgical removal was performed through an inguinal incision. The tumor was identified in the proximal part of the scrotum and was not in anatomic correlation to the spermatic cord, which did not reveal any indirect hernia.

Conclusion: Considering the extremely rare incidence of this well-circumscribed, slow-growing mesenchymal soft tissue tumor, we hope that his case report will contribute to a better understanding of this clinical entity and facilitate the differential diagnosis from other tumors in the inguinoscrotal region.

Keywords: angiomyofibroblastoma, angiomyofibroblastoma-like tumor, scrotum

CR15

Ischemic colitis as a complication of two different approaches in AAA treatment – a report of two cases

Jana Bebek[1], Predrag Pavić[2], Andrea Crkvenac Gregorek[2], Damir Halužan[2], Tomislav Meštrović[2]

1 – University of Zagreb School of Medicine, Croatia
2 – University of Zagreb School of Medicine, Clinical hospital center Zagreb – "Rebro", Department of Surgery, Division for Vascular Surgery, Zagreb, Croatia

Introduction: Although open surgery still represents golden standard in treatment of abdominal aortic aneurysms (AAA), endovascular aneurysm repair (EVAR) has become increasingly popular due to reduced early mortality and morbidity, which makes it especially suitable for patients with shortened life expectancy and suffering from multiple comorbidities. However, ischemic colitis can complicate both methods, due to occlusion of inferior mesenteric artery (IMA) and can progress to bowel gangrene, necessitating resection.

Case report: Two patients with ischemic colitis following AAA repair are presented. A 77-year-old male patient underwent EVAR, due to older age and more pronounced comorbidities, including chronic renal failure. A 73-year-old female patient, with significant stenosis of superior mesenteric artery (SMA), but less pronounced comorbidities and in good general health, underwent open surgical procedure. Both patients developed ischemic colitis postoperatively. Due to progression into gangrene, left colectomy was performed in a male patient, whereas female patient underwent successful percutaneous SMA angioplasty and stenting.

Conclusion: Although IMA is usually excluded during AAA repair without notable consequences, some patients may develop ischemic colitis or even bowel gangrene. It is therefore important to maintain a close postinterventional follow-up after both open and endovascular repairs and keep a low threshold for revascularization, when possible. Apart from direct revascularization, opening of collateral pathways can also be of benefit, through revascularization of severely stenosed SMA, if present, as it was demonstrated in one of our patients.

Keywords: AAA; bowel gangrene; EVAR; ischemic colitis; open repair; pseudoaneurysms.

CR16

A rare presentation of acute myeloid leukemia

Jana Bebek[1], Jelena Benčić[1], Mara Bebek[1], Delfa Radić-Krišto[2,3]

1 - University of Zagreb School of Medicine, Croatia
2 - University of Zagreb School of Medicine, Department of Hematology, Clinical Hospital Merkur, Zagreb, Croatia
3 - School of Medicine, University of Osijek, Osijek, Croatia

Introduction: Extramedullary disease is a rare manifestation of acute myeloid leukemia (AML), which occurs in about 1-2% of all patients with AML. The most common sites of extramedullary infiltration include the spleen, liver, gums and skin, while very few cases report involvement of the female reproductive system.

Case report: A 65-year-old female patient presented with a history of painless postmenopausal vaginal bleeding. Gynecologist examination showed a cervix node with diameter of 6 cm, describing characteristic appearance of myoma. Furthermore, the patient was scheduled for elective hysterectomy with bilateral adnexectomy. Preoperative laboratory findings include anemia (Hb 98g/L), minor platelet decrease (137x109/L) as well as slight decrease in percentage of segmented neutrophil granulocyte (37,3%). Pathohistological analysis of the myometrial sample showed typical cells associated with AML. Therefore, the patient was transferred to the department of Hematology. On peripheral blood smear examination, 31% of cells were atypical blasts, with Auer roads. After bone marrow biopsy and aspirate showed atypical blasts up to 68%, diagnosis of high – risk AML – M2 with extramedullary infiltration of the uterus was made. Patient underwent induction chemotherapy including daunorubicin and cytarabine. She achieved complete hematological remission. At the final treatment stage, the patient received hematopoietic allogeneic stem cell transplant. The patient was then discharged home in good general condition.

Conclusion: Extramedullary disease is a rare presentation of AML, especially when uterus is infiltrated. There are limited studies on the role of molecular abnormalities in extramedullary disease in AML. Awareness of this entity will allow earlier diagnosis and appropriate treatment.

Keywords: acute myeloid leukemia, extramedullary infiltration, urogenital neoplasms

CR17

Acute epiploic appendagitis – an uncommon cause of an acute abdomen

Mara Bebek[1], Jana Bebek[2], Dominik Kralj[3]

1 - School of Medicine, University of Zagreb, Croatia
2 - School of Medicine, University of Zagreb, Croatia
3 - Department of Gastroenterology and Hepatology, University Hospital Center Sestre Milosrdnice, Zagreb, Croatia

Introduction: Acute epiploic appendagitis is an ischemic or inflammatory process presenting as acute abdominal pain. Depending on the location of the affected appendage along the colon, it may mimic more common causes of an acute abdomen. It is a rare finding with an incidence of 8.8 cases per1,000,000 yearly causing up to 1.3% of all abdominal pain cases presenting to the emergency department (ED). The condition is usually self-limiting and rarely requires surgery.

Case report: A 35-year-old male patient presented to the (ED) with abdominal pain and vomiting. Symptoms regressed with symptomatic therapy, and he was discharged, only to return again in five days with persistent and worsening symptoms. The patient was hypertensive and afebrile. On physical examination, diffuse abdominal tenderness was reveled with signs of peritoneal irritation in the left lower quadrant. Laboratory analysis showed an increased CRP value. Chest and abdominal x-ray showed meteorism without signs of pneumoperitoneum or ileus. Diverticulitis was strongly suspected so an ultrasound and a CT scan of the abdomen and pelvis with IV contrast were performed and showed a pericolic oval adipose mass surrounded with indistinct adipose tissue indicative of epiploic appendagitis. Surgical laparoscopic intervention was conducted and a necrotic appendix of the descending colon was resected. Histology confirmed the radiologic diagnosis. The patient recovered fully.

Conclusion: It is important to include this rare entity in the differential diagnosis of abdominal pain. Imaging methods (ultrasound and/or CT) help avoid misdiagnosis in such cases and ensure patients receive prompt and effective medical care.

Keywords: abdominal pain, acute abdomen, epiploic appendagitis

CR18

End stage diagnosis of the ulcerated breast cancer

Mara Bebek[1], Maja Milenović[2], Diana Parać Bebek[3]

1 - School of Medicine, University of Zagreb, Croatia
2 - School of Medicine, University of Zagreb, Croatia
3 - Private Family Physician Office Diana Parać Bebek, Zagreb, Croatia

Introduction: Breast cancer is the most often diagnosed cancer in women globally, with one in every eight Croatian women developing invasive breast cancer in her lifetime. Recognizing the problem, Croatia has National Breast Cancer Screening Program which applies to all woman aged 50-69.

Case report: We present a case of 87-year-old patient diagnosed with breast cancer stage IV with ulceration. Her daughters contacted her primary care physician via e-mail in December, stating that the patient had complained of pain in the upper right leg for the previous five months, resulting in walking difficulties for a month. Physical therapy was conducted and resulted in the regress of pain, but the patient still required walking aid. The patient had an MRI of the right leg in January which was indictive of dissemination of neoplastic lesions of the unknown origin and the patient was referred to further oncologic treatment. After such a reveal, the patient confided in her daughters that she had a wound on her breast. According to her story, she had fallen two years ago which resulted in the hematoma of her left breast which, by her telling, opened into a wound this fall and was still present. In her oncologic workup, PHD analysis confirmed the suspected diagnosis and CT scan reveled dissemination of the disease into lungs, liver and bones. Neoplastic process on her other breast was also found.

Conclusion: Despite all preventive programs and healthcare system accessibility, some oncologic patients are not diagnosed before advanced stages.

Keywords: breast cancer, metastasis, screening programs

CR19

Cytological and histological diagnosis of multiple endocrine neoplasia type 2b – A case report

Zlatka Radičević[1,2,], Darija Damjanović[1], Adela Benkotić[3], Biljana Pauzar[2,3], Jasmina Rajc[1,3]

1 - Department of Pathology and Forensic Medicine, University Hospital Centre Osijek,
2 - Faculty of Medicine, J.J. Strossmayer University of Osijek,
3 - Clinical Department of Clinical Cytology, University Hospital Centre Osijek

Introduction: Multiple endocrine neoplasia type 2b (MEN2b) is a very rare autosomal dominant syndrome characterized by early presented medullary thyroid carcinoma (MTC), pheochromocytoma and extra-endocrine features (marfanoid habitus, mucosal neuromas, ophthalmological and gastrointestinal signs). The prognosis of the disorder is related to the aggressiveness of the MTC, which often metastasizes within the first year of life. Even though, the disease can be cured with early thyroidectomy, diagnosis of MEN2b syndrome is often made too late.

Case report: We report a case of 24-year-old female patient presented with a thyroid nodule and enlarged cervical lymph nodes at the age of 15. Cytologic evaluation of both findings showed cellular smears with round cells, eccentric nuclei and abundant well circumscribed amphophilic cytoplasms containing red granulationes, suggestive of a metastatic MTC. Imaging methods showed metastasis in mediastinum, lung, liver, sternum and pubic bone. Patient underwent a total thyroidectomy and extensive surgical excision of above mentioned metastases. Five years after the surgery, she started experimental treatment with Cabozantinib. At the age of 22, patient went through the surgical excision of the nodules placed bilaterally on the buccal mucosa, and histologic evaulation revealed bundles of disorganised and tortuous hypertrophic nerve fibers surrounded by collagen connective tissue consistent of mucosal neuroma specific to MEN2b syndrome.

Conclusion: Consequently, with an average life expectancy of 30 years, early recognition of MEN2b syndrome is crucial.

Keywords: multiple endocrine neoplasia type 2b, medullary thyroid carcinoma, mucosal neuroma

CR20

Positive urine culture and an indwelling urinary catheter: a cause for concern?

Marin Boban[1]; Dinko Ezgeta[1]; Tomislav Cigić[3] Jurica Putrić Posavec[1]; Robert Likić[1,2]

1 - University of Zagreb School of Medicine, Zagreb, Croatia
2 - Clinical Hospital Centre Zagreb, Division of Clinical Pharmacology and Therapeutics, Zagreb, Croatia
3 - Department of emergency medicine, Karlovac County, Karlovac, Croatia

Introduction: A urinary tract infection (UTI) is an infection involving any part of the urinary system, including urethra, bladder, ureters, and kidney. UTIs are the most common type of healthcare-associated infections. Among the UTIs acquired in the hospital, approximately 75% are associated with an indwelling urinary catheter. This case report aims to describe an approach to decision-making regarding patients with long-term urinary catheters in whom a bacteriuria is detected.

Case report: A 78-year-old male patient was seen at the outpatient clinic of the Division of Clinical Pharmacology and Therapeutics for positive urine cultures that grew E. cloacae > 10^5 CFU/mL, and E. coli > 10^5 CFU/mL. The patient had permanent urinary catheter since 2018 because of a spontaneous urinary bladder rupture. His past medical history included: hypertension, diabetes mellitus type II and heart failure. His physical exam was unremarkable. The patient was afebrile and without signs and symptoms of an acute UTI. Considering the positive urinary culture in the setting of a permanent urinary catheter, the patient was discharged without specific antimicrobial therapy since the positive urinary culture was felt to be a consequence of either a colonization or a contamination and thus inconsistent with an UTI diagnosis.

Conclusion: Catheter-associated UTIs (CAUTIs) should be suspected only if the patient presents with signs and symptoms of UTI, regardless of the urinary cultures. Urine cultures are not routinely recommended in asymptomatic patients with indwelling urinary catheters, as they will invariably come back positive. Finally, antibiotic prophylaxis in patients with permanent urinary catheters is also not recommended since it will not be effective and can lead to increased antimicrobial resistance.

Keywords: antibiotics, urinary catheter, urinary tract infection

CR21

Extracorporeal membrane oxygenation in the treatment of acute respiratory distress syndrome caused by hypersensitivity pneumonitis: farmer's lung disease

Karla Bodakoš[1]; Zara Miočić[1]; Lea Arambašić[1]; Domagoj Loinjak[1,2]

1 – Faculty of Medicine, University of Osijek, Osijek, Croatia
2 – Clinical Hospital Center, Department of Internal medicine, Intensive care unit, Osijek, Croatia

Introduction: Farmer's lung is a type of professional disease that can manifest in form of pneumonitis or alveolitis caused by inhalation of antigen-containing organic particles commonly found within farm environment. Inhaled antigens mediate type III or type IV hypersensitivity reaction that causes damage to pulmonary tissue. Extracorporeal membrane oxygenation (ECMO) is supportive therapeutic option in patients with severe damage of pulmonary tissue.

Case presentation: A 41-year-old female patient was hospitalized in Intensive care unit due to symptoms of acute respiratory distress syndrome (ARDS) presented as dyspnea and hemoptysis. Corticosteroids and suitable antibiotics were included. Microbiological results showed no signs of infection that could be causing symptoms. Thorax computed tomography (CT) scan showed bilateral lung infiltrates and alveolar hemorrhage. After four days due to worsening of condition patient met basic criteria for ECMO and it was placed the same day. Immunological tests were taken and interpretation showed hypersensitivity reaction in the background of condition. Heteroanamnesis confirmed that before onset of symptoms patient worked in a barn shifting hay where inhalation of antigen-containing particles occurred. Patient was diagnosed with hypersensitivity pneumonitis, a professional disease - farmer's lung. The ECMO procedure was performed for one month. In that time patients general condition had improved and thorax CT scan showed regression of bilateral lung infiltrates.

Conclusion: With this case presentation we want to point out the importance of early recognition of ARDS and meeting valid criteria for ECMO because timely inclusion can achieve a positive outcome in a patient with hypersensitivity pneumonitis.

Keyword: acute respiratory distress syndrome, extracorporeal membrane oxygenation, farmer's lung, hypersensitivity pneumonitis

CR22

Primary insufficiency of adrenocortex: Morbus Addison

Karla Bodakoš[1]; Zara Miočić[1]; Daniel Tripolski[2]; Marija Tripolski[1,3]

1 – Faculty of Medicine, University of Osijek, Osijek, Croatia
2 – Faculty of Pharmacy, Novi Sad, Serbia
3 – Clinical Hospital Center, Clinic of Internal medicine, Department of Endocrinology, Osijek, Croatia

Introduction: Primary adrenal insufficiency or Addison's disease (AD) is a dysfunction of the adrenal cortex. It is characterized by decreased production and excretion of glucocorticoids and mineralocorticoids due to adrenal gland damage. The cause can be autoimmune adrenalitis, infectious adrenalitis, infiltrative diseases and genetic disorders.

Case Presentation: A 42-year-old female patient was hospitalized due to symptoms of weakness, vertigo and nausea. Anamnesis showed that for the past two months patient had symptoms of orthostatic hypotension without a crisis of consciousness and mild depression. Physical examination showed that the patient had hyperpigmentation of palms, mucous membranes of the gums above the upper teeth, at scar on the face and pressure points due to clothing on the shoulders. Heteroanamnesis confirmed darkening of skin in our patient. Previous diagnose in medical history include hypothyroidism. Laboratory findings showed decreased concentration of cortisol, increased concentration of adrenocorticotropic hormone (ACTH), hyponatremia and hyperglycemia. Hydrocortisone therapy was introduced and after one day patient subjectively felt improvement of general condition. The short Synacthen test was performed. This test is based on the measurement of serum cortisol before and after an injection of synthetic ACTH. Results in our patient were 118 nmol/L at first minute, 120 nmol/L after 20 minutes and 123 nmol/L after 30 minutes. These results confirmed diagnosis of AD.

Conclusion: With this presentation we want to point out importance of early recognition of this life-threatening condition as well as timely therapy administration because it has a great effect on quality of patients life.

Keywords: Addison's disease, adrenal insufficiency, endocrinology

CR23

ATRA Syndrome as a Treatment Complication in a Young Female with Acute Promyelocytic Leukemia (APL)

Tomislav Cigić[1]; Željko Jonjić[2]; Marko Lucijanić[2]; Željko Prka[2]; Amina Fazlić Džankić[3]; Marin Boban[4]; Dinko Ezgeta[4]

1 - Institute of emergency medicine of Karlovac County, Croatia
2 - Department of Hematology, University Hospital Dubrava, Zagreb, Croatia
3 - Department of Hematology, General Hospital "Dr. Ivo Pedišić", Sisak
4 - School of Medicine University of Zagreb, Croatia

Introduction: ATRA syndrome stands for all-trans-retinoic acid syndrome, also known as differentiation syndrome (DS). That is a potentially fatal complication after induction chemotherapy in APL patients. Herein, we present a DS in a young female being treated with ATRA.

Case report: A 33 years old patient has come for treatment due to spontaneous hematoma on legs and rash on both, arms and legs. The laboratory test had revealed thrombocytopenia, anemia, reduced PV value, and 14 % blasts in peripheral blood smear. Biochemical blood analysis per arrival was done and findings suggested suspicion on APL. ATRA was induced along with 2nd transfusion of eight thrombocytes doses and two doses of fresh frozen plasma and supportive therapy. The diagnosis of APL was established on a basis of a bone marrow smear which showed 90 % of atypic promyelocytes. A conventional cytogenetic analysis was performed and detected t(15;17) and fusion protein PML/RARα. Idarubicin has been given every second day starting from the fifth day. In following days, patient has suffered from leg pain and had been periodically fainting. On the 17th day, she had blurred vision, and the next day glomerular filtration started to worsen with a clinical picture of anuria and renal failure. On day 20, chest x-ray showed reduced permeability of the right lung. Two days later symptoms started to subside.

Conclusion: Fever, anuria, leg pain, blurred vision, and blood cell disorder could suggest other diagnoses as well, so we should be more aware of ATRA syndrome in a differential diagnosis.

Keywords: APL; ATRA syndrome; idarubicin

CR24

Progressive weight loss in uncommon condition of acquired central diabetes insipidus (CDI) : case report

Filip Cikoja[1], Christian Kurina[1], Laura Ivanović - Martić[1], Tena Zovkić[1], Ana Bardak[2], Zvonimir Bosnić[3]

1- Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2- Department of Emergency Medicine of Brod-Posavina County, Slavonski Brod, Crotia
3- Department of Family Medicine, Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia

Introduction: Diabetes insipidus presents metabolic disorder with low prevalence of 1 in 25,0000. There are two types of diabetes insipidus, central and nephrogenic. It is characterised by polydipsia, polyuria, and formation of inappropriately hypotonic urine. Etiology of central diabetes insipidus is multifactorial.

Case report: We present an 13-year-old male patient, who was examined by family medicine doctor because of intensive polydipsia, polyuria and weight loss of 8 kg within last 6 months. He was born from a properly managed pregnancy. His personal and family history was uneventful. On examination, body weight was 47 kg, height 161 cm. Mental development was normal for his age. His blood lab results were in normal range, but according to the anamnesis he was addmited to Department of Pediatrics, General Hospital "Dr. Josip Bencević" Slavonski Brod for an extended diagnostics. Renal function test results, serum and urine electrolyte values were in normal range. Urine density was 1002 kg/l; 0,085osmol/kg. Pituitary magnetic resonance imaging (MRI) examination and analyses of cortisol, TSH, fT4 were performed in order to detect an underlying cause. MRI showed the presence of a thickened pituitary stalk.

Conclusion: This is complex disorder which requires an early diagnosis and treatment**.** Children without an aetiological diagnosis for the uncommon condition of acquired CDI require careful follow-up. Patients with the severe form of the disorder may receive replacement therapy with a synthetic form of vasopressin known as desmopressin, to control excessive urination and body weigh loss.

Keywords: Central diabetes insipidus, desmopressin, MRI

CR25

Enormous Teratoma In A Young Mother. A Case Report.

Carmen Clasen[1]; Oskar Maria Voll [1]; Veronica Dinu[1]; Marius Coros[1]

1 – University of Medicine and Pharmacy and Technology "George Emil Palade"of Targu Mures, Targu Mures, Romania

Introduction: Teratomas are special tumors, composed of mature or immature tissues derived from several germ cell layers, and sometimes from all three layers. Teratomas of size like the one in this report are rarely seen in daily practice.

Case report: We report a case of a 23-year-old woman who gave birth 6 months ago, to whom an abdominal CT scan revealed a huge tumor, penetrating the uterus, bladder, and right iliac vessels. The postpartum obstetrical consultation did not reveal any abdominal abnormalities. The patient underwent surgery and a large tumor of about 50cm in diameter, weighing 5Kg, was removed with difficulty due to very intense adhesions to the abdominal organs. The tumor was removed as a block along with the right ovary which appears to be the site of tumor onset. At the revision of the peritoneal cavity, small peritoneal tumors with a carcinomatosis-like spread at the level of the Douglas pouch and on the right hemidiaphragm were found and treated by electrocautery**.** The postoperative evolution was favorable. Histopathological examination revealed mature and immature tissues, corresponding to a histological grade 2.

Conclusion: The most impressive finding was the exceptional size of the tumor which developed very quickly in a young female who gave birth 6 months ago. Perhaps pregnancy with its hormonal changes can be a factor in stimulating the growth of the teratoma. This case aims to highlight the importance of close follow-up of women in the postpartum period to prevent serious complications.

Keywords: Teratoma, Postpartum, Pregnancy

CR26

Targeted molecular therapy in ALK positive non-small cell metastatic lung cancer

Tara Cvijić[1], Suzana Erić[1,2]

1 – University Hospital Center Osijek, Department of Oncology, Osijek, Osijek, Croatia
2 – Faculty of medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia

Introduction: Therapeutic options for lung cancer have advanced significantly in recent years. Molecular typification of lung cancer is important due to the existence of numerous targeted therapies for certain mutations. In identified ALK mutation, treatment options are alectinib and brigatinib - selective inhibitors of anaplastic lymphoma kinase (ALK). The result of ALK inhibition is the disruption of signaling pathways which leads to apoptosis of cancer cells.

Case report: In April 2019, the 71-year-old patient was diagnosed with NSCLC with metastases in the lungs, right adrenal gland, stomach, right femur, spine and spleen. At the beginning of the oncological treatment, the patient was in a poor general condition (ECOG 2-3). During her hospitalization at the Department of Oncology, University Hospital Center Osijek in May, 2019 the patient underwent radiotherapy on the bone metastases. During the same hospitalization, ALK mutation in cancer was confirmed and the patient began treatment with alectinib. In May 2020, PET CT showed a significant regression of metastases. The patient's general condition significantly improved. On the CT scan in July, 2021 progression of the disease was determined, and by then the patient had received 20 cycles of alectinib. The patient then began treatment with brigatinib and after 6 cycles, a control CT scan shows a stationary finding.

Conclusion: This case shows how targeted molecular therapy for a particular mutation can keep advanced malignant disease stationary and allow patients to survive longer with a satisfactory quality of life.

Keywords: lung cancer, metastases, targeted molecular therapy

CR27

Biological therapy in metastatic colorectal cancer

Tara Cvijić[1], Mirela Šambić Penc[1]

1- University Hospital Center Osijek, Department of Oncology, Osijek, Croatia

Introduction: Colorectal cancer is one of the most common cancers in the world, and with the advent of biological therapy, treatment options have advanced significantly. Panitumumab is a monoclonal antibody that binds to the EGFR receptor on cancer cells, which ultimately causes apoptosis of tumor cells. It is used in the treatment of RAS wild type metastatic colorectal cancer.

Case report: In July 2018, colon cancer with multiple liver metastases was diagnosed in 67-year old male patient. In September 2018, the patient underwent hemicolectomy and then received 3 cycles of CAPEOX chemotherapy protocol. Upon arrival of a negative RAS mutation test result, the patient started receiving panitumumab with FOLFOX chemotherapy protocol. After 16 cycles of therapy, PET CT confirms the disappearance of liver metastases. In June 2020, new liver metastases were confirmed, and thermal ablation was performed in September 2020. CT scan in April 2021 showed newly developed liver metastases and by August 2021 the patient had received 8 cycles of panitumumab with the FOLFIRI chemotherapy protocol (due to poor oxaliplatin tolerance). In September 2021, CT scan showed a scar after thermal ablation and one liver metastasis in regression, and monitoring was proposed. In December 2021, CT scan showed the progression of liver metastases and the patient resumed panitumumab therapy with the FOLFIRI chemotherapy protocol.

Conclusion: This case shows how metastatic malignancy can have stationary or even regressive dynamics with a combination of biological therapy and other known methods of cancer treatment.

Keywords: colorectal cancer, biological therapy, chemotherapy

CR28

Postinfectious hemiparesis caused by Tick-borne encephalitis virus (TBEV): case report

Filip Cvitanušić[1]; Mario Horvat[1]; Dario Sabadi [1,2]; Anamarija Soldo Koruga [1,3]

1 – Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia;
2 – Clinic for Infectious Diseases, University Hospital Center Osijek, Osijek, Croatia
3- Clinic of Neurology, University Hospital Center Osijek, Osijek, Croatia

Introduction: Tick-borne encephalitis (TBE) is an most important disease of the central nervous system in European countries with an increasing incidence over the past decades.

Case report: 35-year-old male forestry worker was hospitalized in Infectious Disease Clinic during fifth day of the TBE infection. He acquired the illness 4 weeks after receiving a booster TBE vaccination. Complete primary vaccination was 3 years ago. CSF, serum and urine samples were collected and tested for the presence of TBEV antibodies and TBEV RNA. Antibody titer dynamics in two consecutive samples were monitored at intervals of 4 weeks. IgM and IgG antibodies in second serum and second CSF indicated TBEV infection. TBEV RNA was not detected in CSF and urine samples. The patient was hospitalized for eight days and treated supportively. From the fourth day of hospitalization, he was afebrile, without headache and neurological deficits. One month after recovering from TBE disease, the patient was hospitalized in Neurology Clinic due to a newly developed left leg weakness that occurred three days before admission. Brain MRI showed continuous thickening of the meninges, most pronounced frontally and parietally. Due to the persistence of hemiparesis, further neurorehabilitation at the Neurorehabilitation Center was indicated.

Conclusion: TBE can cause lasting morbidity which could impact patients health and life quality. Case presents postinfectious hemiparesis caused by TBEV in a forestry worker who acquired this infection after receiving a booster TBE vaccination. Awarness of possible infections caused by TBEV even in person who have received complete TBE vaccination is necessary.

Keywords: Hemiparesis, tick-borne encephalitis, vaccination

CR29

The role of contrast enhanced ultrasound (CEUS) in the follow-up of patient with hemorrhagic pseudocyst of the pancreas

Lucija Čolaković[1], Šimun Rezo[1], Antonio Kovačević[1], Mia Edl[1], Tatjana Rotim[1,2] , Tajana Turk[1,2]

1 – Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 – Clinical Hospital Center of Osijek, Clinical Institute for Diagnostic and Interventional Radiology, Osijek, Croatia

Introduction: Pancreatic pseudocyst is a common complication of chronic pancreatitis (prevalence 20-40%). Pseudoaneurism formation and erosion of the lienal artery rarely occur, leading to life-threatening bleeding in the pseudocyst. In monitoring the patient with hemorrhagic pancreatic pseudocyst, contrast-enhanced ultrasound (CEUS) is a very useful method avoiding the patient exposure to large doses of ionizing radiation.

Case report: 57-year-old male patient was transferred from another institution to University Hospital Osijek for treatment of haemorrhagic pancreatic pseudocyst confirmed on CT scan. The patient was stable at admission, but further decrease of hemoglobin and hematocrit was observed in laboratory findings. Another abdominal CT scan showed hemorrhage in the pancreatic pseudocyst. The patient started with initial conservative tretment. Control CT showed progression of hemorrhage from the lienal artery. Interventional radiologist performed lienal artery embolization with coils. Follow-up CEUS confirmed partial regression of hemorrhage, but subsequent CEUS two days later revealed further progression of pseudocyst hemorrhage. Another embolization was attempted which resulted in inadvertent dissection of lienal artery, which disenabled further catheterization of the artery. Follow-up CEUS showed no contrast filling of the pseudocyst. The RBC count was stable and the patient was discharged. Residual trombosed pseudocyst was shown on follow-up CEUS, with preserved perfusion of the spleen.

Conclusion: CEUS is relatively new and fast diagnostic method which intravenous contrast agent consisting of microbubbles/nanobubbles of gas and allows dynamic evaluation of vascular phases. In our case, the patient had three multiphase abdominal CT scans performed and two embolization procedures, resulting in exposure to very high doses of ionizing radiation. Combining CEUS with other diagnostic methods, especially in the setting of frequent radiological controls, significantly reduces radiation exposure.

Keywords: CEUS, hemorrhage, pancreatic pseudocyst, pseudoaneurysm

CR30

The case of a 52-year old patient suffering from delusional disorder

Asja Ćehović[1], Mirna Habjanović[2], Dunja Degmečić[3]

1 - Faculty of Medicine Osijek, Osijek, Croatia

2 - Faculty of Medicine Osijek, Osijek, Croatia

3 - Faculty of Medicine Osijek, University Hospital Center Osijek, Department of Psychiatry, Osijek, Croatia

Introduction: Delusional disorder, also called paranoid disorder, is classified as a psychotic disorder. A person with delusional disorder has had one or more delusional thoughts for one month or longer. In this condition the patient is unable to distinguish between what is real and imaginary. Delusional thoughts can be persecutory, grandiose, jealous, somatic, bizarre.

Case report: In this case is presented a 52 years old married man, running his own family farm 50 km from Osijek. The day before he came to the hospital, he had been arrested due to domestic violence. At the moment of admission to the hospital, he is describing the conflict with his wife, including jealousy delusions. He also mentions religious delusions that had been presented earlier. From his medical history, it is visible that he was in psychiatric treatment discontinuously, during 2013 and 2021. Five years ago he had an episode of "enlightenment", accompanied by auditory hallucinations and religious delusions. The patient has family history of suicide commited by his father (acid intoxication). In addition to that, his sister is also in psychiatric treatment. The flow of thought is extende with the constant loss of clear . He also shows sings of impulsive and verbally agressive tendencies. Although the patient is dysphoric, he is not showing any aggressive or suicidal behaviour. There are no signs of physical illnesses, still there are some changes present in his electroencephalogram.

Conclusion: This case report indicates symptoms that can occur within delusional disorder and treatment that can be used to treat a patient showing allergies to wide range of medicaments.

Keywords: delusional disorder, delusions, hallucinations, psychiatry

CR31

Severe COVID-19 in a 17-year-old patient

Ana-Marija Ćulap[1]; Petra Ivančević[1]; Ema Grba[1]; Ivana Haršanji Drenjačević[1,2]

1 - Medical Faculty Osijek, J. J. Strossmayer University of Osijek, J. Huttlera 4, 31000 Osijek, Croatia

2- Department of anesthesiology, resuscitation and intensive care, University Hospital Centre Osijek, J. Huttlera 4, 31000 Osijek, Croatia

Introduction: Severe COVID-19 is known to be common among adults and rarely affects pediatric population. Most children will have asymptomatic infection, however children who have a medical history of comorbidities may have a greater risk of a severe manifestation.

Case report: This case describes a 17-year-old boy who was transferred to a respiratory center from a pediatric department, 8 days after testing positive for SARS-CoV-19, presenting with a severe acute respiratory distress syndrome. Patient was unvaccinated and first admitted for coughing, febrility and weakness. Physical exam showed the patient was overweight, peripheral saturation was 80%, with diminished basilar lung sounds and otherwise unremarkable past medical history. Chest-X-ray (CXR) showed left basal consolidation. During hospitalization, patient experienced intermittent fever and was dependent on oxygen therapy. His clinical condition progressed, followed by cold sweat, tachypnea, with peripheral saturation as low as 85% during rest. Control CXR showed progression of inflammatory consolidations with absent right basilar breath sounds. Patient received non-invasive high flow nasal cannula (HFNC) therapy (50L/min) while being closely monitored. After 26 days of the disease, the patient was stable and still recovering, taken of HFNC, and transferred back to a pediatric department. He still needed a non-rebreather mask with a slight decrease of oxygen flow each day, including physical therapy.

Conclusion: COVID-19 infection can still affect pediatric patients in a severe form, despite it being quite rare. Long-term side effects of oxygen therapy in this patient remain unknown and will probably be disclosed in the future.

Keywords: ARDS, COVID-19, pediatric

CR32

A novel likely pathogenic sequence variant in the RUNX1 gene as the cause of congenital thrombocytopenia – case report

Marta Despotović[1]; Nina Pereza[2]; Borut Peterlin[3]; Saša Ostojić[2]; Jelena Roganović[4]

1 - University of Rijeka, Faculty of Medicine, Rijeka, Croatia
2 - Department of Medical Biology and Genetics, University of Rijeka, Faculty of Medicine, Rijeka, Croatia
3 - Clinical Institute for Genomic Medicine, University Medical Centre Ljubljana, Ljubljana, Slovenia
4 - Department of Pediatrics, Clinical Hospital Center Rijeka, Rijeka, Croatia

Introduction: Heterozygous sequence variants in the RUNX1 (Runt-related Transcription Factor 1) gene are a common genetic cause of thrombocytopenia and/or platelet dysfunction and an increased risk for myelodysplasia and acute myeloid leukemia. The majority of causative variants are substitutions, which rarely occur de novo. We present a patient with congenital thrombocytopenia caused by de novo deletion variant in exon 9 in the RUNX1 gene.

Case report: A one-month-old male infant was hospitalized because of anemia and thrombocytopenia in the course of acute viral infection. During follow-up, he was in a good general condition with occasional bruising on lower extremities after mild trauma. The patient had persistent slightly decreased values of platelets with normal morphology, but with pathological aggregation with adrenaline and adenosine diphosphate. Due to unclear persistent thrombocytopenia, at the age of five, he was referred for genetic testing. Whole-exome sequencing was performed using next-generation sequencing method (Illumina NovaSeq 6000). A heterozygous likely pathogenic frameshift variant, c.1160delG (NM_001754.4), was identified in exon 9. The report of genetic testing in the patient's father, who is a childhood leukemia survivor, was negative, indicating that the variant is likely de novo.

Conclusion: To the best of our knowledge, this is the first report of the heterozygous de novo variant c.1160delG in the RUNX1 gene. Although pathogenic variants in the RUNX1 genes are very rare, persistently low platelet counts of unclear etiology should raise suspicion of an underlying genetic disorder.

Keywords: Blood Platelet Disorders, Genetic Testing, Thrombocytopenia

CR33

Immunoglobulin G4-related disease presenting with jaundice

Vinko Michael Dodig[1], Robert Marčec[1], Anton Malbašić[1], Tajana Filipec Kanižaj[1,2]

1 – School of Medicine University of Zagreb, Zagreb, Croatia

2 - Department of Gastroenterology, University Hospital Merkur, Zagreb, Croatia

Introduction: Immunoglobulin G4-related disease (IgG4-RD) is an immune-mediated fibroinflammatory condition, most commonly manifesting as type 1 autoimmune pancreatitis. Other manifestations include IgG4-related sclerosing cholangitis, sialadenitis, dacryoadenitis, asthma... The involved organs share several similarities: tumor-like swelling, an IgG4-positive lymphoplasmacytic infiltrate, and "storiform"-like tissue fibrosis.

Case report: A 63-year-old male was referred to the hospital due to obstructive jaundice of unknown cause. The patient complained of cramp-like epigastric pain, pale stool, and dark urine. His history included arterial hypertension and overlapping asthma/chronic obstructive pulmonary disease. Clinical examination revealed icteric skin and sclerae, without palpable organomegaly. Laboratory findings indicated obstructive jaundice with a cholestatic pattern liver function test and normal serum amylase. Abdominal ultrasound and computed tomography revealed dilated intrahepatic bile ducts and pancreatic swelling, without signs of cholecystolithiasis/ choledocholithiasis or tumors. Radio-morphologic signs of acute pancreatitis and intrahepatic biliary tree dilatation were evident at magnetic resonance cholangio-pancreatography. Endoscopic retrograde cholangio-pancreatography cannulation was unsuccessful due to periampullary fibrosis. The initial treatment regimen consisted of a sparing diet, intravenous crystalloids, gastroprotective medicine, thromboprophylaxis and empirical ceftriaxone, later switched to meropenem. The unclear etiology suggested the need for a biopsy; liver bioptate histopathology confirmed 1 criterion indicating pancreato-hepato-biliary IgG4-RD, so prednisone(40mg/d) was introduced. The patient responded well to the regimen (drop in serum bilirubin and liver enzymes) and was discharged with a follow-up visit scheduled. Subsequently obtained serum IgG4 antibody levels confirmed the diagnosis.

Conclusion: The clinical picture of IgG4-RD is often nonspecific resulting in underdiagnosing, untimely treatment, and disease progression. Clinicians should be alert to the possibility of IgG4-RD in every case of unclear disease etiology, especially with multiorgan involvement.

Keywords: autoimmune pancreatitis, IgG4-related disease, jaundice, sclerosing cholangitis

CR34

Hepatorenal syndrome

Marin Dujmović[1], Adel El Mourtada[1], Ivan Dusper[1], Stjepan Ištvanić [1], Boris Čvangić[1], Stipe Vidović[1], Dubravka Mihaljević[1,2]

1 - Faculty of Medicine, University of Osijek, Josipa Huttlera 4, Osijek, Croatia
2 – Internal Medicine Clinic, Department of nephrology; Osijek University Hospital, Josipa Huttlera 4, Osijek, Croatia

Introduction: Hepatorenal syndrome is progressive oliguria and azotemia without anatomical changes of kidneys – as such it most commonly occurs in patients with galloping hepatitis or severe cirrhosis with ascites. Excessive vasodilation of splanchnic arteries decreases central arterial volume, which reduces glomerular filtration.

Case report: Today we are presenting a 58-year-old male who was hospitalised in August 2021 after losing consciousness and falling, dealing trauma to his left elbow and left thoracic wall. Echocardiographic examination determined hypertensive cardiomyopathy with limited ejection fraction. Additionally, due to oedema of the legs, and the patient's history of renal disease, arterial hypertension and diabetes mellitus, he was once again hospitalised in November due to worsening of the underlying diseases. The patient was treated with diuretic therapy, which hadn't proved useful and led to an abdominal punction of ascites, along with an implantation of a temporary central venous catheter in the internal jugular vein. The patient afterwards made a partial recovery and the worsening of his symptoms was attributed to exacerbation of chronic renal disease as a part of hepatorenal syndrome.

Conclusion: Hepatorenal syndrome is a life-threatening condition which consists of rapid deterioration in kidney function in individuals with cirrhosis or fulminant liver failure.

Keywords: Hepatorenal syndrome; Hypertensive cardiomyopathy; Trauma; Chronic kidney disease

CR35

Decompensated alcoholic liver cirrhosis with hyperbilirubinemia and hepatic encephalopathy

Marina Duka[1], Sara Đukić[1], Barbara Havliček[1], Ivan Dusper[1], Andreja Bartulić[2]

1 – Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Josipa Huttlera 4, Osijek, Croatia
2 – Department of gastroenterology, University Hospital Osijek, Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Croatia

Introduction: Alcoholic liver cirrhosis is the final stage of alcoholic liver disease. Liver fibrosis occurs when proinflammatory cytokines get secreted due to chronic alcohol consumption, and activate Ito cells to start producing collagen. If that process continues, it leads to cirrhosis. Decompensated cirrhosis manifests as portal hypertension and hepatic insufficiency, which can lead to ascites, splenomegaly, jaundice, hepatic encephalopathy, peripheral edema and bleeding diathesis.

Case report: A 64-year-old male was admitted due to decompensated liver cirrhosis manifested as jaundice. Physical examination revealed ascites and pitting edema of distal parts of lower limbs. The patient lost approximately 10 kg in the 3 weeks prior to admission, and was consuming alcohol daily. Patient also suffered from macrocytic anemia, thrombocytopenia, hepato-splenomegaly, gastrointestinal ulcers (esophagus, stomach) and erosion (duodenum), nephrolithiasis (left kidney), urinary tract infection and hepatic encephalopathy. Laboratory tests showed hyperbilirubinemia. During the first three weeks of monitoring, total bilirubin (T-BIL) levels were higher than 700 μmol/L. In the following week, T-BIL decreased to approximately 450 μmol/L, and in the week after that to less than 400 μmol/L. Therapy consisted of antibiotics, glucose and vitamin B-complex infusion solution, pantoprazole, diuretics (spironolactone, furosemide), glucocorticoids (methylprednisolone, switched to prednisone), L-ornithine-L-aspartate, enteral nutrition and albumines.

Conclusion: Long term alcohol consumption causes liver cirrhosis, which leads to many potentially lethal complications. Patients must abstain from alcohol consumption for at least 6 months prior to liver transplantation. Symptomatic treatment helps, but liver transplantation is still considered to be the only cure for patients with terminal phase liver cirrhosis.

Keywords: alcoholic liver cirrhosis, hepatic encephalopathy, hepatic insufficiency, hyperbilirubinemia, jaundice

CR36

Autosomal dominant polycystic kidney disease

Ivan Dusper[1] , Adel El Mourtada[1], Marin Dujmović[1], Stjepan Ištvanić[1], Boris Čvangić[1], Marina Duka[1], Dubravka Mihaljević[2]

1 - Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Josipa Huttlera 4, Osijek, Croatia
2 - Department of Nephrology, University Hospital Osijek, Faculty of Medicine, Josip Juraj Strossmayer University of Osijek

Introduction: Polycystic kidney disease is a genetic disorder characterized by formation of cysts due to mutation of policistin genes, most commonly PKD1 and PKD2. Prevalence is 1 in 500 to 1000 people. It is a progressive disease in which symptoms occur around the age of 25 and it inevitably causes chronic renal failure. With the exception of kidneys, cysts can also form in liver, pancreas, spleen and epididymis. Most common complications are brain aneurysms, heart valve problems, hypertension, diverticulosis, urinary tract infections, nephrolithiasis and cyst ruptures.

Case report: 41 year old male is monitored due to hypertension and chronic renal failure caused by an autosomal dominant polycystic kidney disease, without family history of similar genetic diseases. The patient has 2 asymptomatic intracranial aneurysms. In 2018 due to worsening of the renal function, arteriovenous fistula (AVF) was created and in the upcoming months hemodialysis was started. In 2019 patient underwent nephrectomy of the right polycystic kidney. After the procedure thrombus has formed in the AVF and it had to be removed. In the following years, he was dialysed through a central venous catheter and in 2021 AVF was again constructed. Patient received a right kidney transplant in October 2021, but due to renal vein thrombosis of the transplanted kidney, graftectomy had to be performed.

Conclusion: Polycystic kidney disease is a progressive condition which leads to chronic renal failure. It can only be treated symptomatically, because there is no specific therapy.

Keywords: Polycystic kidney disease; Hypertension; Intracranial aneurysms; Kidney transplantation

CR37

Young, healthy and clinically dead: a case of lethal outpatient COVID-19 in an unvaccinated patient

Điđi Delalić[1], Ingrid Prkačin[1,2]

1 - University of Zagreb School of Medicine, Zagreb, Republic of Croatia
2 - Emergency internal medicine department, Clinical hospital Merkur, Zagreb, Republic of Croatia

Introduction: Being young and healthy is often used as an argument against receiving vaccinations against COVID-19 nowadays, with clinical data supporting the notion that the groups most at risk are elderly patients, and those with preexisting chronic conditions. This case report demonstrates that there are exceptions to the rules.

Case report: A 38 year old patient was brought to the ER by the EMS without a name or any data in the process of cardiopulmonary reanimation. He was found unconscious in the street, the EMS started CPR, placed a supraglottic airway device (I-gel), the patient was defibrillated and a pulse was established. In the ER, the patient was admitted in an uncontactable, pulseless state, with stiff musculature, unreactive pupils, cold skin, hypothermic (34 degrees celsius), ventilated through the I-gel. Despite being placed on mechanic ventilation, there was no clinical response and he was pronounced dead. Later, the physicians were informed that the patient was COVID positive 10 days ago and that he had trouble breathing for the last 2 days. He was unvaccinated, without any significant or chronic disease.

Conclusion: While being young and healthy reduces one's chances of suffering a lethal COVID-19 outcome, the chance is still present and, when provided with the tools and methods to protect oneself against a potentially lethal viral infection, even the typical young and healthy patient should make an effort to minimize the probability of infection or an undesirable clinical outcome if the infection does happen.

Keywords: COVID-19; Vaccination; Vaccination Hesitancy

CR38

Madame, you are COVID neg...positive: when the PCR machine fails us; a case report

Điđi Delalić[1], Tanja Brežni[2], Ingrid Prkačin[1,3]

1 - University of Zagreb School of Medicine, Zagreb, Republic of Croatia

2 - University of Zagreb Faculty of Pharmacy and Biochemistry, Zagreb, Republic of Croatia

3 - Emergency internal medicine department, Clinical hospital Merkur, Zagreb, Republic of Croatia

Introduction: With the COVID-19 pandemic in its peak, RT-PCR tests for SARS-CoV-2 detection have become a part of emergency physicians' decision-making toolkits. Be it triage of patients, preventing breakthrough infections in the emergency ward or hospitalisation, the PCR test is a crutch to clinical accumen and physicians' proper judgement on patient disposition. The question this case asks is - How confident can one be in the results of an RT-PCR test and what to do when the test fails us.

Case report: A 36-year-old patient presented to the ER in the afternoon hours with complaints of a productive cough since 7 days ago and periodic dyspnea 4 days ago. Her cough was accompanied by emesis of gastric contents and chest pain. The patient had a history of COPD from her 14th year of life and was not vaccinated against COVID-19. The laboratory test values were within normal ranges, the chest x-ray was without noticeable pathology and the PCR test result was negative. She was administered an ipratropium bromide/albuterol inhalation, intravenous dexamethasone and was discharged home with a diagnosis of a COPD exacerbation. Three hours later, the attending physician was notified that there had been a mistake in the laboratory system and that the PCR test result was positive.

Conclusion: While the PCR test is an important tool in our arsenal, we must remember to always use it in accordance with proper clinical reasoning and a thoroughly taken patient history.

Keywords: COPD; COVID-19; False Negative Reaction

CR39

Newly formed disc herniation in young, previously healthy individuals

Barjes El Aklouk[1]; Victor Allouch[2]; Maja Buljubašić[3]

1 – Internship, Family medicine, Sesvete Health Center, Sesvete, Croatia
2 – Department of Ophthalmology, General Hospital Bjelovar, Bjelovar, Croatia 3 – Family medicine, Sesvete Health Center, Sesvete, Croatia

Introduction: Disc herniation refers to changes that have occurred in individual structures of the spine. Position of a ruptured disc depends on where the person will feel pain, lose sensation or have weakness. In most cases, the symptoms diminish or disappear within a few weeks. However, it sometimes requires detailed diagnostic and even surgical treatment.

Case report: A 38-year-old male patient came to the family medicine clinic with central back pain and tingling in his left leg that occurred after he sneezed. In clinical status, he could perform plantar and dorsal flexion properly, without the loss of sensibility and motor skills, but with severe pain when standing on the toes of his left foot. Three days later he came back with worsening symptoms stating that he did not feel testicles with the previous back pain. We gave him painkillers and muscle relaxants and referred him to the emergency center if the pain did not subside. The next day, the patient's mother informed us that the patient had completed L5-S1 disc extrusion surgery. Luckily, the recovery from the operation went smoothly and relatively quickly.

Conclusion: 80% of patients with acute low back pain are harmless and without neurological outbursts. However, there are situations when the protrusion is so strong that testicular paresthesias occur and as such require additional diagnosis and more demanding treatment. In this case report, in addition to the above, we have seen that disc protrusion also affects younger people and is gender-independent.

Keywords: back pain, paresthesia, protrusion

CR40

Non characteristic intussusception in adults

Dinko Ezgeta[1], Marin Boban[1], Vita Jugovac[1], Jurica Putrić Posavec[1], Tomislav Cigić[3]; Marko Sever[1,2]

1 - School of Medicine, University of Zagreb, Zagreb, Croatia
2 - Division of Abdominal surgery, Clinical hospital "Sv. Duh", Zagreb, Croatia
3 – Department of emergency medicine, Karlovac County, Karlovac, Croatia

Introduction: Intussusception is a rare acute medical condition in which the proximal part of the intestine slides into a distal segment of the intestine. It presents mainly in children with a triad of symptoms: abdominal pain, bloody diarrhea, and palpable tender mass, often accompanied by vomiting and constipation.

Case report: Three months ago, a 57 years old male patient presented to the emergency room for having abdominal cramps. He stated that he had them from time to time. He was diagnosed with a left kidney tumor. One month later, during a pre-OP preparation for kidney tumor operation, CT scan findings were: "conglomerate of intestinal loops with one part dilated with some blurred mesenterial fat tissue and enlarged lymph nodes." Gastroenterology check-up was recommended. Left nephrectomy was performed extraperitonealy. During the next two months, he was admitted to ER three times with abdominal pain, nausea, and vomiting. X-ray findings were normal as well as other tests, and he was not admitted to the hospital. Colonoscopy check-up findings did not reveal any pathology. The patient made a new CT scan that showed intussusception of the small intestine, after which he was admitted to the hospital. Exploratory operation confirmed CT findings, and the affected part of the small intestine was removed.

Conclusion: Intussusception can be overlooked in patients without typical symptoms. Lack of ileus symptoms could be explained by lacking complete luminal blockade so some food could pass through. In cases where CT and X-ray findings do not complement each other, we should always be more careful and investigate more.

Keywords: abdominal pain, gastroenterology, intussusception

CR41

Treatment with two monoclonal antibodies in patient with migraine and relapsing-remitting multiple sclerosis

Petra Galić [1]; Lea Arambašić[1]; Zara Močić[1] ; Tea Marošević Zubonja [1,2]

1 - Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Croatia
2 - Department of Neurology, Osijek University Hospital Centre,Osijek, Croatia

Introduction: Multiple sclerosis (MS) is a potentially progressive autoimmune inflammatory disease of the central nervous system, leading to axon demyelination. When common symptoms of MS are listed, migraine is usually not included. However, some research shows that patients with MS have a higher incidence of certain headaches.

Case report: We present a 48-year-old man with relapsing-remitting MS and migraine. He came to the neurological clinic because of severe headaches and magnetic resonance imaging of the brain was performed, which showed demyelinating lesions. In the coming years, his neurological status worsened. He was several times hospitalized and treated with corticosteroids. Relapsing-remitting MS was set as a diagnosis. He started immunomodulatory therapy of Teriflunomide. Despite treatment, his clinical picture worsened. He was switched to the second-line immunomodulatory therapy of ocrelizumab. The drug is well tolerated with no side effects and no new exacerbations. The patient has also been diagnosed with migraine. He used sumatriptan and analgesics, but with the introduction of immunomodulatory therapy for MS, migraines have become more frequent and intense. The patient was switched to immunomodulatory therapy, which included Erenumab. Headaches are reduced and there was no worsening of neurological status in MS.

Conclusion: The patient received two monoclonal antibodies simultaneously one in therapy for MS and the other in therapy for migraine. By reviewing all available literature and consulting with companies producing Erenumab and Ocrelizumab did not find any contraindications or interactions when using both drugs at the same time in therapy.

Keywords: Immunomodulatory therapy, Migraine, Multiple sclerosis

CR42

Importance of vaccination in a patient presenting with cervical intraepithelial neoplasia CIN II

Petra Galić [1]; Fran Babić[1]; Luka Medić[1] ; Luka Ileš[1]; Christan Kurina[1]; Vesna Bilić-Kirin[2,3], Ivana Šimić[2,3]

1 - Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Croatia
2 - Department of School Medicine, Institute of Public Health, Osijek-baranja County, Osijek, Croatia
3 - Faculty of Medicine, University of Josip Juraj Strossmayer in Osijek, Osijek, Croatia

Introduction: Human papillomavirus (HPV) is sexually transmitted and one of the most common causes of viral infections of the reproductive tract. To this day it has been discovered more than 200 genotypes of HPV. They are divided into two groups of low and high risk. HPV infection with high-risk types is associated with the development of cervical intraepithelial neoplasia (CIN) and cervical cancer, but only if persistent HPV infection with oncogenic types is present. Vaccination against HPV prevents the development of CIN.

Case report: We present a 30-year-old woman who has not been vaccinated against HPV with CIN II. In March 2021, at her regular gynecology appointment, she was screened for precancers. The Pap test showed CIN II. Also, high-risk HPV was found. Control colposcopy showed that the squamocolumnar junction was not visible and the transformation zone was present. The examination also showed present acetowhite epithelium lesions on the anterior and posterior walls of the cervical canal. Three biopsy samples were taken and sent to pathology. Biopsy confirmed CIN II. In August 2021, the patient was hospitalized and conization was performed. Postoperative gynecological readings were good and regular check-up was advised. After treatment, HPV vaccination was recommended.

Conclusion: Vaccination is also recommended for women who had been diagnosed with HPV infection. After conization, she was advised to get vaccinated with 9-valent vaccine against HPV, which she did. In this case, vaccination lowers the risk of recurrent CIN lesions after surgery in comparison to only surgery.

Keywords: CIN II, HPV, vaccination

CR43

Necrotizing scleritis associated with rheumatoid arthritis

Petra Galić[1]; Fran Babić[1]; Lucija Matić[2] ; Dora Galić[2]; Anamaria Kurtović[2]; Barbara Bačun[2]; Suzana Matić [1,2,3]

1 - Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Croatia
2 - Faculty of Dental Medicine And Health, Josip Juraj Strossmayer University of Osijek, Croatia
3 - Department of Ophthalmology, Osijek University Hospital Centre,Osijek, Croatia

Introduction: In patients with rheumatoid arthritis (RA), necrotizing scleritis is a result of a systemic vasculitic reaction. It is associated with severe ocular morbidity, even with eye perforation and necessity for urgent enucleation.

Case report: We present a 68-year-old female on systemic therapy including corticosteroids, methotrexate, and sulfasalazine for RA for twenty years. She was admitted to the ophthalmology department and was diagnosed with progressive monocular scleritis and peripheral ulcerative keratitis of the right eye and initial conjunctival hyperemia on left. She was prescribed corticosteroid eye drops and an increased amount of oral prednisolone. Despite treatment, the peripheral corneal thinning and superonasal, elevated and pigmented lesion in the peripheral iris which resembled an intraocular tumor appeared through the thinned sclera. This resulted in perforation which was urgently closed with a triple amniotic membrane. Due to exacerbation, biologic therapy with adalimumab was started and a patient had a positive clinical answer. Further corneoscleral thinning and the possibility for future perforations were minimalized.

Conclusion: This case report showed the urgent necessity of starting with biologic therapy simultaneously with urgent surgical intervention with the aim at preserving normal anatomical eye position avoiding perforation and sight-and life-threatening scleritis. Therefore, it is important to recognize the early onset of disease, prevent exacerbations, and have good control systemic disease. The only way of successful treatment is a multidisciplinary approach and frequent follow-up of each RA patient as they can have corneoscleral perforation even if other signs of RA are absent.

Keywords: Biologic therapy, Rheumatoid arthritis, Scleritis

CR44

Multiple myeloma in a patient with normocytic anemia and compressive spinal fractures

Dorian Garac[2], Mirela Okolić[2], Shibel Ageel[3], Lorena Stanojević[2], Damir Tolić[2], Lana Lukenda[2] , Vlatka Periša [1,2]

1 - Department of Hematology, Clinic for Internal Medicine, University Hospital Center Osijek, Osijek, Croatia
2 - Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
3 - Faculty of Medicine Novi Sad, University of Novi Sad, Novi Sad, Serbia

Introduction: Multiple myeloma (MM) is a malignancy of plasma cells which can cause failure of the bone marrow leading to anemia, immune paresis with resultant infections, bone pain and fractures, hypercalcemia and possible renal failure. Our aim was to draw attention to the diagnosis of possible multiple myeloma in patients with normocytic anemia and multiple spinal fractures.

Case report: A 55-year-old female was examined at the Department of Hematology due to the referral of general medical practice because of backache and malaise. Patient already had a magnetic resonance imaging (MRI) in which compressive fractures of thoracic and lumbar vertebrae were seen, along with low mineralization. Because of previously mentioned symptoms, she was processed with usual laboratory tests in which normocytic anemia was present with low erythrocytes, low hemoglobin, and a high sedimentation rate. After more specific laboratory tests, IgG kappa immunoglobulins and Bence-Jones protein were proven. Also, cytological bone marrow puncture showed an increased number of plasmocytes. With immuno-phenotyping of the bone marrow, 13% of cells with antigens that are connected with aberrative plasma cells were found. With these results, diagnosis of MM was established. Patient started therapy with VRd regimen.

Conclusion: Spinal fractures and anemia may be the first manifestations of MM. It should be pointed out that early clinical recognition of MM is important because it may help prevent complications.

Keywords: multiple myeloma; normocytic anemia; spinal fractures.

CR45

Obesity and COVID 19, a case report of vaccinated patient on invasive mechanical ventilation

Ema Grba[1]; Veronika Šikić[1,2]; Ana-Marija Ćulap[1], Petra Ivančević[1], Ivana Haršanji Drenjančević[1,3]

1 - Medical Faculty Osijek, J. J. Strossmayer University of Osijek, J. Huttlera 4, 31000 Osijek, Croatia
2- Institute of Emergency Medicine of Osijek-Baranja County, J. Huttlera 2, 31000 Osijek, Croatia
3– Department of Anesthesiology, Resuscitation and Intensive care, University Hospital Centre Osijek, J. Huttlera 4, 31000 Osijek, Croatia

Introduction: Many studies of COVID-19 cases suggest that risks of hospitalization, intensive care unit admission, invasive mechanical ventilation and death are higher with increasing body mass index (BMI). The protective effect of the COVID-19 vaccines in preventing unfavorable outcome has been observed even in patients with known risk factors for COVID-19.

Case report: This case describes a female patient admitted to the Department of Infectious Diseases due to dyspnea 8 days after the onset of her symptoms, later diagnosed as COVID19. By that time, she received 3 doses of SARS-CoV-19 vaccine. The patient was extremely obese with BMI >60 and various comorbidites. The next day she was admitted to the Respiratory center following deterioration of respiratory function due to pneumonia as part of COVID19 infection. Upon admission to the Respiratory Center, she was intubated and mechanical ventilation started with continuous sedation. Daily chest X-rays showed regressive dynamics of inflammatory infiltrates with a decrease in inflammatory parameters in the laboratory. On the seventh day in the intensive care unit (ICU), sedation was discontinued and she was gradually weaned from mechanical ventilation and extubated. The following day she was breathing sufficiently with mask oxygenation. On her eighth day in the ICU the patient was awake, afebrile, hemodynamically stable, in verbal contact, but still needed oxygen supplementation with mask to maintain oxygen saturation.

Conclusion: Despite many existing comorbidities, particularly this patients extreme obesity, the favorable outcome after severe COVID19 with invasive mechanical ventilation can be attributed to the fact that the patient was fully vaccinated against SARS-CoV2 virus.

Keywords: COVID19**,** obesity, vaccine

CR46

MEN1 syndrome presenting with carcinoid of the lungs in two family members

Ema Grba[1]; Veronika Šikić[1,2]; Anamarija Petek Erić[1,3]; Ivan Erić [1,4]

1 - Medical Faculty Osijek, J. J. Strossmayer University of Osijek, J. Huttlera 4, 31000 Osijek, Croatia
2 - Institute of Emergency Medicine of Osijek-Baranja County, J. Huttlera 2, 31000 Osijek, Croatia
3 - Department of Psychiatry, University Hospital Centre Osijek, J. Huttlera 4, 31000 Osijek, Croatia
4 - Department of Cardiothoracic Surgery, University Hospital Centre Osijek, J. Huttlera 4, 31000 Osijek, Croatia

Introduction: Multiple endocrine neoplasia type 1 (MEN1) is usually presented with existence of 2 or more primary MEN1 tumors including parathyroid, anterior pituitary and pancreatic islet tumors.

Case report: This case describes two family members with classic history for MEN1 who both presented with a carcinoid tumor of the lungs, as a rare finding in this syndrome, surgically removed 3 days apart. The 56-year old female patient was diagnosed with focal lesion of the upper lobe of the right lung, later pathohistologically diagnosed (PHD) as carcinoid. Three days after her thoracotomy and mediastinal lymphadenectomy her 33-year old son underwent the same surgery with the same PHD finding. In his case, surgical intervention was indicated after hypercalcemia was found on a regular examination at the Department of Endocrinology and after a positron emission tomography–computed tomography (PET-CT) scan was performed, which described a lesion in the lower lobe of the left lung. Thirteen years prior to this surgery the male patient (son) was diagnosed with pituitary prolactinoma which was surgically removed. The female patient (mother) underwent parathyreoidectomy due to primary hyperparathyreoidismus and was diagnosed with pituitary microadenoma, both as a part of MEN1 syndrome. There are 11 members with MEN1 syndrome within their family.

Conclusion: Carcinoid of the lungs is not among the typical presentations of MEN1 syndrome, but in this case it was found and surgically removed in two close family members practically at the same time.

Keywords: carcinoid, MEN1, prolactinoma

CR47

Borderline personality disorder and adjustment to physical illness

Mia Grgić[1]; Mersad Muminović[1,2]; Marina Letica Crepulja[1,2]

1 - University of Rijeka, Faculty of Medicine, Rijeka, Croatia
2 - Clinical Hospital Center Rijeka, Department of Psychiatry and Psychological Medicine, Rijeka, Croatia

Introduction: Personality disorders are pervasive, maladaptive and chronic patterns of behaviour, cognition and mood where people experience distorted perceptions of reality and abnormal affective responses. The aim of this case report is to point out the significance of early recognition of Borderline personality disorder (BPD) in order to encourage and support the best possible adjustment to physical illness and to prevent severe psychiatric comorbidities.

Case report: We present a case of a woman who comes to the ER due to pain in the depths of her left eye. The day before she had felt disoriented with dream-reality confusion. She was reffered to an MRI scan and was diagnosed with a brain cavernoma. Then, she was referred to a psychologist, where she stated that it is difficult for her to tolerate stress and that she feels hopeless. She felt anxious and depressed during the interview. The impact of rigid mental patterns that make it difficult to adjust to physical illness was clear. She was diagnosed with an Organic personality disorder, but psychological testing has shown no organic damage, but indicated patterns of BPD. The patient was admitted to the Department of Psychological Medicine where she was involved in psychotherapy and pharmacotherapeutic treatment.

Conclusion: BPD is marked by unstable emotions with symptoms including instability in interpersonal relationships and self-image, fear of abandonment, and impulsive behaviour. All cases of BPD should be diagnosed earlier in order to avoid misdiagnosis and start psychotherapy and pharmacological treatment before complications occur.

Keywords: Adjustment**,** Borderline personality disorder, Comorbidity

CR48

Brain and a hole in the heart: Cardiovascular challenge!

Elena Hegna[1], Valetino Rački[2], David Bonifačić[2], Vladimira Vuletić[2], Ivana Smoljan[3], Neven Čače[4], Teodora Zaninović Jurjević[3]

1 – Faculty of Medicine, University of Rijeka, Rijeka, Croatia
2 - Clinic of Neurology, Clinical Hospital Center Rijeka, Rijeka, Croatia
3 – Clinic for Cardiovascular Diseases, Clinical Hospital Center Rijeka, Rijeka, Croatia
4 – Children's Hospital Kantrida, Clinical Hospital Center Rijeka, Rijeka, Croatia

Introduction: A patent foramen ovale (PFO) is connection between the left and right atria that can allow blood or blood cloths to travel paradoxically from the right atrium to the left. It is common and occurs in 20-34% od population. In most infants, the foramen ovale closes soon after birth. The aim of this case report is to point out PFO as a risk factor for developing stroke in young adults.

Case report: We present a case of 31-year-old male who came to the hospital with temporary left-side weakness and left hand and angle of the mouth paresthesia. At the Clinic of Neurology, the stroke was diagnosed after magnetic resonance imaging of the brain was done. Most common causes for stroke has been ruled out and the patient was transferred to the Clinic for Cardiovascular Disease. Transthoracic echocardiogram (TTE) showed normal ventricular wall motion, also diastolic function and no LV thrombus. Transesophageal echocardiogram (TEE) was performed which demonstrated PFO. The patient underwent elective closure of his PFO with a transcatheter device. There were no complications during the procedure and patient was released home the next day with rivaroxaban, acetylsalicylic acid and atorvastatin.

Conclusion: PFO is a condition with no prominent symptoms and it is most commonly discovered during tests for other health problems. Significance of this heart defect lays in its role in developing stroke in younger patients. This condition is efficiently treated in modern medicine with the use of PFO occluder.

Keywords: paradoxical embolism, patent foramen ovale, stroke

CR49

Flail chest caused by thoracic blunt trauma

Mario Horvat[1], Petra Ivančević[1], Filip Cvitanušić[1], Mia Edl[1], Ivan Koprivčić[1,2], Igor Rožić[3]

1 – Faculty of Medicine, University of Osijek, Osijek, Croatia
2 – Clinical Hospital Center, Department of orthopedic and trauma surgery, Traumatology department, Osijek, Croatia
3 – Clinical Hospital Center, Department of surgery, Department of thoracic surgery, Osijek, Croatia

Introduction: Flail chest can occur after multiple multifragmentary rib fractures. It's often combined with pneumothorax, liquidothorax, and lung contusion.

Case report: A young female who experienced blunt trauma to the chest and head from a tree trunk. After the accident, an ambulance arrived and transported her to the emergency room. She couldn't reconstruct the event even though she was always oriented in space and time and never passed out. A clinical examination and emergency Computed Tomography (CT) performed at the hospital uncovered an open fracture of the right collarbone, ribs (serial II-IX on the right side), and sternum. She also suffered lacerations and contusions on the right side of the face, right hand, and right hemopneumothorax. This clinical condition led to severe respiratory insufficiency, and an emergency surgical procedure was performed. Surgeons performed a thoracotomy and osteosynthesis of the ribs to improve the respiratory condition and healing process, implanted a surgical drain into the right pleural cavity, and fixated the collarbone with external fixators. When the risk of infection decreased, external fixators were removed and the laceration was closed with sutures. The patient wore a sling until the collarbone fracture healed.

Conclusion: This patient suffered from highly violent blunt trauma, so timely intervention by multiple teams of specialists was necessary to save her life. Complete recovery will probably take years, but she luckily became able to fulfil her basic needs in a matter of weeks, and her overall condition has improved noticeably over time.

Keywords: Flail Chest, Fracture Fixation, Thoracotomy

CR50

Challenges in Managing Long-standing Crohn's Disease during COVID-19 Pandemic

Leaua Iuliana-Elena[1]; Diac Ana-Delia[2]; Gîlcă-Blanariu Georgiana[3]; Gabriela Ștefănescu[4]

1 - "Grigore T. Popa" University of Medicine and Pharmacy, Iași, Romania
2 - "Grigore T. Popa" University of Medicine and Pharmacy, Iași, Romania
3 - Gastroenterology Department/ "Grigore T. Popa" University of Medicine and Pharmacy; "Sf. Spiridon" County Clinical Emergency Hospital, Iași, Romania
4 - Gastroenterology Department/ "Grigore T. Popa" University of Medicine and Pharmacy; "Sf. Spiridon" County Clinical Emergency Hospital Iași, Romania

Introduction: Crohn's disease[CD] is a chronic inflammatory condition that affects the gastrointestinal tract and may result in increased morbidity and altered quality of life. In spite of several therapeutic options available, the optimum treatment choice for CD is still a challenge.

Case report: We present the case of a 42-years-old female patient diagnosed with CD in 2009 (Montreal A3-B1-L2, CDAI 305). A step-up approach was chosen, starting with Azathioprine and corticotherapy. Due to steroid dependency, combotherapy with Infliximab and Azathioprine was initiated in 2010, leading to inactive disease (CDAI 42) and mucosal healing (April 2014). Following another flare in October, loss of response to Infliximab was suspected and intensification was decided. The patient maintained active disease (CDAI 260) so a switch to Adalimumab-Azathioprine was preferred, that had favourable evolution for the next 6 years, until the patient developed active luminal and perianal disease, that was addressed for surgical management. Before being admitted for seton placement, she tested positive for SARS-CoV-2 infection. Consequently, antibiotherapy was initiated, during which the abscess drained spontaneously. As far as medical therapy was concerned at this point, Ustekinumab was our first choice.

Conclusion: This case raises questions about the optimal therapeutic conduct in a complex case of CD, with COVID-19 pandemic impairing access to surgical management in a critical point. Regarding medical treatment, since the Infliximab-experienced patient had developed active luminal and perianal disease during Adalimumab-Azathioprine, the change of the drug class was considered, in this setting being Ustekinumab.

Keywords: Adalimumab, Crohn's Disease, COVID-19, Perianal disease

CR51

Hereditary angioedema and erosive gastritis in pregnancy: a case report

Laura Ivanović Martić[1] ; Tena Zovkić[1] ; Christian Kurina[1] ; Mirela Okolić[1] ; Jasminka Milas-Ahić[1,2]

1 – Faculty of Medicine, University of Josip Juraj Strossmayer, Osijek, Croatia
2 - University Hospital Center, Internal Clinic, Department of Rheumtology, Clinical Immunology and Allergology, Osijek, Croatia

Introduction: Hereditary angioedema (HAE) is a rare, autosomal dominant disease caused by SERPING1 gene mutation, which is a lack of C1 inhibitor protein. It is characterized by angioedema attacks triggered by stress, drugs, trauma, infection etc. We present a 29-year old female patient diagnosed with type 1 HAE.

Case report: The patient has got recurrent edema since childhood. She was treated with tranexamic acid and icatibant, selective bradykinin receptor antagonist, since 2011. She was also diagnosed with erosive gastritis. In 2017 she had a misscarriage. In 2018, she got pregnant and was admitted to the hospital multiple times. Symptoms were erythematous efflorescence, peripheral edema, swollen larynx, eyes, lips and ascites. During pregnancy, she was treated with humane C1 inhibitor. Lab results were in reference values, but D dimers were highly increased so the prophylactic treatment was prescribed. In august 2018, she was hospitalized due to nausea, vomiting, weight loss and edema. Pregnancy pathology was excluded. She was treated with Omeprazol, Acipan, pdC1 inhibitor and heparin, due to gastritis and angioedema symptomatology. Pregnancy ended with favourable outcome and patient continued with prophylactic treatment of tranexamic acid and icatibant treatment on demand.

Conclusion: HAE is a rare disease with incidence of 1 in 50 000 patients. It can get more complicated in female patients due to hormonal changes in menstrual cycle or pregnancy. This patient had an angioedema and gastritis at the same time, both triggered by pregnancy, which aggravated the treatment. With adequate therapy, the pregnancy ended with term birth of a healthy boy.

Keywords: pregnancy, gastritis, hereditary angioedema

CR52

Unusual unmasking IRIS in a patient with an advanced infection caused by human immunodeficiency virus (HIV)

Nikola Janjatov[1], Nina Trepić[1], Snežana Brkić[1,2]

1 – Faculty of Medicine Novi Sad, Novi Sad, Serbia
2 – Clinic for infectious diseases, Clinical center of Vojvodina, Novi Sad, Serbia

Introduction: Immune Reconstitution Inflammatory Syndrome (IRIS) represents a phenomenon of intense inflammatory reaction to a pathogen that occurs when the host's immune system begins to recover following treatment with antiretroviral drugs (ART). IRIS appears in two forms: "unmasking" IRIS embodies the exacerbation of a latent, previously undiagnosed infection while "paradoxical" IRIS represents the deteriorating of a previously treated infection.

Case report: We present a case of a 33-year-old heterosexual male who was transferred to the Clinic for infectious diseases from Institute for pulmonary diseases where he was treated for Pneumocystis jirovecii pneumonia (PCP), respiratory failure, wasting syndrome (WS) and tested positive to HIV. Native CD4 T-lymphocyte count was 135 c/ml, with vL 500.000 copies/ml. Two weeks after the patient started ART, he became febrile again. The patient additionally tested positive for Cytomegalovirus, so valganciclovir was added. CD4 count increased to 1400 c/ml. Three days after, the patient was admitted to the hospital again due to persisted fever, cervical lymphadenopathy and signs of sepsis. Subsequently to the antibiotic treatment, a full-body CT scan was performed which showed 2 necrotic conglomerates in the mediastinum. Additionally, CD4 count fell to 600 c/ml and vL become 2000 copies/ml. Biopsy of the enlarged lymph nodes was performed and Mycobacterium tuberculosis was isolated.

Conclusion: Heterosexual males are also at risk to be late presenters and candidates for IRIS especially with modern ART. Adding to its rarity, this unmasking IRIS represented with CMV, sepsis and TB infections.

Keywords: HIV, Immune Reconstitution Inflammatory Syndrome, Antiretroviral Agents.

CR53

Case report: Intracerebral hemorrhage

Dora Jurić[1], Nika Jurić[2], Ervin Jančić[3]

1 – University of Rijeka, Faculty of Medicine, Rijeka, Croatia
2 – University of Rijeka, Faculty of Medicine, Rijeka, Croatia
3 – Department of Neurology, General Hospital Karlovac, Karlovac, Croatia

Introduction: Intracerebral hemorrhage (ICH) is described as spontaneous extravasation of blood into the brain parenchyma. ICH is classified as primary or secondary and more than 50% of primary ICH events are directly correlated with hypertension as a risk factor. Most hypertensive intracerebral hemorrhage occurs at predilection sites due to long perforating arteries that are most sensitive to high blood pressure.

Case report: a 69-year-old male presented to the ER with acute onset of impaired consciousness, in a state of disorientation. Patient denies falls or accidents, head trauma or loss of consciousness. He was afebrile, eupneic, hypertensive (200/100 mmHg), he had normal sinus rhythm and oxygen saturation. After performed neurological exam patient was disoriented, with no signs of meningeal irritation. Pupils were isochoric and photoreactive, without visual field defects. Patients muscle tone and strength were normal, he had no pathologic reflexes. Mingazzini, Barre and coordination tests exposed weakness and dysmetria of the left arm. Laboratory findings showed slightly elevated blood CRP, blood glucose, leukocytes, urea and creatine kinase. Patient was referred to cranial MSCT where intracranial hemorrhage of 36 mm diameter was detected. Along hemispheric sulci scan indicated newly formed subarachnoid hemorrhage. Patient was treated with antihypertensive medications and admitted to department of neurology.

Conclusion: Intracerebral hemorrhage is life-threatening emergency. It is important global public health problem that doctors confront more frequent in 21st century. For proper treatment, it is essential to be up to date with current guidelines for management of intracerebral hemorrhage.

Keywords: Hypertension; Intracerebral Hemorrhage; Subarachnoid Hemorrhage

CR54

Case report: Importance of Weight Loss in the Management of Patients with Type 2 Diabetes Mellitus

Nika Jurić[1], Klara Vranešević[2], Sanja Klobučar Majanović[3]

1 - University of Rijeka, Faculty of Medicine, Rijeka, Croatia
2 - University of Rijeka, Faculty of Medicine, Rijeka, Croatia
3 - Department of Endocrinology, Diabetes and Metabolic Disorders, Internal Medicine Clinic, Clinical Hospital Center Rijeka, Rijeka, Croatia

Introduction: Type 2 diabetes mellitus is the most common form of diabetes that developes especially in individuals with obesity. This condition is characterized by insulin resistence and insulin secretion insufficiency which can lead to many complications.

Case report: We present a case of 61 year old woman who was referred to the Endocrinology department in March 2021. due to poorly controlled diabetes. She was diagnosed with type 2 diabetes 4 years ago. Since then, she has been treated with fixed-dose combination of DPP-4 inhibitor and metformin. Her BMI was 36.3 kg/m2 indicating class 2 obesity. Laboratory findings revealed dyslipidemia (total cholesterol 5,7 mmol/L, LDL 3,8 mmol/L) and dysglycemia (fasting blood glucose 10.8 mmol/L, HbA1c 9.2 %). The patient was started on GLP-1 receptor agonist and fixed-dose combination of SGLT-2 inhibitor and metformin while DPP-4 inhibitor was stopped. The patient was adherent to lifestyle modifications for weight loss. The introduction of antihyperglycemic medications with lifestyle modifications led to improvement in glycemic control (HbA1c 6.3%) and weight loss (-12 kg) after 4 months.

Conclusion: Obesity is main risk factor for developing type 2 diabetes mellitus, so it is very important to encourage patients to adhere to lifestyle modifications. Also, it is essential to individually adjust patient's therapy choosing antihyperglycemic medications with beneficial effects on body weight. Due to complementary mechanisms of action, combination therapy with GLP-1 receptor agonist and SGLT2 inhibitor has significant benefits including improvement in glycemic control and weight loss.

Keywords: type 2 diabetes mellitus, obesity, weight loss

CR55

Arthritis in patient with Lyme disease

Petra Jurić[1], Dorian Östrreicher[2], Lea Kajba[3], Romana Marušić[2,4], Dora Karl[2], Dorotea Vidaković[5], Ana-Marija Samardžić[6]

1 - Health center of Osijek-Baranja county,Osijek, Osijek, Croatia
2 - Faculty of Medicine, J.J. Strossmayer, University of Osijek, Croatia
3 – Health center of Vukovar, Vukovar, Croatia
4 – Department of Internal Medicine National memorial hospital Vukovar, Vukovar, Croatia
5 - Family medicine, Private practice Rudika Gmajnić, Osijek
6 - Health centre of Zagreb, Zagreb, Croatia

Introduction: Lyme disease (LD), a multisystem infection caused by the spirochete *Borrelia burgdorferi*, is the most reported vector-borne zoonosis, transmitted by an *Ixodes* genus tick. The clinical presentation varies depending on the stage of the illness: early disease includes ring-like expanding rash called erythema migrans and flu-like symptoms. Early disseminated disease includes multiple erythema migrans lesions, lymphocytic meningitis, cranial nerve palsies, and myopericarditis. The most common manifestation of the late disease is arthritis that is usually pauciarticular, but neurologic manifestations (neuropathy or encephalopathy) may also occur.

Case report: We present a 30-year-old female patient with occasional swelling of joints of the hand, ankle, knee, and elbow, accompanied by pain. Family history of rheumatic diseases was negative. Laboratory tests and X-ray scans were performed. Laboratory findings showed that the inflammatory parameters were calm, as well as the rest of the findings. X-ray scan showed only marginal extractions of the bases of the terminal phalanges and the inhomogeneous structure of the navicular process of both hands' fingers. The patient was referred to a rheumatologist. Complete rheumatological tests were performed, urethral swabs for mycoplasmas, chlamydia, and ureaplasmas, and serology for Borrelia and Parvo-B19. A positive serology test was obtained for *B. burgdorferi* while other serological and biochemical findings were negative. The patient was diagnosed with LD and introduced doxycycline. The patient denied a tick bite or previous skin changes of any kind.

Conclusion: Identification of an erythema migrans is the only clinical manifestation sufficient to make the diagnosis of LD in the absence of serological confirmation. This case report highlights that the diagnosis is not always easy as many patients are not able to recall a tick bite.

Keywords: arthritis, Lyme disease, zoonosis

CR56

Cardiac arrest after SARS-CoV-2 vaccine

Petra Jurić[1], Dorian Östrreicher[2], Ivana Jurić[2], Ivan Lekić[2], Aleksandar Kibel[3,4,5], Kristina Selthofer-Relatić[3,5,6], Tatjana Bačun[5,7]

1 - Health center of Osijek-Baranja county,Osijek, Osijek, Croatia
2 - Faculty of Medicine, J.J. Strossmayer, University of Osijek, Croatia
3 - Department of Heart and Vascular Diseases, Osijek University Hospital
4 - Department of Physiology and Immunology, Faculty of Medicine, J.J. Strossmayer University of Osijek
5 - Scientific Centre of Excellence for Personalized Health Care, J.J. Strossmayer University of Osijek
6 – Department of Pathophysiology, Faculty of Medicine, J.J.Strossmayer University of Osijek
7 - Clinical Hospital Centre Osijek, Division of Endocrinology, Department of Internal Medicine, Osijek, Croatia

Introduction: Ventricular fibrillation (VF) and ventricular tachycardia (VT) are emergency conditions that can lead to sudden cardiac death (SCD), particularly in those with structural heart disease and reduced left ventricular function. This case report aims to showcase the recommended approach to diagnostic workup and initial treatment in a patient with heart failure and malignant arrhythmia.

Case report: We present a case report of a 78-year-old patient brought to the emergency department who, after receiving a SARS-CoV-2 vaccine booster shot, had a cardiac arrest in the health center. It was confirmed the patient had VF and was defibrillated 3 times and successfully reanimated. He was hospitalized at the cardiology department. An emergency coronarography was performed and showed normal epicardial arteries. Laboratory results showed severe hypokalemia, but control tests showed normal potassium values, suggesting a laboratory error in the initial results, and therefore excluded hypokalemia as a possible cause of VF. Echocardiography revealed dilated left ventricle, with hypocontractile wall motion. While hospitalized the patient had another cardiac arrest, this time the ECG showed VT. He was defibrillated and afterward had no recurring malignant arrhythmias. It was concluded that the malignant arrhythmia is a consequence of non-ischemic cardiomyopathy with a severely reduced ejection fraction of the left ventricle. An implantable cardioverter-defibrillator (ICD) was implanted to the patient and his therapy was optimized.

Conclusion: SCD is a leading cause of death in developed countries, therefore its fast and effective treatment, as well as prevention, are the greatest priority. This case report highlights the significance of prompt resuscitation and defibrillation as an intervention for cardiac arrest, as well as the importance of an appropriate selection of patients as candidates for an ICD.

Keywords: cardiac arrest, cardiomyopathy, implantable cardioverter-defibrillator, ventricular fibrillation, ventricular tachycardia

CR57

Squamous cell carcinoma of oropharyngeal carcinoma associated with human papilloma virus (HPV (+) OPSCC) - case report

Ivana Jurić[1]; Lucija Todić[1], Nika Pušeljić[1], Petra Jurić[1], Vedrana Pavlović[1], Zdravka Krivdić[1,3], Suzana Erić[1,2]

1 - Faculty of Medicine, University of Osijek, Josipa Huttlera 4, Osijek, Croatia
2 - Department of Oncology, KBC Osijek, J.HuttIera 4, 31000 Osijek
3 – Department of Radiology, KBC Osijek, J.HuttIera 4, 31000 Osijek

Introduction: Human papillomavirus-associated oro-pharyngeal squamous cell carcinoma (HPV(+) OPSCC) was recognized in the mid-2000s as a distinct clinical entity - seen in younger patients, associated with sexual behavior, better prognosis and therapy response than oropharyngeal carcinoma HPV (-). Despite improved understanding of the disease and advances in therapeutic interventions, OPSCC continues to be diagnosed at an advanced stage and the survival rate remains poor.

Case report: We present a case of 55 years old woman with OPSCC in her left tonsil stage T2N0M0. She came with a mild throat and lump in her neck and after being examined by a specialist, a biopsy of the lump has been performed and pathohistological findings were directed to OPSCC. HPV test came positive. CT scan revealed 4x3x3cm tumor affecting the lymph nodes and parapharyngeal space on the left. The patient started with radiotherapy (total 6996 cGy/33 fractions). Due to side effects (cachexia, xerostomia, dizziness), she was placed on enteral nutrition and ordinated with dexamethasone and pantoprazol. After 8 weeks, a control CT scan was performed, which showed a significant reduction in tumor size. Further treatment by an oncologist.

Conclusion: Some of the assumptions of a good response to therapy of patients with (HPV(+)OPSCC) are younger age and less comorbidity, increased radiosensitivity, and stronger immune response. However, since the majority of patients are members of the younger age group, the choice of treatment should be individualized with emphasis on side effects that severely reduce the life quality.

Keywords: HPV, radiotherapy, OPSCC, side effects

CR58

Bannwarth syndrome: Rare manifestation of Lyme disease

Lea Kajba[1], Petra Jurić[2] , Dora Karl[3], Ivanka Maduna[4], Romana Marušić[3,5]

1 – Health Center Vukovar, Vukovar, Croatia
2 - Health Center of Osijek-Baranja county, Osijek, Osijek, Croatia
3 - Faculty of Medicine, J.J. Strossmayer, University of Osijek, Croatia
4 – Family medicine, DZO Osijek, Otokara Keršovanija 3, 31 000 Osijek
5 – Department of Internal Medicine, National memorial hospital Vukovar, Vukovar, Croatia

Introduction: Bannwarth syndrome (BWS) is an infrequent manifestation of Lyme neuroborreliosis characterized by painful radiculopathy, such as abdominal radiculitis, neuropathy and cerebrospinal fluid (CSF) lymphocytic pleocytosis.

Case report: We present the case of a 68-year-old male patient with a history of perforated peptic ulcer who complains of burning abdominal pain that is worst during the night and disturbs his sleep. At the emergency room ECG, gastroscopy and abdominal ultrasound were normal, so he was released with pantoprazole, tramadol and paracetamol, but the pain didn't subside. After a week patient developed left-sided facial droop and lower lip numbness with difficulty chewing and speaking. Urgent magnetic resonance imaging (MRI) and native computed tomography (CT) of the brain showed no pathological changes. A lumbar puncture was performed and revealed presence of leukocytes and erythrocytes, as well as increased protein, glucose and lactate levels. Microscopic CSF examination revealed lymphocytic pleocytosis (88% lymphocytes). Serology tests detected *Borrelia burgdorferi* specific antibodies in serum and CSF. Diagnosis of Lyme neuroborreliosis was thus confirmed. The patient was treated with a course of intravenous ceftriaxone (3 g daily for 3 weeks). Furthermore, the treatment was prolonged with oral doxycycline (200 mg daily for a week). The patient also finished exercise-based physical rehabilitation for facial palsy. Abdominal pain gradually remitted and lower lip sensations recovered.

Conclusion: Although extremely rare, abdominal pain can be the first manifestation of Lyme neuroborreliosis. Consequently, Lyme disease should be considered in the differential diagnosis of abdominal pain of unknown origin, especially in case of peripheral nerve involvement.

Keywords: Lyme neuroborreliosis, Lyme disease**,** Borrelia burgdorferi

CR59

Multidisciplinary surgical and radiation therapy approach for the treatment of clivus chordoma

Josipa Kajić[1], Mirza Pojskić[2]

1 - University of Rijeka, Faculty of Medicine, Rijeka, Croatia
2 - UKGM Marburg, Department of Neurosurgery, Marburg, Germany

Introduction: Chordoma is a malignant bone lesion derived from the remains of notochord cells. This is a rare tumor that can arise in the sacrum, clivus, and throughout the bony parts of the spine. Chordomas usually grow slowly, and symptoms vary depending on the location of the tumor.

Case report: 63-year-old female, E.B., presented with vocal cord paralysis and hypoglossal nerve palsy. MRI and CT showed a large clival mass with brain stem compression which was indicating the diagnosis of clivus chordoma. Due to ventral compression, transoral resection of the mass with maxillofacial surgeons was performed. Patohistological analysis confirmed the initial suspicion. Following ventral release and tracheotomy due to prolonged weaning and swallowing difficulties, further tumor mass volume reduction was performed through the right suboccipitolateral approach. After the completion of the surgical treatment and neurorehabilitation, the patient was treated with C12 particle radiation therapy. Control MRI showed a complete reduction of the tumor mass, and the patient was clinically and subjectively better.

Conclusion: Chordomas in the base of the skull are rare and challenging to treat tumors. These tumors are very radiosensitive, but in this case, due to brainstem compression surgery was performed.

Keywords: Chordoma; Radiotherapy; Skull Base

CR60

Cholestasis in pregnancy: a case report

Dora Karl[1], Ana Mikleušević[1], Romana Marušić[1,2], Dorotea Vidaković[3], Mirta Kadivnik[1,4]

1 – Faculty of Medicine Osijek, The J.J. Strossmayer University Osijek, Osijek, Croatia

2 – Department of Internal Medicine. National memorial hospital Vukovar, Croatia

3 – Family medicine, Private practice Rudika Gmajnić, Osijek, Croatia

4 – Department of Gynecology, University Hospital Center Osijek, Croatia

Introduction: Cholestasis is a condition characterized by a decrease in bile flow due to impaired secretion by hepatocytes or to obstruction of bile flow through intra or extrahepatic bile ducts. Pregnancy is one of the major risk factors. Progesterone relaxes the smooth muscle of the gallbladder which leads to stasis of bile, and estrogen increases the hepatic secretion of cholesterol in the bile.

Case report: We present a 37-year-old female patient that presented with pruritus on the lower and upper extremities lasting for 10 days. Pruritus spread later that night. The patient is 33 weeks pregnant, the pregnancy is properly controlled. In 2013 she underwent an emergency cesarean section in the 32nd week of pregnancy due to cholestasis, fetal asphyxia, and meconium in amniotic fluid. In 2020 she underwent cholecystectomy due to cholelithiasis. She was admitted to the Department of Gynecology at University Hospital Center Osijek for supervision. Serum biochemical test showed a progressive increase in liver enzymes (AST: 686 U/L, ALT: 1034 U/L, LDH: 311 U/L). Lypidogram showed increased values of triglycerides (2.1 mmol/l) and LDL (6.29 mmol/l). Two days after admission, due to laboratory findings suggestive of cholestasis and rupture of the amnionic sac, an emergency cesarean section was indicated. A live male preterm baby was born, weighing 2300 g and long 43 cm with an APGAR score of 10/10.

Conclusion: The risk of developing cholestasis is higher if it existed in previous pregnancies, so a detailed control of the pregnant woman is necessary to avoid serious complications.

Keywords: cholestasis, pruritus, pregnancy

CR61

Intravesical application of Botox: a case report

Dora Karl[1], Romana Marušić[1,2], Lea Kajba[3], Petra Jurić[4], Ivanka Maduna[5], Ivan Radoja[1,6], Josip Galić[1,7]

1 – Faculty of Medicine Osijek, The J.J. Strossmayer University Osijek, Osijek, Croatia
2 – Department of Internal Medicine. National memorial hospital Vukovar, Vukovar, Croatia
3 – Health center Vukovar, Vukovar, Croatia
4 – Health center of Osijek-Baranja county, Osijek, Croatia
5 – Family medicine, Private practice Tatjana Vuletić-Vuica, Osijek, Croatia
6 – Department of Surgery, National Memorial Hospital Vukovar, Vukovar, Croatia
7 – Department of Urology, University Hospital Center Osijek, Osijek, Croatia

Introduction: Overactive bladder syndrome (OAB) can be defined as urinary urgency, usually accompanied by increased daytime frequency and/or nocturia, with or without urinary incontinence in the absence of urinary tract infection or other detectable diseases. OAB occurs because of the involuntary contractions of the detrusor muscle. The exact cause of OAB is unknown but it can occur in association with neurological and other conditions that affect bladder function.

Case report: This case describes a 70-year-old female patient that presented in November of 2017 with symptoms of urgency and frequency lasting for three years. In 1994, she underwent hysterectomy with adnexectomy and brachytherapy for endometrial cancer. In 2017, a urodynamic study was conducted with the conclusion of OAB, probably associated with post-radiation cystitis. In July 2020, the patient underwent surgery for intravesical application of Botox, due to symptoms of OAB. In December 2020, she reported for a follow-up. According to the bladder diary, she had no more urgency with an increased frequency of urination, the capacity of the bladder was 80 ml and one episode of nocturia has been reported. The urodynamic study was repeated 6 months after the surgery, indicating a hypersensitive hypocontractile bladder of reduced maximum cystometric capacity (MCC), but without detrusor overactivity.

Conclusion: Botox can be beneficial in improvement in symptoms and quality of life in women who have OAB and have not responded to or could not tolerate other treatments.

Keywords: urodynamics, overactive bladder syndrome, botox

CR62

Post covid Guillain-Barre syndrome and Longitudinal Extensive Transverse Myelitis Overlap syndrome: case report

Sven Kisić[1], Edina Đozić[2], Merita Tirić – Čampara[1]

1 - Sarajevo School of Science and Technology – Sarajevo Medical School
2 - University Clinical Center Sarajevo – Neurology Clinic

Introduction: During the Coronavirus disease 2019 (COVID-19) pandemic, different neurological manifestations have been observed. According to our best knowledge only one case with post COVID Guillain-Barré Syndrome (GBS) and acute transverse myelitis/TM/has been reported.

Case report: 56 years old female was admitted to Neurologic department due to suspicion of GBS. Symptoms began nine days before admission with feeling of weakness in legs. The weakness gradually worsened with ascending pattern. At presentation to our center she was aware, oriented, communicative, with normal cranial nerve examination, and she had flaccid paraplegia. Her COVID-19 reverse-transcription polymerase chain reaction was sent, which was reported negative, but her serology for severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) antibodies (total IgG and IgM) was positive. MRI scan of neck, thoracal and lumbosacral spine was performed. The imaging features suggestive of acute lesion in spine, and evidence of leptomeningeal increase of signal intensity on level of conus raised a possibility of GBS along with LETM. Lumbar punction is performed and result showed moderate proteinorachia. Electro-myoneurography of lower extremities showed acute motor axonal neuropathy (AMAN). She failed to respond to plasma exchange and needed pulse corticosteroids therapy for recovery.

Conclusion: This case presents the not so common concomitant occurrences of GBS and LEMT. As the pandemic continues, we would be able to determine whether this potential association could be attributed to the increase in GBS and LEMT cases.

Keywords: COVID-19, Guillain-Barré syndrome, longitudinally extensive transverse myelitis

CR63

Sexting: love or a lesson?

Marija Mateja Kokanović[1]; Lucija Lizatović[1]; Dorotea Lošić[1]; Ana Majstorović[1]; Maria Markov[1]; Katarina Dodig-Ćurković[1,2,3]

1 - Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 - Faculty of Dental Medicine and Health Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
3 - Department of Child and Adolescent Psychiatry, Clinical Hospital Centre Osijek, Osijek, Croatia

Introduction: Sexting is a phenomenon where people send pictures of their naked bodies to other people, often pedophiles and sexual predators. This paper aims to point out the seriousness of such behavior because sending and retaining such photos is a criminal offense and can result in serious psychological consequences for the victim.

Case report: We present a case of an eleven-year-old girl who met a man, presented as an eighteen-year-old, on the Internet. After a short chat, he begs her to send pictures of her naked body in provocative poses. The girl grew up in a complex family, her parents are in the process of a divorce, so she feels lonely and enjoys the company of a man. After a few days, she decides to send him pictures of her intimate body parts. Afterward, she is mocked by pupils in school since the pictures were shared on the Internet. The girl drops out of school and decides to drink a large number of sleeping pills. By the intervention of the ambulance, she is saved from death. A lawsuit has been filed and the girl is in treatment by a child and adolescent psychiatrist to evaluate the risk of suicide and depression.

Conclusion: Sexting is described in America after a girl committed suicide when her naked photos were spread throughout the school. Unfortunately, many girls send pictures of their naked bodies to strangers without thinking about the very serious consequences.

Keywords: bullying, depression, suicide

CR64

A patient with locally advanced cuteaneous squamous cell carcinoma (cSCC) – case report

Darko Kotromanović[1], Luka Perić[1], Maja Kovač-Barić[1], Zdenka Kotromanović[1], Sonja Kotromanović[2], Ivana Šimić[3,4], Suzana Erić[1]

1 - Department of Oncology, Clinical Hospital Center Osijek, Osijek, Croatia
2 - Clinical Department of Anesthesiology, reanimatology and intensive care, Clinical Hospital Dubrava,Zagreb, Croatia
3 - Department of School and University Medicine, Teaching Institute of Public Health for the Osijek-Baranya County, Osijek, Croatia
4 - Faculty of Medicine Osijek, University of Josip Juraj Strossmayer in Osijek, Osijek, Croatia

Introduction: Cutaneous squamous cell carcinoma (cSCC) represents 20% of all skin cancers. A lifetime risk of developing cSCC continues to increase annually and will likely continue due to aging of the population. Most cSCC are treated locally, with a subset leading to recurrence, metastasis and death.

Case report: 43-year-old woman came to the emergency room in July 2020 because of a head wound. Wound dimensions are 15x15 cm big and it was infiltrated and damaged 2/3 of the auricle and filled the ear canal. In addition to this wound, after a clinical examination, a similar lesion, smaller in size, was noticed in the right parietal region. A biopsy of the both changes was done. PHD - test results showed a planocellular carcinoma in the right parietal region and a basocellular carcinoma in the left parietal region. Further diagnostic analysis revealed locally advanced tumour processes without dissemination of the malignant disease. Considering the stage of the disease and the fact that the tumour is inoperable, the patient was presented to the multidisciplinary team (MTD) for skin tumours. The MTD decided to introduce an immunotherapy drug Cemiplimab (instead of primary chemoradiation due to the tumour's expansion) the use of which led to the regression of the disease. Afterward, despite the immunotherapy, it came to an inevitable progression of the disease.

Conclusion: In locally advanced tumours with non-surgical perspective, immunotherapy is a preferable therapeutic option. Alternative approaches include definitive radiation therapy and conventional chemotherapy.

Keywords: Cutaneous squamous cell carcinoma (cSCC); Diagnosis; Immunotherapy; Treatment.

CR65

Mediterranean *vs.* Vegetarian Diet in Alleviating Cardiovascular Diseases

Antea Kršek[1], Ivan Veber[2], Lara Batičić[3]

1 - Student of the Faculty of Medicine, University of Rijeka, 51000 Rijeka, Croatia
2 - Department of Clinical Medicine, J.J. Strossmayer University of Osijek, Faculty of dental medicine and health Osijek, 31000 Osijek, Croatia
3 - Department of Medical Chemistry, Biochemistry and Clinical Chemistry, Faculty of Medicine, University of Rijeka, 51000 Rijeka, Croatia

Introduction: Mediterranean and vegetarian diets have been promoted to have beneficial effects in the prevention and alleviation of cardiovascular diseases (CVD) and in the maintenance of cardiovascular health. The aim of this study was to investigate the effects of diet type on CVD symptoms.

Case report: A 56-year-old woman suffering from mild CVD, including hypertension, obesity, elevated LDL cholesterol and triglycerides levels, was monitored for her diet habits. The patient was not taking any medications. She followed a Mediterranean, low-calorie diet for 3 months, followed by a 2-month break and a vegetarian low-calorie diet for 3 months. Both diets were isocaloric and the daily intake amounted to 1800 kcal/day. Blood and stool analyses, cardiovascular biomarkers and variables, body composition and weight measurements were performed before and after each diet. Our results showed that both diets reduced CDV symptoms, improved cardiovascular biomarkers, positively affected the body mass index, as well as lowered blood pressure in our patient. The Mediterranean diet has been shown to result in greater reductions of triglyceride levels. The vegetarian diet was found to be more effective in lowering LDL cholesterol levels.

Conclusion: The data obtained demonstrate beneficial effects and efficacy of both diets in specific areas of cardiovascular disease management. Further scientific studies should be conducted to clarify the effects of diet on cardiovascular health as well as on CVD prevention and alleviation.

Keywords: cardiovascular disease; diet; Mediterranean diet; vegetarian diet

CR66

Granulomatosis with polyangiitis; Wegener's granulomatosis: a case report

Ivana Kurtović[1]; Ante Listeš[1]; Kaja Lukač[1]; Ivana Kovačević[2], Jasminka Milas-Ahić[1,2]

1 – Faculty of Medicine, Josip Juraj Strossmayer University, Osijek, Croatia
2 – Clinical Hospital Center Osijek , Department of Rheumatology, Clinical Immunology and Allergology, Osijek, Croatia

Introduction: Granulomatosis with polyangiitis (GPA, Wegener's granulomatosis) is an organ- and life-threatening autoimmune disease of as yet unknown etiology. The classic clinical triad consists of necrotizing granulomatous inflammation of the upper and/or lower respiratory tract, necrotizing glomerulonephritis and an autoimmune necrotizing systemic vasculitis affecting predominantly small vessels.

Case report: A 31-year-old patient was admitted to the Department of Rheumatology, Clinical Immunology and Allergology for additional treatment and treatment of GPA (Wegener's granulomatosis). The patient had previously been diagnosed with diffuse glomerulonephritis spider immune type with renal biopsy with granulomatous changes on the HRCT of the thorax. The patient has so far been treated with plasmapheresis - a total of 8 cycles and received 7 monthly pulses of cyclophosphamide i.v. Upon admission the patient is subfebrile with diffuse polyarthralgia, leukocytosis, normocytic anemia as part of chronic disease anemia, high inflammatory parameters are present in laboratory findings. Control checkup of 24h proteinuria reveals significant proteinuria of nephrotic rank, although with an evident decrease compared to previous findings. Regardless of the implementation of pulse cyclophosphamide therapy and high-dose GC, patient has highly active disease, therefore introduction of rituximab (monoclonal anti-CD20 antibody) therapy is planned. The patient is discharged with an improved condition, afebrile, hemodynamically stable, cardiopulmonary compensated.

Conclusion: Granulomatosis with polyangiitis (Wegener's granulomatosis) is an autoimmune disorder that causes inflammation of the blood vessels and without treatment, outcome could be fatal. The treatment goal is to achieve remission or low disease activity. Therefore, it is crucial to plan and perform therapy strategy necessary to control the disease activity.

Keywords: HRCT, Polyarthralgia, Proteinuria, Granulomatosis with polyangiitis

CR67

Inflammatory myofibroblastic tumor of the spleen: a case report

Dorian Laslo[1] Vlatka Periša[1, 2]

1 - Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 - University Hospital Centre Osijek, Clinic of internal medicine, Department of hematology, Osijek, Croatia

Introduction: Inflammatory myofibroblastic tumor (IMT) is an extremely rare type of soft tissue tumors and to now only about 100 cases have been reported in the literature. World Health Organization (WHO) classified it as an intermediate malignant tumor. The most common locations for its findings are the lungs and orbits, but it can be found in any soft tissue. It is usually incidental finding when imaging for different causes. The pathogenesis of IMT is not completely understood, but it seems that viral infections have significant role in its pathogenesis, mostly infection caused by human immunodeficiency virus, Epstein-Barr virus (EBV) and Human herpesvirus 8. The best therapy for IMT is complete resection, if the tumor is not too large.

Case report: We report the case of a female patient who referred to our department due to incidental ultrasonographic finding of a focal lesion in her spleen confirmed with computed tomography (CT) scan and magnetic resonance imaging (MRI), which progresses over time. She had no fever, abdominal pain or any other complaints. Except neutrophilia (53,4%) all other laboratory findings were normal. A positron emission tomography - CT scan revealed accumulation of fluorodeoxyglucose only in the splenic lesion. Due to progression of the lesion, we recommended splenectomy and pathohystological examination (PHE) of the lesion. PHE described non-necrotic epitheloid granulomatose tumor with giant cells and neutrophile infiltration. It was smooth muscle actin (SMA) and EBV positive which confirmed diagnosis of IMT related to EBV infection. Recommended treatment for IMT is total splenectomy, which was already performed.

Conclusion: IMT is a very rare type of soft tissue tumors with intermediate malignant potential. Its pathogenesis, although it correlates with viral infections, is not completely understood and requires further research.

Keywords: Connective tissue neoplasms, Myofibroma, Splenic Neoplasms

CR68

Vascular Parkinsonism: a case report

Ante Listeš[1]; Kaja Lukač[1]; Ivana Kurtović[1]; Zvonimir Popović[1,2], Svetlana Tomić[1,2]

1 - Faculty of Medicine, University Josip Juraj Strossmayer, Osijek, Croatia
2 - Department of Neurology, University Hospital Center, Osijek, Croatia

Introduction: Vascular parkinsonism is caused by ischaemic lesions in basal ganglia. The main symptoms are bradykinesia, gait impairment and rigidity of muscles. Speech and cognitive functions may also be affected.

Case report: We present a 58-year old male patient who was admitted to Department of Neurology UHC Osijek with rigidity of extremities and bradykinesia in neurological status. In medical history, patients had hypertension and consumed alcohol frequently. Brain CT has shown pronounced atrophy, encephalomalacia and ischemic lesions of the basal ganglia bilaterally. Due to the detection of metal foreign bodies, brain MRI was contraindicated. In blood analysis patient had macrocytic anemia with normal values of vitamin B12. In cerebrospinal fluid, sprotein, glucose and chloride were slightly elevated. Neutroptrophic viruses and bacteria were not detected in CSF. cardiologist and nephrologist were consulted and antihipertensive therapy was modified. Also psychiatrist introduced antipsychotic therapy. Potential diagnoses of Wernicke encephalopathy and funicular myelosis were excluded,. Patient was diagnosed with vascular parkinsonism and alcoholic cerebellar degeneration due to basal ganglion ischemia on both sides, xtensive periventricular white matter lesions and toxic cerebellar degeneration. Antiparkinsonic drugs were introduced.and adequate care and nursing through the competent patronage service was recommenden, together with physical therapy.

Conclusion: We wanted to emphasize challenges in obtaining diagnosisis and treatment of vascular parkinsonism as a chronic condition with significant impairment of quality of life.

Keywords: Alcohol; Cerebellar degeneration; ischaemia; Vascular parkinsonism

CR69

Atrial septal defect – last minute call for closure: a case report

Kaja Lukač[1]; Ante Listeš[1]; Ivana Kurtović; Iva Jurić[1,2]

1 - Faculty of Medicine, University of Josip Juraj Strossmayer, Osijek, Croatia
2 - University Hospital Center, Department of Cardiology, Osijek, Croatia

Introduction: Atrial septal defect (ASD) is a congenital heart disease which often remains undiagnosed until adulthood. Haemodynamic consequences, as well as symptoms, develop over the years. Ostium secundum atrial septal defect is the most common type which represents 80% of the ASDs and it is located in the region of the fossa ovalis.

Case report: 67-year old female patient presenting with frequent palpitations and physical activity intolerance was hospitalized at the Cardiology Department. Anamnestic dana showed prior arterial hypertension, paroxysmal atrial fibrillation and follicular non-Hodgkin's lymphoma in remission. Transthoracic echocardiographic examination reveals a large ostium secundum atrial septal defect with left-to-right shunt and right heart dilatation and volume overload. Radionuclide angiocardiography performed with technetium-99m pertechnetate confirmed a large left-to-right shunt with pulmonary/systemic flow ratio (Qp:Qs) 3:1. Transesophageal echocardiography enabled precise visualization and measurement of the defect with size measured 23x18mm. After measurement of pulmonary artery pressure of 39 mmHg and pulmonary vascular resistance of 4 WU we decided to perform a percutaneous closure of the defect with ASD occluder. Follow-up transthoracic echocardiogram after three months showed a properly positioned occluder without residual flow and recovery of right heart which was normal size and function without signs of the pulmonary hypertension. Patient refers improvement of functional capacity and absence of earlier symptoms.

Conclusion: Detection and treatment of atrial septal defects on time, before development of significant pulmonary hypertension or Eisenmenger syndrome, can significantly improve quality of life and life expectancy.

Keywords: Atrial septal defect; ASD occluder; Ostium secundum; echocardiography

CR70

Hidradenitis suppurativa – a case report

Lana Lukenda[1]; Marija Šola[2]

1 – Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 – University Hospital Center Osijek, Department of Dermatology and Venereology, Osijek, Croatia

Introduction: Hidradenitis suppurativa (Acne inversa) is a chronic inflammatory skin disease which affects the terminal follicular epithelium in the apocrine gland–bearing skin. It is characterized by persistent or recurring boil-like nodules, mucopurulent discharge, relapsing inflammation and progressive scarring. Smoking is an important risk factor. Diagnosis is often challenging.

Case report: In December 2021, a 54-year-old man, smoker, was referred to the Department of Dermatology with large indurated inflamed areas of skin on his buttocks, drainable abscess on the testicles, papules, pustules and nodules in the inguinal area and on the back. Comedones and scarring on the axillae and a lot of atrophic cicatricial changes on the back were observed. Since 1990, many fistulotomies, incisions, drainages have been performed. Oral antibiotics were used yearly for the last 30 years. In 2009, a plastic surgeon performed fistulotomy and was the first to suspect the diagnosis of hidradenitis suppurativa. Twenty-five years after the first appearance of the disease, the patient was referred to a local dermatologist and the proper diagnosis was established. Isotretinoin and clindamycin were used with minimal improvement. He is now a candidate for adalimumab therapy.

Conclusion: This case shows clinical presentation of a severe stage of hidradenitis suppurativa. While it is not a life-threatening disease, it severely diminishes the quality of life of each patient. A general practitioner is irreplaceable in the early recognition and reference of these patients to the dermatologist. Early diagnosis is a guarantee of on-time treatment.

Keywords: hidradenitis suppurativa, skin disorder, abscess

CR71

Conservative treatment of obstipation resulting in rectal distension of 16 centimeters

Karla Lužaić[1]; Lucija Brkić[1,2]; Rudolf Radojković[2]

1 – School of Medicine, University of Zagreb, Zagreb, Croatia
2 – Department of Surgery / University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Obstipation is a common pathology in elderly patients. It may lead to a life-threatening increase in colorectal pressure if not treated properly. This case report shows the importance of early recognition of colorectal distension to prevent surgical treatment.

Case report: We present a case of a 90-year-old patient treated for obstipation. The patient was haemodynamically stable and afebrile, out of adequate verbal contact, vomited gastric contents with unavailable information about the last stool. In 2004, Hartmann's procedure was performed, due to the sigmoid volvulus followed by the establishment of continuity. On 03/2021, the patient was hospitalized for obstipation, leading to colon dilatation to 13 centimeters. Treatment was conservative. Physical examination noted distended, diffusely tender abdomen and filled ampoule. Blood tests were in the reference range. Imaging showed distension of the descending and sigmoid colon and rectum up to 16 cm laterolaterally, with no signs of mechanical obstruction, pneumoperitoneum, or free intraperitoneal fluid. Conservative treatment was applied. The stool was evacuated manually (with further spontaneous bowel emptying), a nasogastric tube was placed, along with clyster administration. Multiple manual stool extractions were done, with each intervention evacuating 1 kilogram of stool, leading to a significant reduction in symptoms. A patient of good general condition and symptoms relief was discharged to home care.

Conclusion: Obstipation may cause life-threatening bowel distention, especially in the elderly population. Conservative treatment should be considered. Repetitive physical examinations and supportive measures may prevent surgical interventions.

Keywords: abdominal pain, colorectal surgery, conservative treatment, fecal impaction

CR72

Vertebral artery dissection and acute pontine infarction: A case report

Ivanka Maduna[1], Berislav Ruška[2], Dorotea Vidaković[3], Romana Marušić[4,5], Lea Kajba[6], Dora Karl[4], Hrvoje Budinčević[2,4]

1 – Family medicine, Private practice Tatjana Vuletić-Vuica, Otokara Keršovanija 3, 31000 Osijek, Croatia
2 – Clinic of Neurology, Clinical hospital "Sveti Duh", Sveti Duh 54, 10000 Zagreb, Croatia
3 – Family medicine, Private practice Rudika Gmajnić, Park kralja Petra Krešimira IV 6, 31000 Osijek, Craotia
4 – Faculty of Medicine Osijek, The J.J. Strossmayer University Osijek, Osijek, Croatia
5 – Department of Internal Medicine. National memorial hospital Vukovar, Croatia
6 – Health center Vukovar, Vukovar, Croatia

Introduction: Vertebral artery dissection is a rare cause of stroke, but it is an important cause of stroke in young adults. An acute pontine stroke can often be delayed for days following the acute dissection. The most common cause of dissection is cervical spine manipulation or trauma. One of the main initial symptoms is a severe headache usually located in the occipito-nuchal region.

Case report: A previously healthy 33-year-old female presented to the Emergency Department with a history of cervical pain and headache, followed by sudden left-sided weakness. There was no history of trauma. Neurologic examination revealed left facial nerve palsy and left-sided hemiparesis. The diagnosis was spontaneous vertebral artery dissection resulting in acute pontine infarction, confirmed by brain MRI and duplex ultrasound. Brain MR angiography showed an occlusion of the basilar artery. Anticoagulant therapy was initiated. Two months later, MRA revealed partial recanalization of the basilar artery, and the antiphospholipid syndrome was diagnosed. During ten years of follow-up, the patient didn't exhibit new neurological symptoms or signs, until October 2021 when the patient had presented with sudden cervical pain. Intramural thrombus due to recurrent right vertebral artery dissection was detected by duplex ultrasound.

Conclusion: Vertebral artery dissection is a well-known cause of acute and persistent headache or cervical pain and it must be considered in cases with posterior circulation symptoms, particularly in young adults with no cardiovascular risk factors.

Keywords: Dissection; Pontine infarction; Vertebral artery

CR73

Transgenderism in early age - a risk factor for suicide

Ana Majstorović[1]; Marija Mateja Kokanović[1]; Lucija Lizatović[1]; Dorotea Lošić[1]; Maria Markov[1]; Katarina Dodig-Ćurković[1,2,3]

1 - Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 - Faculty of Dental Medicine and Health Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
3 - Department of Child and Adolescent Psychiatry, Clinical Hospital Centre Osijek, Osijek, Croatia

Introduction: The concept of gender and sex has been the subject of several discussions in recent years. Transgenderism is a part of the work of several mental health professionals who are increasingly recognizing that transgenderism is often the trigger for both suicide attempts and suicide.

Case report: M.M. is 13 years old. Since kindergarten, she has been feeling like a boy and rejecting all features that are specific to women. Her appearance increasingly resembles a boy and she asks close people to refer to her as "him". Because of this, she became the object of ridicule at school. She feels the pressure to dress in girls' clothes. She once expressed emotions towards a friend as a boy, which her friend described as a very traumatic experience. The girl insists on starting the process of gender reassignment, but she has no support. She is prone to suicidal ideas and sees that as the only way out of her situation. The difficulty in planning the treatment is connected with a lack of understanding and the ignorance of many experts on how to approach this condition. The Republic of Croatia has not yet secured or developed a system of care for adolescents with disabilities in the form of expression of transgenderism.

Conclusion: It is important to work on better understanding and recognition of this risk group of children through psychological support to enable their proper psychological development and ultimately stabilization of their sexual or gender choices.

Keywords: sex reassignment, suicide, transgender

CR74

Plasmacytoma of the calcaneus: A Case Report

Toni Maloča[1], Petra Markuš[1], Jelena Miletić[1], Marta Milošević[1], Ines Tamaš[1], Leon Terek[1], Vlatka Periša[1,2]

1 - Faculty of Medicine Osijek, Study of Medicine, University of J. J. Strossmayer, Croatia
2 - Clinical Hospital Centre Osijek, Department of Internal Medicine, Osijek, Croatia

Introduction: Plasmacytoma is a rare tumor of plasma cells usually of the axial skeleton or soft tissue structures. Involvement of the appendicular skeleton is less common. It can progress to multiple myeloma if not diagnosed and appropriately treated.

Case report: A 69-year-old woman reports to her doctor because of the pain in her left foot. Due to the above, she was examined by an orthopedist. An MRI of the left foot was performed and an osteolytic lesion of the calcaneus was described. Bone scintigraphy was also performed, which showed an increased accumulation in the soft tissue of the left foot with the pathological bone remodeling of the left calcaneus along the central cold zone. A biopsy of the left calcaneus was then performed and the pathohistological diagnosis of the alteration was described. The histological picture corresponds to a plasma cell neoplasm with light chain restriction. The patient was referred to the hematology department of the Clinical Hospital Centre Osijek, where a myelogram and laboratory tests were performed. The myelogram showed normocellular bone marrow, with all three lines of hematocytopoiesis present with a ratio of white and red hematopoietic lines of 2.7: 1, and thrombocytopoiesis is present. The proportion of plasma cells was within the reference interval. From the laboratory findings, significantly elevated values of free lambda light chains were present. After the diagnosis of calcaneus plasmacytoma was established, hematological treatment was started.

Conclusion: Plasmacytoma is a rare tumor. This case, characterized by an unusual localization of the tumor, shows the need for a thorough diagnostic proceeding.

Keywords: Calcaneus, Diagnostic Imaging, Plasmacytoma

CR75

Massive ventral hernia in a palliative breast cancer patient

Drago Marijanović[1], Ines Trkulja[1], Leo Matijašević[1], Lucija Brkić[1,2], Petar Matošević[1,2]

1 - School of Medicine University of Zagreb, Zagreb, Republic of Croatia
2 - Department of Surgery, University Hospital Center Zagreb, Zagreb, Republic of Croatia

Introduction: A ventral abdominal hernia is a weakness or a defect in the abdominal wall, resulting in protrusion of deeper structures. Risk factors include chronic cough, injury, obesity, and pregnancy. Prior abdominal surgery is also a risk factor, including previous hernioplasties. Incarceration of abdominal organs, if not treated appropriately, may cause peritonitis, ischemia, hollow organ perforation, and death.

Case report: An 89-year-old female palliative breast cancer patient with pulmonary metastases was admitted to the Emergency room (ER) for dyspnoea and abdominal pain. The patient previously had a hysterectomy and bilateral adnexectomy for uterine cancer, combined with radiotherapy. Physical examination noted a massive ventral hernia with palpable abdominal organs, visible subcutaneous peristalsis, obesity, and tachypnoea. X-ray showed bilateral pleural effusion and nodose lesions in the pulmonary parenchyma and no air-fluid levels or pneumoperitoneum in the abdomen. Abdominal computed tomography (CT) scan showed that the hernia includes parts of the stomach, and the majority of the small and large intestine, with no signs of incarceration. Treatment was conservative; ketoprofen, metoclopramide, and acetaminophen were administered to alleviate symptoms. Thoracocentesis was performed to improve breathing. The patient was discharged to a care facility after supportive measures.

Conclusion: This case demonstrates how a relatively straightforward diagnosis may become debilitating, even life-threatening. Prolonged increased intra-abdominal pressure, coupled with abdominal wall weakness and risk factors, may cause total organ displacement. Surgical reconstruction, in such cases, is only recommended in the case of vital indication.

Keywords: abdominal wall, hernia, ventral; general surgery

CR76

Recurrent intentional foreign body ingestion in psychiatric patient

Drago Marijanović[1], Ines Trkulja[1], Andrija Matijević[1], Lucija Brkić[1,2], Trpimir Morić[2], Petar Matošević[1,2]

1 - School of Medicine University of Zagreb, Zagreb, Republic of Croatia
2 - Department of Abdominal Surgery, University Hospital Center Zagreb, Zagreb, Republic of Croatia

Introduction: Foreign body ingestion is a frequently encountered problem by emergency room physicians and gastroenterologists. The swallowing of foreign bodies can be accidental or intentional. Deliberate foreign body ingestion (DFBI) is a rare psychopathological disorder involving swallowing non-nutritive objects to cause self-harm.

Case report: A 54-year-old male patient was referred to general surgery by a family physician due to proven bleeding from the digestive system. He has a psychiatric disorder and DFBI that resulted in five surgical interventions. Two metallic items (9 cm and 6 cm in diameter, respectively) were shown in abdominal X-ray in the left hemiabdomen with a formation of air-fluid levels. Esophagogastroduodenoscopy revealed multiple foreign bodies in the stomach and duodenum. Explorative laparotomy showed obstruction where the previous latero-lateral (LL) anastomosis was. The latter was resected, and a new LL anastomosis was formed. Gastrotomy followed, and several foreign bodies were removed from the stomach (plastic soldier, rubber bands, and nail clippers). Later on, the stomach was sewn lengthwise into two layers. The patient had an uneventful recovery and was admitted to a mental facility.

Conclusion: This case shows a rare complication of foreign body ingestion. About 80-90% of ingested foreign bodies spontaneously pass through the gastrointestinal tract, while only 10-20% require endoscopic intervention. Only 1% require surgery. Cooperative efforts among different specialties and primary prevention are vital to the successful management of these patients.

Keywords: Foreign Bodies, Mental Disorders, Anastomosis, Surgical

CR77

Priapism as a rare sign of chronic myeloid leukemia: Case report

Ana Marković[1], Vlatka Periša[1,2], Iva Mijatović[1], Jasminka Sinčić-Petričević[2]

1 - Faculty of medicine of University of Josip Juraj Strossmayer, Osijek, Republika Hrvatska
2 - Departmen of Hematology, KBC Osijek, Osijek, Republika Hrvatska

Introduction: Chronic myeloid leukemia (CML) is an uncommon type of cancer of the bone marrow. Priapism is characterized by prolonged, painful and irreducible erection, not resulting in ejaculation. The aim of this paper is to present priapism as one of the rare indicators of CML.

Case report: A 22-year-old, previously healthy, man presented with complaints of painful and irreducible erection. He was admitted on Department of Urology. The symptoms started 28 hours ago. The week before he had the same problems occurring for more than 3 hours with spontaneous recovery. During physical examination, hepatosplenomegaly and general lymphadenopathy were present. A hemogram showed a total leukocyte count of 347.4 x109/L and blasts were found in the blood smear. The bone marrow was hypercellular with plentiful granulocytopoesis of all developmental stages and it was suggestive of CML in the chronic phase. Cytogenetics revealed a karyotype of 46,XY, t (9;22) and the patient was diagnosed as CML and started imatinib therapy seventh day of hospitalization. During hospitalization, two operations to decompress priapism were performed and priapism was resolved by imatinib therapy and decompress operations. He achieved a total hematological remission after one month of imatinib therapy and he didn't experience another priapism problem.

Conclusion: Any patient presented with priapism without clear cause should perform usual blood tests. CML, in rare cases, can cause priapism. In those cases, a quick response of a urologist and a hematologist is necessary because the outcome of a urology manifestation depends on the prompt start of cytoreductive therapy.

Keywords: chronic myeloid leukemia, priapism, imatinib

CR78

Large blood vessel embolism as a complication of Covid-19 infection

Petra Markuš[1]; Ines Tamaš[1]; Toni Maloča[1]; Leon Terek[1]; Marta Milošević[1]; Jelena Miletić[1]; Slavica Kvolik[1,2]

1- Faculty of Medicine, J. J. Strossmayer University of Osijek, Croatia
2- Department of Anesthesiology, Resuscitation and Intensive Care Medicine, Clinical Hospital Centre Osijek, Osijek, Croatia

Introduction: During the two years of the SARS-CoV-2 pandemic, a correlation was found between infection and an increased incidence of thromboembolism. We present a case of a patient with Covid- 19 infection and thromboembolic incident.

Case report: A 81-year-old SARS-CoV-2 positive patient presents itself to an Emergency Room due to severe pain in the right arm. He suffers from hypertension, dementia, and has been a smoker for many years. He was conscious and breathing with oxygen supplementation. Pulsations were non-palpable above the brachial and cubital arteries on the right arm. Hand was pale, fingers without capillary filling, hand grip marked as weakened. The pulsations of the arteries of the left arm are neat. After verification of the diagnosis by Color Doppler, he was urgently operated on by a vascular surgeon. Right transcubital embolectomy of the subclavian artery and distal arteries of the same arm was performed. After the operation, the patient was admitted to the Respiratory Center for isolation, monitoring of vital functions and supplementation with oxygen through a mask with a reservoir. The patient's vital parameters were in order. He was treated symptomatically with Clexane. At the vascular surgeon's check-up, the circulation in the right arm was satisfactory, the movements of the fingers were performed properly, the wound was healing per primam.

Conclusion: Although Covid-19 infection is most often presented with respiratory symptoms, it is extremely important to pay attention for other clinical manifestations, in order to respond in a timely and accurate manner.

Keywords: LMWH, SARS-CoV-2, thromboembolism

CR79

Regulation of glycaemia with the insulin pump in a patient with diabetes mellitus type 1 and celiac disease – a case report

Romana Marušić[1,2]; Dora Karl[2]; Adriana Levaković[2]; Petra Jurić[3]; Lea Kajba[4]; Ivanka Maduna[5]; Tatjana Bačun[2,6]

1 - Department of Internal Medicine, National memorial hospital Vukovar, Vukovar, Croatia
2 - Faculty of Medicine, University of J.J. Strossmayer Osijek, Osijek, Croatia
3 - Osijek Health Center, Osijek – Baranja County, Osijek, Croatia
4 - Health Center Vukovar, Vukovar, Croatia
5 - Family medicine, Private practice Tatjana Vuletić-Vuica, Otokara Keršovanija 3, Osijek, Croatia
6 - Division of Endocrinology, Department of Internal Medicine, University Hospital Centre Osijek, Osijek, Croatia

Introduction: Diabetes mellitus type 1 (DM1) occurs because of autoimmune destruction of pancreatic β-cells in the islets of Langerhans, leading to the complete absence of insulin secretion. These patients are prone to other autoimmune disorders.

Case report: We present a 52-year-old patient with DM1 and celiac disease who has been hospitalized 11 times for glucoregulation and insight into the progression of chronic complications (stationary nonproliferative retinopathy, sensorimotor neuropathy). The therapy included insulin degludec 20 units basally and insulin aspart with three main meals, but oscillating glycaemic values were often present. The patient was administrated insulin pump Paradigma Veo 754: basal insulin aspart on average 0.7 units/h, with bolus doses with three main meals. Five weeks after insulin pump administration, a decrease in the frequency of hyperglycaemia was observed from 24 % to 11 %, the average blood glucose levels value decreased from 8.4 to 6.9 mmol/L. There were increases in the target range (4.4 - 12 mmol/L) from 71 % to 76 % and the estimated HbA1c was 6.5 %. However, the incidence of hypoglycaemia increased from 4 % to 13 %. Since the patient has DM1 and celiac disease, glycaemic oscillations are expected, and better regulation could be achieved with the MiniMed 780G insulin pump.

Conclusion: The use of an insulin pump in DM1 reduces fasting glycaemia, postprandial hyperglycaemia, hypoglycaemia, and average HbA1C. Part of the goals has been achieved, but for better glycaemic regulation, an insulin pump that predicts high and low glycaemic values and adjusts insulin doses according to measured glycaemic values is planned**.**

Keywords: autoimmune diseases; diabetes mellitus type 1; insulin.

CR80

Juvenile hemochromatosis: A case report

Romana Marušić[1,2]; Dora Karl[1]; Ivan Lekić[1]; Barbara Bačun[3]; Andreja Bartulić[1,4]; Tatjana Bačun[1,5]

1 - Faculty of medicine, University of J.J. Strossmayer Osijek, Osijek, Croatia
2 - Department of Internal Medicine, National memorial hospital Vukovar, Vukovar, Croatia
3 - Faculty of Dental Medicine and Health Osijek, University of J.J. Strossmayer Osijek, Osijek, Croatia
4 - Division of Gastroenterology and Hepatology, Department of Internal Medicine, Clinical Hospital Centre Osijek, Osijek, Croatia
5 - Division of Endocrinology, Department of Internal Medicine, University Hospital Centre Osijek, Osijek, Croatia

Introduction: Hereditary hemochromatosis is a very common autosomal recessive disorder affecting 1 in 300 - 500 individuals. It is a disorder of iron metabolism most often caused by a mutation in the homeostatic iron regulator (HFE) gene which results in increased intestinal absorption of iron regardless of the body reserves. The remaining forms of hemochromatosis are juvenile hemochromatosis with a mutation in the hemojuvelin or hepcidin gene characterized by an early onset of the disease, transferrin receptor 2 (TRF2) gene mutations with a milder clinical picture, and ferroportin disease.

Case report: A 22-year-old patient reported fatigue, arthralgia, and erectile dysfunction. Elevated serum ferritin (7500 ugr/L) was determined, which was an indication for liver biopsy suggesting active hepatitis with elements of cirrhosis and abundant iron in the parenchyma; hemochromatosis has been confirmed. Mutation testing of the HFE gene (C282Y, H63D, S65C) was performed, no mutations were detected. MRI of the liver confirmed the diagnosis. Venipunctures and deferoxamine therapies were applied. Despite the achievement of the target values of ferritin in the clinical picture, dark skin color, endocrinological and rheumatological problems persisted, and hormone replacement and analgesic therapy were applied. Given the clinical picture, age and testing done, the diagnosis was juvenile hemochromatosis.

Conclusion: The most common cause of hemochromatosis is mutations in the HFE gene, but the remaining 3 forms (non HFE, TRF2, ferroportin disease) should also be considered. Since the analysis of those other types of mutations is not done routinely, they can be proven by liver biopsy and MRI.

Keywords: ferritin; hemochromatosis; HFE protein; liver cirrhosis

CR81

Oral and ocular dirofilariasis – case report

Lucija Matić [1], Maja Ćorić[1], Jamilah Yassin[4], Petra Galić[2], Dora Galić[1], Suzana Matić [1,2,3]

1 - Faculty of Dental Medicine And Health, Josip Juraj Strossmayer University of Osijek, Croatia
2 - Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Croatia
3 - Department of Ophthalmology, Osijek University Hospital Centre,Osijek, Croatia
4 - University of Zagreb,School of Medicine, Zagreb, Croatia

Introduction: Dirofilariasis is fast spreading disease being transmitted by mosquitoes mostly *Dirofilaria repens* as the causative agent of human subcutaneous, ocular and oral dirofilariasis. It is clinically manifested by itching and inflammatory reaction which may result in impaired vision of the patient and subcutaneous migration to oral mucosa, deeper tissues, blood circulation and then it presents therapeutic problem as it can cause serious multiorgan complications. The therapy of choice is surgical extraction if possible.

Case report: A rare case of oral and ocular dirofilariasis manifested by previous subcutaneous migration and intensive headache. In December 2014, a 50-yr-old woman,from Osijek was admitted on Department of Ophthalmology Osijek,Croatia, complaining on sensation of migrating worm in her mouth 2 days prior admission, visible red and itchy stripe on right preauricular region, intensive headache, right eye temporal conjunctival inflammation that did not improve on topical antibiotic/corticosteroid therapy for 5 days. She passed neurologic and fundus examination, brain MRI, Eye ultrasound, blood analysis-all within the normal range. Five days later, slit lamp axamination revelaed a live worm subconjunctivally which was extracted surgically, and was confirmed to be *D. repens*.The local inflammation and headache disappeared 5 days after extraction on topical antibiotic/corticosteroid therapy.

Conclusion: This case report confirmed that oral and ocular *D. repens* infection can cause many serious complications if not surgically extracted on time. Adequate prevention of infection is extremely important because it is a transmissible disease with a known vector that can take on an epidemiological character if adequate mosquito treatment is not carried out.

Keywords: Dirofilariasis, ocular and oral infection, subcutaneous migration, surgical extraction

CR82

Traumatic anterolisthesis of the cervical spine due to ground level fall on the escalator

Leo Matijašević[1], Drago Marijanović[1], Tin Ehrenfreund[2]

1 - School of Medicine University of Zagreb, Zagreb, Croatia
2 - Department of Traumatology, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Each year, around one-third of patients older than 65 suffer from permanent consequences of falls. Cervical fractures have a 2.6% - 4.7% prevalence rate in this group. Most cervical spine injuries in geriatric patients include those at C2 and C1 (upper cervical spine injury) due to decreased mobility in the lower cervical spine due to degenerative changes. Regardless of age, low-energy injury mechanisms carry a higher risk for damaging the upper cervical spine than the lower.

Case Report: An 88-year-old male sustained a ground-level fall on the escalator and was presented with neck pain and a contused lacerated wound of the left parietal region. He was alert at the admission and had GCS 15 with the sensory level at C5. The patient had paraplegia and brachial diparesis. A whole-body CT scan protocol for polytrauma was indicated. It showed an acute fracture of the left parietal bone with a slight impression and subgaleal hematoma. The most conspicuous was a bilateral anterior dislocation of facet joints C6/C7 ("locked-facet"), resulting in anterolisthesis and a fracture of the inferior border of the C6 articular process whose fragment invaded the neural canal. He underwent surgery but has deteriorated significantly.

Conclusion: Elderly patients are at high risk of suffering life-ending falls due to their gait instability. This case shows the unpredictability of injuries in this group of patients. Although the injury mechanism is known, consequences are often different than expected. To conclude, the elderly should use a stairway with companion care or an elevator.

Keywords: geriatrics, neck injuries, spondylolisthesis

CR83

Cutaneous lesions as an only symptom of COVID-19: a case report.

Mirna Matišić[1], Mislav Matišić[1], Dea Sabo[1], Ilija Rubil[1,2], Barbara Grubišić [1,2], Luka Švitek[1,2], Mario Duvnjak[1,2]

1 - Faculty of Medicine, J.J. Strossmayer University of Osijek, Osijek, Croatia
2 - University Hospital Center Osijek, Clinic for Infectious Diseases, Osijek, Croatia

Introduction: Coronavirus disease (COVID-19) pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) primarily affects the epithelium of the airways. Common symptoms include fever, cough, fatigue, dyspnea, hypogeusia, and hyposmia. Among non-respiratory signs associated with COVID-19, dermatological manifestations have been reported. In this case report, we will describe cutaneous lesions as the only COVID-19 symptom in a 46-year-old patient.

Case report: The patient was examined because of an itching skin rash that appeared 5 days prior to examination. It affected his both left and right crural region and spread to his popliteal fossa and his femoral region. The patient did not have fever, respiratory or catarrhal symptoms. There were no gastrointestinal or urinary disorders. A rash could not be linked to pharmaceutical or contact causes. He was not vaccinated against SARS-CoV-2 and to his knowledge did not have a previous SARS-CoV-2 infection. The physical examination showed no other abnormalities except the urticarial rash of the lower extremities. Laboratory findings and chest X-ray were without peculiarity. SARS-CoV-2 rapid antigen test and PCR test were performed, and results were positive. The treatment was symptomatic, with one dose of corticosteroids, parenteral hydration, and antihistamines for a few days. The patient recovered well after a few weeks.

Conclusion: Knowledge about the possibility of cutaneous manifestations in COVID-19 may help in early diagnosis and recognizing this symptom as a possible SARS-CoV-2 infection. However, further studies are needed to be done to determine the incidence and prognostic values of cutaneous manifestations.

Keywords: Exanthema, SARS-CoV-2, Urticaria

CR84

Mechanical Thrombectomy of Acute Middle Cerebral Artery Occlusion: a case report

Mislav Matišić[1], Patrik Čakalić[1], Fran Kolačko Šćuric[1], Marko Margetić[1], Karlo Mroček[1], Marko Pisačić[1], Zvonimir Popović[1,2]

1 – Faculty of Medicine, J.J. Strossmayer University of Osijek, Osijek, Croatia
2 – University Hospital Center Osijek, Department of Neurology, Osijek, Croatia

Introduction: Developing blood clots that can later travel through blood vessels and cause their occlusion can lead to serious consequences. One way to avoid their appearance is by having a healthy lifestyle. One of the effective methods of eliminating blood clots is a newly developed procedure known as a mechanical thrombectomy.

Case report: We present a patient who has previously had a cerebrovascular accident (CVA) and recently received a diagnosis of dilated cardiomyopathy. The patient suddenly developed general weakness of the left side of the body. A CT scan of the brain was performed, which proved to be normal, but after performed CT angiography, acute thrombosis of the right middle cerebral artery was detected. In order to remove the blood clot, a mechanical thrombectomy was performed, which succeeded in removing the blood clot, but resulted in hemorrhage from damaged blood vessels that were affected by the patient's former CVA. The patient was then introduced to a therapy for treating the cerebral edema that led to a gradual withdrawal of the hemorrhage. After discharge from the hospital, the patient received anticoagulant therapy starting with injections of Fraxiparine, 0.4 mL subcutaneously, followed by Warfarin, after a control CT scan of the brain showed a complete hemorrhage withdrawal. The patient had also undergone a physical therapy.

Conclusion: Significant success has been achieved in the patient's recovery. Prior to performing mechanical thrombectomy, most patients ended up in wheelchairs at best, but this patient is now mobile, which confirms the effectiveness of this exact method.

Keywords: Anticoagulants, Computed Tomography, Angiography, Mechanical Thrombolysis, Stroke

CR85

Acute renal transplant rejection in a patient with polycystic kidney disease

Marko Mešin[1]; Stipe Vidović[1]; Branko Šego[1]; Ivana Tolj[2]

1 - Faculty of Medicine, Josip Juraj Strossmayer University in Osijek, Osijek, Croatia
2 - Department of Nephrology, University hospital Osijek, Osijek, Croatia

Introduction: Acute transplant rejection occurs within the first six months after transplantation. Depending on pathophysiology mechanism it can be cell-mediated and antibody-mediated acute transplant rejection. Clinically, we can find the fever, pain in the transplant, dysuria, and azotemia. The final diagnosis is established by a biopsy.

Case report: Our patient had a left nephrectomy in January 2020 because of chronic renal failure due to a polycystic kidney disease. After unsuccessful attempts to form A-V fistula, a central venous catheter was installed and the patient attended the regular dialysis plan. Meanwhile he was placed on a kidney transplant list and had kidney transplantation in March 2021. The procedure went well and he was put on immunosuppressive therapy. After a week, he acquired the first urosepsis, after three weeks the graft function was again deteriorated by infection, also in June, as well in July and finally in August. In November 2021. the protocol biopsy was performed and acute cell-mediated transplant rejection was diagnosed, after which he was hospitalized for corticosteroid bolus therapy.

Conclusion: Because of the immunosuppressive therapy that patients with transplants must take, they are more susceptible to infections, although other factors such as the general state of health, the presence of co-morbidity, etc. also play important role. These infections may and may not aggravate the state of the graft, but in this case we can see that repeated disruptions of the kidney function have enhanced the transplant rejection reaction.

Keywords: Acute transplant rejection, polycystic kidney disease, UTI

CR86

Multidisciplinary approach in the treatment of vulgar psoriasis: a case report

Iva Mijatović[1], Ana Marković[1], Eleonora Strujić[1], Melita Vukšić Polić [2]

1 - Faculty of medicine of University of Josip Juraj Strossmayer, Osijek, Croatia
2 - Faculty of medicine of University of Josip Juraj Strossmayer, Department of Dermatology and Venerology, KBC Osijek, Osijek, Croatia

Introduction: Psoriasis is an inflammatory dermatosis that occurs in genetically predisposed individuals. It is a systemic disease, patients with severe forms develop comorbidities and have a poor quality of life. This report aims to demonstrate the complexity of treating a patient with severe psoriasis and its comorbidities.

Case report: We present a case of a 74-year-old male, with severe psoriasis and a history of urinary bladder carcinoma. In family history, there is no record of psoriasis. The patient has been suffering from vulgar psoriasis for 15 years. The disease has been proven histologically. The patient was treated with acitretin, Psoralen Ultra-Violet A (PUVA) therapy, ciclosporin, and local corticosteroids. Conducted tests were the following: markers for viral hepatitis, in which the serological profile responds to previous hepatitis B infection. Heart and lungs X-rays were normal, Qantiferon test was positive. An abdominal aortic aneurysm was diagnosed. Before making a treatment decision a multidisciplinary approach was conducted and opinion was given by: urologist, oncologist, infectologist, vascular surgeon, and pulmonologist. In July 2020, Psoriasis Area and Severity Index (PASI) was 22.5 and Dermatology Life Quality Index (DLQI) was 18 and the biological therapy with guselkumab started. In October 2020. clinical condition improved significantly, PASI was 0.8 and DLQI was 2.

Conclusion: Psoriasis has a cumulative effect on the patient's life. It is necessary to treat it early and adequately for patients to live a quality life and to prevent the development of comorbidities. The role of dermatologists is important, but also the cooperation with other specialists.

Keywords: comorbidities, psoriasis, treatment

CR87

Palpebral reconstruction after posttraumatic ptosis

Maja Milenović[1], Mara Bebek[1], Aleksandar Milenović[2]

1 - School of Medicine University of Zagreb, Zagreb, Croatia
2 - Department of head and neck surgery, Clinic for tumors, Sisters of Charity Hospital, Zagreb, Croatia

Introduction: Posttraumatic ptosis causes problems much more significant than just aesthetic appearance, such as possible vision loss. In 1909, Payr introduced the usage of autologous fascia lata in ptosis repair. Fascia lata is considered the material of choice due to its durability and low rate of complications. The result is the voluntary movement of the eyelid by contracting the frontal muscle and a much better aesthetic appearance.

Case report: A ten-year-old girl was admitted to the ER in a secondary center after a car accident. She suffered a skull contusion as well as periorbital and frontal lacerations. The patient had many badly scars in the midface area after the initial surgery, but the most serious consequence was posttraumatic ptosis of the right eye. Her ophthalmologist recommended undergoing temporal and parietal muscle electrostimulation therapy that wasn't successful. The patient was directed to a tertiary center for facial, jaw, and mouth surgery at the maxillofacial surgery department. The surgeon decided on the Fox method for upper lid suspension - transplantation of the fascia lata from the upper thigh to the tarsus of the upper lid. To assure traction of the upper lid when the frontal muscle is contracted, the fascia lata transplant was attached to both the tarsus and frontal muscle.

Conclusion: The surgeon rectified posttraumatic ptosis and the complications it may cause by executing a complex upper lid suspension utilizing fascia lata as a graft. Due to highly complex reconstructive surgery methods, the patient's functional and aesthetic qualities were restored, and she recovered entirely.

Keywords: Eyelids, Fascia Lata, Reconstructive,Surgical Procedures

CR88

Cardiac failure presented as an acute respiratory failure in pregnant women with preeclampsia and newly diagnosed valvular disease

Jelena Miletić[1], Petra Markuš[1], Toni Maloča[1], Marta Milošević[1], Ines Tamaš[1], Leon Terek[1], Damir Mihić[1,2]

1 - Faculty of Medicine Osijek, Study of Medicine, University of J. J. Strossmayer, Croatia
2 - Clinical Hospital Centre Osijek, Department of Pulmonology and Intensive Care, Osijek, Croatia

Introduction: Cardiac diseases are the most common cause of death and complications during pregnancy in the developed world. The most common causes are valvular or congenital heart disease, preeclampsia, and cardio-myopathy.

Case report: A 26-year-old woman was presented to the hospital at 37 weeks gestation for observation and delivery with diagnoses of preeclampsia, fever, and arterial hypertension. On the day of hospitalization, an emergency cesarean section was performed and twins were born. Due to perioperative respiratory distress and signs of infection, radiography was performed, which showed bilateral basal inflammatory infiltrates. Echocardiography showed dilatation of the left and right atria with moderate mitral and tricuspid regurgitation and signs of moderate pulmonary hypertension. Laboratory results showed elevated CRP and D-dimers. CT Angiography ruled out pulmonary embolism but showed infiltrates of inflammatory etiology bilaterally in the upper lobes, while the remaining part of the lung parenchyma was bilaterally altered by the type of GGO. During the physical examination, saturation was up to 80% on room air and approximately 88-90% on oxygen 4 L/min. In response to corticosteroid therapy and symptomatic bronchodilators, the patient's condition improved, with stabilization of breathing and radiologically almost complete regression of pulmonary infiltrates was observed. Due to the stabilization of the clinical condition, the patient was discharged home for further treatment.

Conclusion: The prevalence of pregnant women who present with heart failure has increased. Heart failure places pregnant women at high risk for preterm delivery, maternal death, respiratory failure, and admission to an intensive care unit.

Keywords: Heart failure, Pregnancy, Respiratory insufficiency

CR89

Autoimmunity as a first manifestation of primary immunodeficiency in a pediatric patient with DiGeorge syndrome

Ozana Miličević[1], Iva Barišić[1], Daniel Turudić[2], Ernest Bilić[2]

1 - School of medicine, University of Zagreb, Croatia
2 - Department of pediatrics, University Hospital Center Zagreb, Croatia

Introduction: DiGeorge syndrome (DGS - "22q11.2 deletion syndrome") is a condition consisting of various congenital anomalies such as cardiac defects, craniofacial dysmorphisms, thymic aplasia, cleft palate and hypoparathyroidism. The aim of this case presentation is to show how unexplained recurrent thrombocytopenia, as a result of autoimmune response, can be the initial presentation of DGS.

Case report: A boy in the age of 13 - years was referred due to numerous petehial hemorrhages, oral mucosal bleeding and epistaxis. His medical history included recurrent episodes of thrombocytopenia treated with transient effect. At the physical examination, ecchymoses and hematoma were observed. The laboratory findings revealed a low platelet count and leukopenia. Anti-platelet and anti-granulocyte antibodies were detected by immunofluroescence. Immunophenotyping of blood revealed a low CD4 T-helper cell count and CD4/CD8 inversion. These findings raised a possibility of the DGS. A fluorescence in situ hybridization (FISH) was performed and confirmed the 22q11.2 deletion. Due to his disharmonious cognitive profile, MR scan of the brain was performed and revealed cerebral demyelinating lesions. During hospitalization he received IV gamma-globulins and corticosteroids. Prophylaxis with co-trimoxazol was started, and patient was released from the hospital in good clinical condition.

Conclusion: This case suggests that unexplained re-ccurent cytopenias in pediatric patients should be considered as a possible clinical indicator of DGS. The combination of autoimmunity and immunodeficiency represents a complex clinical condition difficult to treat with immunosuppressants because of high degree of susceptibility to infections.

Keywords: chromosome deletion, DiGeorge syndrome, immune thrombocytopenia.

CR90

Electroconvulsive therapy (ECT) in treating resistant schizophrenia – is there a place for it in 21st century?

Marta Milošević[1]; Toni Maloča[1]; Jelena Miletić[1]; Petra Markuš[1]; Ines Tamaš[1]; Ivan Erić[1,2]; Anamarija Petek Erić[1,3]

1 - Faculty of Medicine Osijek, Study of Medicine, University of J. J. Strossmayer, Croatia
2 - Clinical Hospital Centre Osijek, Department of Surgery, Osijek, Croatia
3 - Clinical Hospital Centre Osijek, Department of Psychiatry, Osijek, Croatia

Introduction: Treatment-resistant (TR) schizophrenia denotes patients with schizophrenia who, despite at least two adequate trials of classical neuroleptic drugs, have persistent positive, or disorganization, or negative symptoms along with poor social and work function over a prolonged period of time.

Case report: A 33-year-old diagnosed with paranoid schizophrenia since late adolescence. Upon last in-patient treatment he presented with auditory (hearing commanding and insulting voices) and visual (seeing his reflection as distorted dead body) hallucinations. He was treated with practically every available psychotropic drug but there was no improvement. In the period from 2016. to 2021. he was hospitalized 22 times. Due to inability to achieve even partial remission which resulted in functional impairment and exhaustion of every available psychopharmacological treatment option, the patient was suggested an electroconvulsive therapy (ECT) to which he consented. Electroconvulsive therapy is performed in general anesthesia with pre-operative work-up and obtained ethical approval for the procedure. The electrodes were placed right unilaterally (RUL). Patient received nine modified brief pulse stimulations with intensity titration up to 48%. After completed ECT treatment, auditory and visual hallucinations subsided completely with mood improvement and significant reduction of psychopharmacological therapy upon discharge. On the follow-up in January 2022 patient is feeling well and clinically the illness is still in remission. This has been the longest period without hospitalization since 2016.

Conclusion: This case presentation is an example of how ECT still has the most significant and undisputable role in treating TR schizophrenia even in 21st century.

Keywords: electroconvulsive therapy, treatment resistant schizophrenia

CR91

Steroid induced hyperglycemia in chemotherapy treated oncology patient

Zara Miočić[1]; Lea Arambašić[1]; Petra Galić[1]; Karla Bodakoš[1]; Ana Petrović[2,3,4]; Ines Bilić-Ćurčić[2,3,5]

1 - Faculty of Medicine, University Josip Juraj Strossmayer of Osijek, Osijek, Croatia
2 - Department of Pharmacology, Faculty of Medicine Osijek, Osijek 31000, Croatia
3 - Department of Pharmacology and Biochemistry, Faculty of Dental Medicine and Health, Osijek 31000, Croatia
4 - Family Medicine, Osijek Health Center, Park Kralja Petra Krešimira IV. 6, 31000 Osijek, Croatia
5 – Department of Endocrinology, University Hospital Osijek, Osijek 31000, Croatia

Introduction: Corticosteroids are widely used drugs, with many known side effects, such as impairment of glycemic control. This adverse effect is seen both in patients with preexisting diabetes and in normoglycemic ones potentially leading to steroid-induced diabetes mellitus. Corticosteroids are largely used in oncology, both as a curative treatment and as a symptom control in supportive care for patients with various malignancies.

Case report: We present a 55-year-old woman who was diagnosed with diabetes mellitus type two six years ago. Diabetes was regulated by an endocrinologist who included gliclazide and metformin/sitagliptin in therapy. She was also treated by an oncologist due to a diagnosis of invasive metastasizing breast cancer. As chemotherapy and dexamethasone treatment was introduced by the oncologist, a significant rise in glycemia (15-20 mmol/l) occurred. Following that, she was prescribed postprandial pre-mixed lispro/NPH and gliclazide was discontinued. This approach maintained glycemia in the normal range. However, in days when chemotherapy and dexamethasone was administered, there was an increase in glucose plasma level. Therefore, in addition to current therapy, it was necessary to administer higher doses of insulin on the day of chemotherapy. The last application of dexamethasone was in October 2020. Diabetic therapy remained the same and HbA1c was 7.1%.

Conclusion: Hyperglycemia usually occurs in the first 48 hours after administration of high doses of glucocorticoid therapy. Considering that, close monitoring of glucose profiles should be performed. Oncology patients should have their baseline HbA1c and venous plasma glucose when starting steroid therapy.

Keywords: chemotherapy, corticosteroids, diabetes mellitus, hyperglycemia

CR92

Infective endocarditis masked by COVID-19 infection: a case report

Zara Miočić[1]; Veronika Šikić[1,2]; Iva Jurić[1,3]

1 - Faculty of Medicine, University of Josip Juraj Strossmayer, Osijek, Croatia
2 - Institute of Emergency Medicine of Osijek-Baranja County, J. Huttlera 2, 31000 Osijek, Croatia
3 - University Hospital Center, Department of Cardiology, Osijek, Croatia

Introduction: Infective endocarditis (IE) involves infection of the endocardial surface of the heart, usually affecting the heart valves. Echocardiography is crucial in the diagnosis of IE. The treatment includes prolonged antimicrobial therapy and in selected cases cardiac surgery.

Case report: 68-year old female patient presenting to the Infectious Diseases Clinic three months after the receiving a positive COVID-19 PCR test. She reports frequent chest tightness and shortness of breath, dry cough, weakness and sweating with subfebrile temperature every evening since then. She attributed symptoms to the post-COVID syndrome. CT pulmonary angiogram ruled out pulmonary thromboembolism and pneumonia but revealed a pericardial effusion and suspicion of heart failure. Transesophageal echocardiographic examination showed the vegetations on mitral and aortic valve with significant valvular regurgitation, suggesting endocarditis. Empirical antibiotic therapy was immediately initiated and upon arrival of *Enterccocus faecalis* isolates from repeated blood cultures, therapy was corrected according to the antibiogram. Considering the patient's condition, a cardiac surgery was required. Patient was admitted to the Department of Cardiac Surgery in order to perform an urgent mitral and aortic valve replacement due to endocarditis and a left anterior descending coronary artery bypass grafting due to previously diagnosed coronary artery disease. Surgery and postoperative recovery went well and without serious complications.

Conclusion: In the era of COVID-19 pandemic other serious diseases may stay unrecognized due to overlapping of symptoms and the healthcare system overload. Careful and thorough approach to every patient can minimize the risk of misdiagnosis.

Keywords: cardiac surgery; COVID-19 infection; echocardiography; endocarditis

CR93

Difference in treatment of pituitary incidentalomas in two patients with no endocrinopathies

Zara Miočić[1]; Lea Arambašić[1]; Petra Galić[1]; Karla Bodakoš[1]; Ana Petrović[2,3,4]; Ines Bilić-Ćurčić[2,3,5]

1 - Faculty of Medicine, University Josip Juraj Strossmayer of Osijek, Osijek, Croatia
2 - Department of Pharmacology, Faculty of Medicine Osijek, Osijek 31000, Croatia
3 - Department of Pharmacology and Biochemistry, Faculty of Dental Medicine and Health, Osijek 31000, Croatia
4 - Family Medicine, Osijek Health Center, Park Kralja Petra Krešimira IV. 6, 31000 Osijek, Croatia
5 – Department of Endocrinology, University Hospital Osijek, Osijek 31000, Croatia

Introduction: Pituitary incidentalomas represent previously unsuspected pituitary lesions**,** divided into microincidentalomas and macroincidentlomas. They are commonly found by CT or MRI scans indicated for unrealted, non-pituitary disease. Although pathohistological mechanisms and etiology is unclear, 90% of pituitary incidentalomas include benign adenomas.

Case report: We present two patients with different diagnosis and treatment of pituitary incidentaloma. First patient is a 25-year-old woman with non-specific headaches, but without clinical signs of endocrinopathy. She has regular menstrual cycles without galactorrhea. Magnetic resonance imaging (MRI) showed microadenoma 5-6 millimeters in size. Initial tests included analysis for hormone hypersecretion and hypopituitarism. Laboratory results revealed increased prolactin. According to the findings, the diagnosis was non - secretory microadenoma. No therapy was prescribed, only regular check - ups. Second patient is a 70-year-old woman with frequent headaches, but also without clinical signs of endocrinopathy. MRI showed deformed sella turcica due to an expansive formation extending craniocaudal, more likely corresponding to macroadenoma. Laboratory exams discovered decreased luteinizing hormone (LH) and follicle stimulating hormone (FSH), while prolactin (PRL), thyroid stimulating hormone (TSH) and free thyroxine (fT4) were increased. Examination by ophthalmologist revealed severe pale left optic nerve and bitemporal hemianopia. Surgery was recommended.

Conclusion: To conclude, decision about appropriate course of treatment and follow - up is based on the results of MRI, computed tomography (CT), visual field examination and basal or dynamic hormonal assessments. Not all incidentalomas require neurosurgical intervention. If not treated surgically, patients are treated conservatively, with regular check-ups, imaging studies and hormonal assessments.

Keywords: endocrinology, hypersecretion, hypopituitarism, MRI, pituitary diseases

CR94

Metastatic mixed non-seminomatous germ cell tumor with PNET component - A Case Report

Antonia Mrdeža[1]; Nikolina Novak[1]; Marija Gamulin[1,2,3]

1 - University of Zagreb School of Medicine, Zagreb, Croatia
2 - Department of Oncology, University Hospital Center Zagreb, Zagreb, Croatia
3 - Referral Centre for the Treatment of Germ Cell Tumors and Extragonadal Germ Cell Tumors in the Republic of Croatia

Introduction: Testicular germ cell tumors (GCTs) are the most common malignancy in males aged 15-35. While most of GCTs are inert or only locally agressive, a small subset have the potential for malignant transformation along somatic lines. We present a rare clinical entity of mixed non-seminomatous malignant GCT with Primitive Neuro Ectodermal Tumor (PNET) component.

Case report: In 2006, a 23-year-old man presented with left testicular mass and extensive retroperitoneal lymphadenopathy with higher levels of AFP and HCG and thus underwent radical orchiectomy.Testicular pathohistology showed: teratoma (50%), seminoma (10%), embryonal carcinoma (10%), choriocarcinoma (5%), yolk sack tumor (5%) and PNET (20%). During the next 6 years he received chemotherapy for germ cell tumours and multiple lymphadenectomy were performed due to relapses. In 2013 he underwent "Whipple" surgery with retroperitoneal lymph node dissection and pathology revealed mixed GCT with over 90% of PNET cells. In 2017 and 2019 we treated him with chemotherapy vincristine/doxorubicin/cyclophosphamide alternating with ifosfamide/etopiside was initiated adapted to the histology of tumor. Bone metastases have been irradiated. Until now, the patient has presented with multiple metastases and relapses. Follow-up is on-going.

Conclusion: Unlike conventional GCTs which respond well to platinum-based chemotherapy, PNET component is a highly agressive tumor with poor prognosis, specific chemotherapy is applied for testicular PNET, regardless whether it is transformed from teratoma or if it is PNET part of disease.

Keywords: Germ cell tumor, primitive neuroectodermal tumor, retroperitoneal lymph node dissection, testicular PNET chemotherapy

CR95

Importance of encouraging consultations in the family phisician's office in the early detection of cancer – A case report

Antonia Mrdeža[1]; Goranka Petriček[2,3]; Mirna Babić[4]

1 - University of Zagreb School of Medicine, Zagreb, Croatia
2 - University of Zagreb, School of Medicine, „Andrija Štampar" School of Public Health, Department of Family Medicine, Zagreb, Croatia
3 - Zagreb-West Health Center, Zagreb, Croatia
4 - Private Family Medicine Office Dr Mirna Babić, Zagreb, Croatia

Introduction: In the current era, because of the development of imaging techniques, renal cell carcinoma usually can be detected in the early stages. But from the beginning of the COVID-19 pandemic, health professionals were concerned that millions of people would defer treatment of existing symptoms of illnesses. Here we present a case of massive palpable renal cell carcinoma found in a female patient.

Case report: A 66-year-old female, presented to her family physician(FP) by phone call with unintentional weight loss over the last two years. Apart from the loss of 10 kg and occasional weakness, the patient had no significant symptoms. Abdominal examination showed an inhomogeneous mass palpable in the left lower quadrant. When asked by FP why she did not report for an examination earlier, the patient stated that she delayed her arrival due to the pandemic, but also did not assess the symptoms as important, nor did she feel the abdominal formation. Imaging demonstrated a left-sided 13-cm renal mass and enlarged paraaortic lymph nodes. She underwent left nephrectomy and is being monitored by oncology and urology.

Conclusion: This case highlights the potential danger of assessing symptoms by a layman without consulting a health professional. Having in mind the ongoing pandemic, as well as the pressure of patients to solve their difficulties by email or phone consultations, this case once again emphasizes the importance of encouraging consultations in the family phisician's office. Only after taking medical history and detailed clinical examination objective clinical judgement of patient problem could be made.

Keywords: COVID-19 pandemic, family medicine, objective clinical judgement, physical examination

CR96

The importance of the School Health Service for a primary school student with attention deficit hyperactivity disorder

Božana Mrvelj[1]; Marjeta Majer[1,2]

1 - University of Zagreb, School of Medicine, Zagreb, Croatia
2 - University of Zagreb, School of Medicine, 'Andrija Štampar' School of Public Health, Zagreb, Croatia

Introduction: Attention deficit hyperactivity disorder (ADHD) is one of the most common neuro-developmental disorders of childhood, with the prevalence of around 5%. Children affected with this syndrome may have trouble paying attention, controlling impulsive behaviors or be overly active.

Case report: We present a case of a 12-year-old boy who was referred to a School Health Service by his schoolteacher because of his persistent bullying of his peers, his extreme restlessness in class, and constant interference during class which disturbed teachers as well as other students and also considering his poor school performance. During an interview with the school medicine specialist the boy was warm and cooperative in contact, but restless and had difficulties maintaining attention. He was then referred to an assessment team consisting of a neuropediatrician, a psychiatrist and a psychologist who diagnosed ADHD and behavioral disorder. Accordingly, the School Health Service suggested a regular educational program with individualized approach in all subjects, and a teaching assistant during classes. With an appropriate education program and regular counseling in the School Health Service the boy finished primary school successfully.

Conclusion: ADHD in school children could be associated with behavioral disorder and poor school performance. School Health Service enables students with disabilities to achieve their maximum development and educational potential equalizing their opportunities with other students.

Keywords: ADHD; children with disability; School Health Service

CR97

Pneumonia in *Rhodococcus equi* infection in severely immunocompromised woman

Rebeka Nađ[1], Ivan Prigl[1], Marko Živkov[1], Marta Biljan[2], Maja Bogdan[1,2], Domagoj Drenjančević[1,2]

1 – Faculty of Medicine, J.J. Strossmayer University of Osijek, Osijek, Croatia
2 – University Hospital Center Osijek, Osijek, Croatia

Introduction: *Rhodococcus equi* is an aerobic, Gram-positive, facultatively intracellular coccobacillus, that infects monocyte-macrophage lineage. It has been recognized as a rising pathogen in immunocompromised individuals, presenting with a clinical picture of necrotizing pneumonia.

Case report: We present the case of severely immunocompromised patient with pneumonia caused by *Rhodoccocus equi* infection. Caucasian woman, aged 54, was admitted to pulmonology department due to fever and malaise. She was treated multiple times for relapsing pneumonia and accompanying hemoptysis. Patient was first diagnosed with *Rhodoccocus equi* infection in June 2020 and has an extensive anamnesis of chronic and autoimmune diseases, such as diabetes mellitus 2, myasthenia gravis and arterial hypertension. After a radiological exam, malignant neoplasm was suspected in the right lung, but after an EBUS and microbiological exam, it was *Rhodococcus equi* that was isolated once again and treatment with azithromycin and ciprofloaxin was started, initially planned for a period of two months. Thoracotomy of a lower right lung lobe was executed. During the subsequent hospital admission, patient was highly febrile with tremor, and worsened overall condition, and new treatment, consisting of vancomycin and meropenem alongside supportive care, was introduced. During bronchoscopy, formation of fistulas in the lungs was suspected, and during transthoracic biopsy the ongoing inflammatory process was observed, but not tumor cells. Ambivalent results and manifestations of lung pathology leave a question of possible malignant processes indeterminate.

Conclusion: Pneumonia caused by *Rhodoccocus equi* infection has high potential for continuous relapse in immunocompromised patients, if antibiotic therapy is not administered for a sufficient amount of time. Fast diagnosis and treatment are necessary for a successful recovery, as well.

Keywords: pneumonia, Rhodococcus equi

CR98

Patient entering the wrong doors almost lost in diagnostic struggle

Nikolina Novak[1], Antonia Mrdeža[1], Silvija Čuković-Čavka[1,2]

1 - School of Medicine, University of Zagreb, Zagreb, Croatia
2 - Division of Gastroenterology and Hepatology, University Hospital Center Zagreb, Zagreb, Croatia

Introduction: Addison's disease, also known as primary adrenal insufficiency, is a rare progressive autoimmune destruction of adrenal gland that leads to cortisol and aldosterone deficiency. The disease symptoms are unspecific with an insidious onset.

Case report: A 49-year-old woman with a 9-month history of nausea, vomiting, abdominal pain, weight loss, irregular stools and extreme fatigue was brought from local hospital to the Emergency Department of University Hospital Center Zagreb (UHCZ). The patient was so exhausted that she couldn't walk. Prior to admission, she was examined several times by a gastroenterologist (GI) and by a psychiatrist due to her depressed mood. According to the confirmed diagnosis of gastroesophageal reflux disease, chronic gastritis, and depression she was treated for several months with proton pump inhibitors and with antidepressants with no obvious clinical response. Upon admission to Division of Gastroenterology and Hepatology in UHCZ, diagnostic work-up excluded malignant disease, inflammatory bowel disease, and celiac disease. Initial laboratory finding confirmed anemia and mild electrolyte imbalance, but further multiple testing discovered persistent hyperkalemia (5 mmol/L) and significant hyponatremia (110 mEq/L). Regarding that a prompted consultation with an endocrinologist was made which confirmed our suspicion of adrenal insufficiency. The low level of cortisone in the blood and rapid clinical improvement after administering hydrocortisone were diagnostic – patient was able to get out of bed on her own.

Conclusion: Raising the awareness of the Addison's disease unspecific symptoms and keeping in mind endocrine disturbance as possible differential diagnosis in patients referred to GI and psychiatrist is the key for timely diagnosis.

Keywords: Addison's disease, depression, gastrointestinal symptoms, hyperkalemia, hyponatremia

CR99

HLA-B27 Positive Ankylosing Spondylitis in a Young Patient: a Case Report

Ana Nuić[1]; Jelena Pokos[1]; Ivan Šporčić[1]; Nikolina Zagorac[1]; Jasminka Milas-Ahić[1,2]

1 – Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 – Clinical Hospital Centre Osijek, Department of Rheumatology and Clinical Immunology, Osijek, Croatia

Introduction: Ankylosing spondylitis is an inflammatory rheumatic disease which typically affects axial skeleton, especially sacroiliac joints and big proximal joints. Although it can affect both sexes, it is usually diagnosed in males from 17 to 45 years of age. In up to 85% cases affected patients are HLA-B27 positive.

Case report: We present a case of a 36-year-old man who, upon first rheumatological examination, complained of pain and stiffness in thoracic and lumbar spine during the last 5 months. Morning stiffness would last less than an hour and pain would subside on administration of NSAIDs. Laboratory findings showed mild normocytic anemia and raised CRP. RTG of LS spine showed calcification of the anterior longitudinal ligament and lateral ligament, as well as reduced sacroiliac joint space. Functional imaging showed reduction of reclination and anteclination in all intervertebral functional segments of lumbar spine. According to ASAS classification, the patient met criteria for diagnosis of ankylosing spondylitis. Upon further testing it was confirmed that the patient was HLA-B27 positive. The patient scored high on tests for disease activity, hence salazopyrin and physical therapy were added to the treatment. 6 months later, despite current therapy, patient’s disease was still active, which is why at this point he was administered TNF-alpha inhibitor adalimumab. After that, the patient’s condition had shown great improvement.

Conclusion: Ankylosing spondylits is a progressive disease that can eventually lead to disability. Early recognition and initiation of treatment is a key to achieving remission and maintaining the functional status of the patient.

Keywords: adalimumab, ankylosing spondylitis, HLA-B27

CR100

The first case of carbapenem resistant *Klebsiella pneumoniae* in a severely immunocompromised patient

Mirela Okolić [1], Matea Lukić [1], Ivan Prigl [1], Laura Ivanović-Martić [1], Dorian Garac [1], Damir Tolić [1], Ivana Roksandić-Križan [1,2]

1 - Faculty of Medicine, J.J. Strosmayer University of Osijek, Osijek, Croatia
2 - University Hospital Center Osijek, Osijek, Croatia

Introduction: Carbapenem resistant *Klebsiella pneumoniae* has been an ongoing problem in Croatia in the last few years. This type of bacteria seems to appear due to the production of carbapenemase of a class A and due to hyperproduction of extended spectrum β-lactamase. We report the first detection of carbapenemase producing *K. pneumoniae* in our hospital identified as colonization flora in seriously immunocompromised patient.

Case report: The patient is a 59-year-old woman who was admitted to the Clinical Medical Center Osijek on the December 13th, 2021, after the relapse of acute myeloid leukemia. In the previous seven weeks, she was hospitalized twice in two different hospitals, due to the allogeneic transplantation of stem cells and head trauma. Therefore, she was severely immunocompromised. After the admission, standard medical procedures were made. Biochemical markers from her blood tests showed septic syndrome which led to the microbiological treatment. She was tested for influenza, SARS-CoV-2, *C. difficile*, Rotavirus and Adenovirus and aerobic bacteria (throat swab). All tests were negative except for the throat swab where carbapenem resistant *Klebsiella pneumoniae* was detected. It was detected with MALDI-TOF, RESISTO-5 and KARBA NP. For antibiotic susceptibility, conventional disk-diffusion method and minimal inhibitory concentration (MIC) were used. Bacteria showed resistance to all of the antibiotics in a standard set except for the ceftazidime/avibactam.

Conclusion: Colonization with carbapenemase producing *Klebsiella pneumoniae* might progress to systemic infection and higher mortality rate in immunocompromised patient. It is important to enhance our awareness of detecting it by routine surveillance cultures especially in patients coming from other medical institutions and after prolonged antibiotic therapy.

Keywords: Klebsiella pneumoniae, immunocompromised, carbapenemase

CR101

Spinal cord stimulation for treating failed back surgery syndrome

Klara Ormanac[1], Petra Raguž[1], Eleonora Strujić[1], Dea Sabo[1], Dominik Seletković[1], Darija Venžera Azenić[1,2]

1 – Faculty of Medicine Osijek, University of J. J. Strossmayer, Osijek, Croatia
2 – University Hospital Centre Osijek, Department of anesthesiology, reanimatology and intensive care

Introduction: Spinal cord stimulation (SCS) is a neuromodulatory method of managing and treating severe chronic pain through delivery of electrical impulses to the spinal cord using built-in electrodes. The most common indication for placing the spinal cord stimulator is failed back surgery syndrome (FBSS).

Case report: In this case report, we present a male patient who was treated in October 2015 at the department of neurosurgery in Clinical Hospital Centre in Osijek due to a disc extrusion located on level L5/S1. He also developed cauda equina syndrome. In 2016, after rehabilitation, the pain worsened spreading from the lumbosacral spine through the left leg, resulting in weakness of the left foot. An MRI of the lumbosacral spine was done, and it verified postoperative changes on level L4-S1. He was reoperated (interlaminectomy) in 2016, but developed after severre scarring of the left lateral recessus. As for therapy, he was prescribed with oxycodone, amitriptyline and a combination of paracetamol and tramadol. On numerical rating scale (NRS), he rated the pain as level 7. Due to his clinical status, he was introduced to the idea of SCS. In 2017, a spinal cord stimulator was implanted. After the successful operation, the patient rated the pain on NRS as 0, oxycodone and amitriptyline were completely excluded, tramadol (drop form) was left to take as needed.

Conclusion: SCS as a neuromodulation procedure, not only reduces pain, but also improves function and quality-of-life of patients with chronic pain. However, SCS is an expensive and invasive procedure with possible complications. A proper selection of patients for spinal cord stimulation (SCS) implantation a critical factor for the good short-term and long-term outcomes.

Keywords: spinal cord stimulation, failed back surgery syndrome, chronic pain

CR102

Improving quality of life in type 1 diabetes mellitus patient by using FreeStyle Libre system

Lea Paradinović[1]; Dora Petričević[1]; Ivan Prošić[1]; Ema Schönberger[1,2]; Ines Bilić – Ćurčić[1,2]; Maja Gradinjan Centner[2]; Silvija Canecki – Varžić[1,2]

1 - Faculty of Medicine, J. J. Strossmayer University of Osijek, Osijek, Croatia
2 - Department of Endocrinology, University Hospital Centre Osijek

Introduction: Type 1 diabetes mellitus (T1DM) is a chronic condition that results from the autoimmune destruction of beta cells in the pancreas. It is insulin – dependent, requires regular monitoring plasma glucose (PG) and usually occurs at young age. The FreeStyle Libre (FSL) is flash glucose monitoring device that measures interstitial glucose levels (IGL) by sensor and gives measured values by reader. The aim of this case report is to demonstrate influence of FSL on T1DM patient's quality of life.

Case report: We present a case of 36-year-old man, active athlete, to whom T1DM was accidentally discovered. In August 2019 he noticed increased fatigue, thirst, urination, anxiety and weight loss. Knowing his positive family history of T2DM, he measured PG for one week – values ranged from 17 to 26 mmol / L. He was hospitalized and diagnosed with T1DM. During hospital stay, laboratory findings (LF) showed glycated hemoglobin (HbA1c) 10.8% and also postprandial hypoglycemic incidents (HGI) were reported which entitled him to free FSL. He received intensive insulin therapy and was explained the application and adequate calculation of the carbohydrate-dependent bolus. He was also educated on diabetic diet and FSL. After two weeks of using the FSL, with adherence to therapy and diabetic diet, the findings improved significantly – estimated HbA1c amounts 5.6% and average IGL 6.3 mmol / L. At each subsequent control, LF are within normal limits and HGIs occur very rare.

Conclusion: FSL improves the quality of life in T1DM patients. With FSL, they can at any time painlessly and quickly read off IGL. This avoids life-threatening HGIs and reduces the risk of developing diabetic complications.

Keywords: Diabetes complications, Flash Glucose Monitoring, Glycated Hemoglobin A, Type 1 Diabetes Mellitus

CR103

A rare case of undifferentiated carcinoma with rhabdoid features arising in the gastrointestinal tract: a case report

Klara Pavlić[1]; Natalia Pappo[1]; Igor Petrović[1,2]

1 – School of Medicine, University of Zagreb, Croatia
2 – Department of Surgery, University Hospital Centre Zagreb, Croatia

Introduction: Malignant rhabdoid tumors were first described in the kidneys and have since been reported to affect various organs. They are extremely rare in the gastrointestinal tract and highly malignant, therefore many patients are diagnosed at a late stage. To the best of our knowledge, this case is the largest surgically removed gastrointestinal tumor with rhabdoid features infiltrating the pancreas, small bowel and colon.

Case report: A 65-year-old man presented with pain in the left side of the abdomen associated with weakness, weight loss and melena. Upon examination a large mass was found occupying the left hemiabdomen. Computed tomography revealed a large tumor with hemorrhagic central necrosis, inseparable from the proximal jejunum, infiltrating the body and tail of the pancreas and the splenic vein. The patient underwent exploratory laparotomy and subsequent removal of the tumor mass measuring 24 x 22 x 10 cm, total pancreatectomy with splenectomy, left adrenalectomy, left-sided colectomy with unipolar transversostomy. Roux-en-Y gastroenteroanastomosis and hepaticojejunostomy were performed for reconstruction. Pathohistological analysis established a diagnosis of undifferentiated carcinoma with rhabdoid features of unspecified origin within the gastrointestinal tract, characterized by clusters of atypical pleomorphic cells with eosinophilic cytoplasms. Postoperative CT revealed newly formed lesions in the liver. Adjuvant chemotherapy was started with the possibility of metastasectomy in near future.

Conclusion: Malignant tumors with rhabdoid features originating from the gastrointestinal tract are highly aggressive with only a few patients alive at 6 months follow-up. There is no effective treatment protocol available, thus further research is needed to identify new treatment options.

Keywords: Gastrointestinal tract, rhabdoid tumor, undifferentiated carcinoma

CR104

Parvovirus B19 associated Hemophagocytic Syndrome: case report

Vedrana Pavlović[1]; Lucija Todić[1]; Ivana Jurić[1]; Nika Pušeljić[1]; Ana Dukić[3], Damir Mihić[1,2]

1 – Faculty of Medicine Osijek, University of J.J. Strossmayer, Osijek, Croatia
2 – Department of Internal Medicine, University Hospital Center Osijek, Osijek, Croatia
3 – Faculty of Dental Medicine and Health, University of Josip Juraj Strossmayer, Nova Gradiška, Croatia

Introduction: Hemophagocytic Syndrome (HS), also known as Hemophagocytic Lymphohistiocytosis, is a rare inflammatory disorder that is mostly triggered by infections, malignancy or rheumatologic disease. It is characterized by histiocyte activation, abnormal cytokine release and systemic inflammation that leads to multiple organ failure (MOF). Treatment usually includes immunotherapy, chemotherapy, corticosteroids, anti-microbial therapy and allogeneic stem cell transplant.

Case report: We present a case of 55-year-old female patient who was transferred from General Hospital Nova Gradiška to University Hospital Center (UHC) Osijek due to septic shock. She was previously diagnosed with sarcoidosis and overlap syndrome (Sjogren and systemic sclerosis). Before transferring, the patient suffered from sepsis, shock, pancytopenia, anasarca, anemia, thrombocytopenia and had pathological coagulogram. As a result of this difficult condition and serious comorbidities, she was transferred to UHC Osijek. Upon arrival, the patient was in sever general condition, had generalized edema and effusions, but respiratory and hemodynamically stable. After the approach of an interdisciplinary team, a bone marrow puncture was requested, and based on its findings (morphological changes in erythropoiesis), HS caused by parvovirus B19 infection was diagnosed. Initial treatment with etoposide, immunoglobulins and high doses of dexamethasone was started, as well as appropriate antimicrobial prophylaxis and other supportive therapy. Nevertheless, the patient developed MOF and Disseminated Intravascular Coagulation. She was intubated and mechanically ventilated, treated with vasoactive drugs and subjected to Continuous Veno-Venous Hemodiafiltration. 5 days after the transfer, the patient developed cardiac arrest, and despite the measures of cardiopulmonary resuscitation, died the same day.

Conclusion: It is possible that Parvovirus infection occurred during transfusion. Due to its insidious nature, HS caused by Parvovirus B19 often has a fatal outcome, therefore - early detection and treatment is of utmost importance.

Keywords: Hemophagocytic Syndrome, Parvovirus B19

CR105

A Young Female Patient Presenting With Recurrent Infective Endocarditis Secondary to Intravenous Drug Abuse: a Case Report

Maja Pavlovsky[1]; Aleksandar Kibel[2,4,5]; Antonio Kovačević[1]; Šimun Rezo[1]; Lea Paradinović[1]; Lucija Todić[1]; Tatjana Bačun[3,6]

1 – Faculty of Medicine, J. J. Strossmayer University of Osijek, Osijek, Croatia
2 – Department of Physiology and Immunology, Faculty of Medicine, J.J. Strossmayer University of Osijek
3 – Department of Internal Medicine, Faculty of Medicine, J.J. Strossmayer University of Osijek
4 – Scientific Centre of Excellence for Personalized Health Care, J.J. Strossmayer University of Osijek
5 – Department of Heart and Vascular Diseases, Osijek University Hospital
6 – Department of Endocrinology, University Hospital Centre Osijek

Introduction: Infective Endocarditis (IE) is an inflammation of the endocardium caused by microbial pathogens. It is a known infectious complication among intravenous drug addicts, with a high recurrence rate. The aim of this case report is to describe the characteristics and treatment approach of recurrent IE.

Case report: We present a 38-year-old female patient with a long history of intravenous drug abuse, diagnosed with opioid addiction and chronic hepatitis B. In 2015 she was hospitalized due to sepsis and pneumonia and diagnosed with IE with vegetations on the tricuspid valve (TV). The patient underwent TV repair surgery. She was re-hospitalized in 2017 and an aortic valve endocarditis was diagnosed. It was managed with antibiotics, and the vegetation resolved. In 2018, the patient was again diagnosed with IE and vegetations of the TV. She underwent TV replacement with a bioprosthesis. Her clinical course was complicated by development of third-degree AV block, with a consequent placement of a permanent epicardial pacemaker. During her last hospitalization in 2019 due to the development of side effects of linezolid, an examination was performed by a cardiac surgeon who recommended further cardiac monitoring after which the patient stopped coming for recommended follow up visits.

Conclusion: This case illustrates the challenges of recurrent IE treatment. IE is associated with intravenous drug use, which has a high recurrence rate due to drug use relapse and reinfections. Patients often require long-term hospitalization, intravenous antimicrobial therapy and if needed, cardiac surgery.

Keywords: Endocarditis, heart valves, opioid-related disorders, reinfection

CR106

Left ventricular hypertrophy: what to do? – case report

Leon Perić[1]; Ivo Vincetić[1]; Matea Petrinović[1]; Marko Stupin[1,2]

1 – Faculty of Medicine Osijek, University of J.J. Strossmayer, Osijek, Croatia
2 – Department for Cardiovascular Diseases, Osijek University Hospital, Osijek, Croatia

Introduction: 33-year-old male patient with no history of cardiovascular diseases and risk factors, presented with exertion chest pain in the last two months. The ECG showed increased precordial voltages, non-specific ST segment and T-wave abnormalities, and Q waves in lateral leads.

Case report: Although ECG was characteristic for hypertrophic cardiomyopathy (HCM), coronary artery disease had to be excluded. Echocardiography has a central role in diagnosis of HCM, so in this case it showed asymmetrically increased left ventricular wall thickness (intraventricular septum 17 mm), without obstruction of left ventricular outflow tract. Echocardiography also showed significantly reduced global longitudinal strain (-15.6%) with a typical pattern for HCM. Patient was tested for Anderson-Fabry disease with the results being negative which ruled out Anderson-Fabry disease. The patient had no syncope, showed no signs of heart failure and no malignant arrhythmias were observed by monitoring. Beta-blocker was included in the therapy in the maximum tolerated dose, and the patient was advised to avoid competitive sports activities and dehydration. To provide detailed information on cardiac morphology, ventricular function and myocardial tissue, cardiovascular magnetic resonance is recommended.

Conclusion: In most cases, HCM has an autosomal-dominant trait caused by mutations in cardiac sarcomere protein genes so genetic testing and family screening indicate if there are any features suggesting a specific disease. Regular echocardiographic and rhythm control monitoring is required.

Keywords: echocardiography; hypertrophic cardio-myopathy; left ventricular hypertrophy, sudden cardiac death, left ventricular outflow tract

CR107

Impact of Sleeve Gastrectomy on Obesity, Type 2 Diabetes Mellitus and Arterial Hypertension

Dora Petričević[1]; Lea Paradinović[1]; Ivan Prošić[1]; Ema Schönberger[1,2]; Ines Bilić – Ćurčić[1,2]; Daria Rimac Sladić[1,2,3]; Silvija Canecki – Varžić[1,2]

1 – Faculty of Medicine, J. J. Strossmayer University of Osijek, Osijek, Croatia
2 – Department of Endocrinology, University Hospital Centre Osijek
3 – Faculty of Dental Medicine and Health, J. J. Strossmayer University of Osijek, Osijek, Croatia

Introduction: Sleeve gastrectomy is a bariatric surgery created for long-term weight loss in obese patients. The procedure consists of resection of a major part of the stomach, consequently reducing gastric volume and secretion of hormones that act as appetite stimulants, therefore decreasing hunger and improving metabolic syndrome symptoms.

Case report: We present a case of 49-year-old male patient diagnosed with obesity, type 2 diabetes mellitus (T2DM), arterial hypertension (AH) and obstructive sleep apnea. In 2019., the patient weighed 280 kg and had a BMI of 79.22 kg/m^2. The highest measured blood glucose level (BGL) was 13 mmol/L, whereas glycated hemoglobin was 9.6%. His blood pressure (BP) was 180/100 mmHg. Prescribed medical therapy included empaglizofin, metformin, and antihypertensives. After the reduction diet did not result in successful weight loss, the patient opted for surgical treatment of obesity. In order to reduce BMI under 65 kg/m^2, prior to the procedure the patient was hospitalized in the Department of Abdominal Surgery to achieve better adherence to diet and to introduce the antiobesity medication – liraglutid. Upon the surgery, his body weight was 220 kg and BMI 62.25 kg/m^2. After the procedure, the patient was prescribed with a diet consisting of protein shakes and multivitamin supplementation and there were no postoperative complications. One year later, the patient weighed 186 kg and his BMI was 52.63 kg/m^2. Currently, his BGL are around 4.9 mmol/L along with BP 140/80 mmHg indicating great improvement compared to preoperative values.

Conclusion: This case report shows how sleeve gastrectomy can improve the quality of life in obese patients. Not only does it help reduce body weight, but it also undoubtedly improves comorbidity regulation.

Keywords: arterial hypertension, bariatric surgery, gastrectomy, obesity, type 2 diabetes mellitus

CR108

Cutaneous mastocytosis: Report of one case

Matea Petrinović[1]; Leon Perić[1]; Ivo Vincetić;[1] Vlatka Periša[1,2]

1 – Faculty of Medicine, J.J. Strosmayer University of Osijek, Croatia
2 – Clinical Hospital Center Osijek, Deparment of Internal Medicine, Osijek, Croatia

Introduction: Cutaneous mastocytosis is rare disase with good prognosis. It is a form of mastocytosis that primarily affects the skin. There are three main forms that vary in severity: maculopapular, solitary, and diffuse cutaneous mastocytosis.

Case report: In this case, we present a female patient, age of 20, who presented lichenoid changes on the skin of the lower extremities, which then spread to the trunk and arms. Changes are more distinctive after having a bath, but not followed by itchiness. At the age of 19, the patient underwent endometriosis surgery after which she started oral contraception (OC) treatment. During the 3-month break from OC, there was no regression of skin changes and it was concluded that the drugs were not the cause. A skin biopsy revealed hyperpigmentation of the basal layer, without elements for the diagnosis of Lichen planus. The epicutaneous test for standard allergens was negative. Meanwhile, the changes spread further across the torso and face. Only after the third biopsy, which showed proper epidermis, with a large number of mast cells and occasional eosinophils in the papillary dermis, a clinical-histological correlation was made and maculopapular mastocytosis was diagnosed. After the diagnosis, lab-tests, ultrasound of the neck, axilla, groin, abdominal ultrasound and chest X-ray were performed. There were no abnormal findings. Hematologically, follow-up was indicated without specific therapy.

Conclusion: Cutaneous mastocytosis may mimic other dermatological conditions. Since clinical presentation of this disorder is varied, high index of suspicion is required for clinical diagnosis and needs confirmation by histopathological examination.

Keywords: cutaneus mastocytosis, mastocytosis

CR109

Suicide attempt in a state of alcohol hallucinosis – case report

Jelena Pokos[1]; Ivan Šporčić[1]; Nikolina Zagorac[1]; Magdalena Zulumović[1]; Ozana Katarina Tot[1,2]; Anamarija Petek Erić[1,3]

1 – Faculty of Medicine, J.J. Strossmayer University of Osijek, Osijek, Croatia
2 - Department of Intensive Care Medicine, Clinic for Anesthesiology, Resuscitation and Intensive Care Medicine, Clinical Hospital Center Osijek, Osijek, Croatia
3 - Department of Acute and Biological Psychiatry and Intensive Care Medicine, Clinic of Psychiatry, Clinical Hospital Center Osijek, Osijek, Croatia

Introduction: Suicide is growing public health problem. This is a case report of a patient who survived a serious suicide attempt.

Case report: A 55-year-old man was brought in emergency hospital unit after suicide attempt by hanging. He was unconscious with narrow, isochoric and reactive pupils, twitching his hands on a painful stimulus. Glasgow Coma Scale of 5 required immediate intubation and sedation. Due to hemodynamic instability, he received noradrenaline and propofol. Radiological, neurological and neurosurgical examinations were performed and everything was in order. Seven days later, the patient was awake, extubated, breathed spontaneously with oxygenation on the mask. During follow-up in-patient treatment on psychiatric department, he was diagnosed and treated for psychotic state which developed due to abrupt alcohol cessation 3 months before suicide attempt – alcohol hallucinosis. He was initially occupied with ideas of jealousy towards his wife and subsequently developed persecutory ideas towards the environment. The patient denied the suicide attempt and claimed he did not remember it. He was tense, anxious, affectively distant, psychomotory retarded, without adequate insight, with cognitive deficits and pronounced personality traits which became evident upon stabilization of mental state. He was treated with antipsychotics, antidepressants, anxiolytics, hypnotics and anticholinergics. Stabilization of his mental state was achieved.

Conclusion: Although there is an awareness for suicide risk in alcoholism, it seems often underrecognized. This case shows everything we should try to avoid in clinical practice and the need to prompt people with alcohol addiction problem and their families to seek professional help before complications prevail.

Keywords: alcoholism, hallucinosis, suicide

CR110

A case of giant cell arteritis diagnosed with PET-CT imaging

Vinka Potočki[1], Antonia Precali[1], Margareta Dobrenić[2], Ivan Padjen[3]

1- University of Zagreb School of Medicine, Zagreb, Croatia
2 - Department of Nuclear Medicine and Radiation Protection, University Hospital Centre Zagreb, Zagreb, Croatia
3 - Division of Clinical Immunology and Rheumatology, Department of Internal Medicine, University Hospital Centre Zagreb and University of Zagreb School of Medicine, Zagreb, Croatia

Introduction: Giant cell arteritis (GCA) is a granulomatous arteritis that affects any large artery. It may present with cranial symptoms (headache acompanied with jaw pain and/or amaurosis) and constitutional symptoms like weight loss, fatigue and malaise. However, specific symptoms may be absent and GCA should be taken into account in the differential diagnosis of fever of unknown origin and in the context of polymyalgia rheumatica.

Case report: A 68-year-old female presented with a protracted cough (infectous cause excluded), elevated inflammatory markers, tingling and rigidity in her hands for 30 minutes after waking up, and cervicocephalgic pain from the shoulders to the occipital region with a tension-type headache that worsened as she moved her head and neck, all in two months of duration. After an extensive workup the patient was referred to a PET-CT scan. PET-CT imaging revealed increased uptake in the lining of large vessels, including the aorta, brachiocephalic truncus, and both carotid, subclavial and axilary arteries. Shortly after confirming the diagnosis of GCA, the patient was started on methylprednisolone and leflunomide, leading to relief of symptoms and normalization of laboratory parameters.

Conclusion: To summarize, we report a case of GCA accompanied by polymyalgic symptoms. The inflammation was detected by PET-CT imaging, which enables the assessment of inflammation of large arteries.

Keywords: giant cell arteritis, vasculitis, PET-CT imaging

CR111

Obstruction of the superior mesenteric artery with elevation of cardioselective enzymes: a case of double infarction

Vinka Potočki[1], Luka Antolković[2]

1 - University of Zagreb School of Medicine, Zagreb, Croatia
2 - Department of Cardiology, University Hospital Dubrava, Zagreb, Croatia

Introduction: Acute small bowel ischemia is most frequently caused by an embolus from the heart or aorta. It can also be caused by the consequences of atherosclerosis. Our patient had acute small bowel ischemia and elevated cardioselective enzymes. These enzymes can be evidence of myocardial necrosis which is the main pathological event in an acute myocardial infarction, and in our case, indicated two infarctions: in the bowel and the heart.

Case report: A 89-year-old male was admitted to the ER because of severe abdominal pain in the right hemiquadrant, an urge to vomit, and a somnolent state. Shortly after admitting the patient into the coronary unit, elevated cardioselective enzymes were detected, specifically creatine kinase (CK) and high sensitivity troponin I. CK and troponins aren't always pathognomonic for myocardial necrosis; in some cases, they indicate mesenteric ischemia. However, the dynamic growth of the values of these enzymes accompanied by a non-persistent ST elevation on the electrocardiogram indicated the appearance of two ischemias which happened simultaneously, probably due to advanced generalized atherosclerosis. Abdominal X-ray and ultrasound were normal. Multislice computed tomography (MSCT) angiography of the abdomen revealed an embolus in the right branch of the superior mesenteric artery, spasm of arterial arcades, and weak postcontrast imbibition of the wall of the small intestine. Unfortunately, shortly after the diagnosis, the patient's state got progressively worse which led to death.

Conclusion: To summarize, we report a case of double infarction detected by the presence of elevated cardioselective enzymes and ST elevation.

Keywords: ischemia, myocardial infarction

CR112

Anti – vascular endothelial growth factor (anti – VEGF) drugs for diabetic macular oedema and diabetic retinopathy

Ana Prica[1], Vesna Ćorluka[2], Bojan Puzić[2], Krešimir Parat[2]

1 – Faculty of Medicine, J.J. Strossmayer University of Osijek, Osijek, Croatia
2 – General county hospital Vinkovci, Vinkovci, Croatia

Introduction: Diabetic retinopathy alongside other ocular pathologies that develop due to diabetes are one of the leading causes of blindness associated with the vascular bed of the eye. Pertaining to their pathogenesis, vascular endothelial growth factor (VEGF; released from platelets) induces vascular endothelial cell proliferation is the illness' primary initiator. In such cases, anti – VEGF drugs are given via injection into the eye.

Case report: A 63 – year – old female with previously diagnosed diabetes mellitus type 2 (poorly regulated) was admitted to the ophthalmology ward in January 2021 with complaints regarding her vision. Due to the existing ailment, further tests and imaging were done. Intraocular pressure was normal while a cataract in its starting stages was visible in the biomicroscopy of the anterior segment of the eye. Furthermore, fundus and red free imaging have shown large intraretinal haemorrhage nasal from *papilla nervi optici*; there were also visible hard lipid exudates (with corresponding hyperreflective areas intraretinally) and numerous spotting haemorrhages. Ocular coherence tomography scan showed oedema in the macula as well as intraretinal fluid accumulation (cystoid space). Binocular diabetic retinopathy and diabetic macular oedema were confirmed. She was referred to the retinology department of the Ophthalmology clinic in the health care centre of Osijek for a second opinion and to eventually start the anti – VEGF injection therapy.

Conclusion: When such a patient has been evaluated and confirmatory tests have been put forward, treatment can begin, followed by frequent check – ins: the goal of which is to improve the patient's vision in the long run (management of intraocular pressure).

Keywords: anti – vascular endothelial growth factor, anti – VEGF, diabetic macular oedema, diabetic retinopathy

CR113

Convenience and benefits of hybrid closed loop system

Ivan Prošić[1]; Dora Petričević[1]; Lea Paradinović[1]; Ines Bilić – Ćurčić[1,2]; Maja Gradinjan Centner[2]; Daria Sladić Rimac[1,2,3]; Silvija Canecki – Varžić[1,2]

1 - Faculty of Medicine, J. J. Strossmayer University of Osijek, Osijek, Croatia
2 - Department of Endocrinology, University Hospital Centre Osijek
3 – Faculty of Dental Medicine and Health, J. J. Strossmayer University of Osijek, Osijek, Croatia

Introduction: Type 1 diabetes mellitus (T1DM) is a chronic condition in which the pancreas produces little or no insulin due to the autoimmune destruction of pancreatic beta cells. Treatment focuses on managing glucose plasma (GP) and insulin replacement therapy. This can be achieved through the implementation of an insulin pump and/or by manually applying insulin injections.

Case report: We present a case of a 25-year-old male being treated for T1DM for the last 20 years. He was treated with an insulin pump and a flash glucose monitor (FGM) which were not interconnected and automatized, thus the patient developed a poor record of glycemic control with frequent hypoglycemic incidents, especially after administration of after-meal boluses and during the night. However, no chronic complications were registered. Consequently, he was entitled to the new Medtronic MiniMed 780G insulin pump and Guardian Link 3 continuous glucose monitoring (CGM) device, which measures GP 24/7 and correspondingly adjusts insulin delivery. Since then, he has reported a significant decrease in the number of his hypoglycemic episodes and his quality of life greatly improved compared to the previous pump and FGM system.

Conclusion: The hybrid closed loop system is a modern, more convenient method that helps patients with T1DM to more precisely manage their glycemic variability consequently improving their day-to-day activities and further reducing the possibility of hypo or hyperglycemic incidents.

Keywords: Blood glucose control, Glycemic control, Hypoglycemia, Type 1 Diabetes Mellitus

CR114

Implementation of pharmacogenetics in treating acute myelomonocytic leukemia

Matilda Pudić[1]; Inga Mandac Smoljanović[2]

1 - School of Medicine / University of Zagreb, Zagreb, Croatia
2 - Department of Hematology / Clinical Hospital Merkur, Zagreb, Croatia

Introduction: Genetic variability of metabolic pathways could be one of the causes of the interindividual differences in drug metabolism and clinical outcome. Therefore, personally adjusted drug doses are necessary for optimal effect – side effect ratio.

Case report: A 42-year old female patient with insignificant medical history has been diagnosed with acute myelomonocitic leukemia, AML-M4, FLT3 positive. The patient received induction chemotherapy with daunorubicin and cytarabine (3+7 regimen) and standard antimicrobial prophylaxis including posaconazole. On day eight of the induction cycle, FLT3 inhibitor midostaurin was started. Ten days after midostaurin introduction, the patient presented with severe nausea and vomiting. Routine ECG revealed bradycardia with prolonged QT interval, with clinical signs of hearth failure, Echocardiogram indicated diastolic dysfunction with moderate mitral regurgitation. Cardiovascular therapy has been added and midostaurin dose reduced, but due to the worsening of the symptoms, two days later midostaurin was discontinued. Pharmacogenetic testing revealed lower activity of CYP2C19 with intermediary metabolism of azoles and weak transport activity of MDR1 (ABCB1) 3435C > T. Due to induction failure, the patient received re-induction with CLAG-M with complete response. Antimicrobial and other concomitant drugs have been given according to pharmacogenetic findings.

Conclusion: Pharmacogenetic variability in individuals might predict treatment outcome in acute myeloid leukemia patients. We report a significant association between the risk of drug toxicities and pharmacogenetic profile in CYP2C19. Clinical and laboratory data together with pharmacogenetics, in case of overly sensitive patient, could predict further toxicities and guide individualized treatment in AML.

Keywords: AML; drug metabolism; drug toxicity; pharmacogenetics

CR115

Early diagnosis and multidisciplinary treatment of CHARGE syndrome

Nika Pušeljić[1]; Ivana Jurić[1]; Petra Raguž[1]; Lucija Todić[1]; Ana Dukić[2]; Ema Poznić[3]; Silvija Pušeljić[1,3]

1 - Faculty of Medicine, University of Osijek, Osijek, Croatia
2 - Faculty of Dental Medicine and Health Osijek, University of Osijek, Nova Gradiška, Croatia
3 - University Hospital Center, Department of pediatric, Osijek, Croatia

Introduction: The abbreviation “CHARGE” denotes the nonrandom association of coloboma, heart anomalies, choanal atresia, growth retardation, genital and ear anomalies. The aim was to show the importance of early diagnosis and multidisciplinary treatment for an individual with CHARGE syndrome (CS).

Case report: We present a case of 15 months old male child born prematurely at 34 weeks of gestation with intrauterine growth retardation, and postnatally with several developmental defects. The phenotype includes dolichocephalic head, high forehead, saddle root of the nose, blepharophimosis, gothic palate, microretrognathia. Among the associated developmental defects, he has congenital choanal atresia that has been surgically corrected, laryngotracheomalacia, hypoplasia of the callosum corpus with possible gyration disorders, septal heart defect, and cryptorchidism. Magnetic resonance of the brain verified ventriculomegaly and hypoplasia of the corpus callosum. Due to this clinical presentation Whole Exome Sequencing was performed which revealed a variant of the pathogen in the *CHD7* gene (8-61757422-GT-G; c.4852del,), confirming the clinical suspicion of CS. Pathogenesis of multiple anomalies in CS may be caused by the collapse of a cell-type-specific gene expression program in the neuroepithelial progenitor population which is sufficient and affect a wide range of neural defects throughout human fetal development.

Conclusion: This presentation expanded the range of clinical manifestations of CS which can help with challenging differential diagnosis of this syndrome. Supportive and corrective therapies postnatally, focused on controlling infection, improving breathing, and feeding, are essential for the prognosis of patients which highlights the importance of an early diagnosis and multidisciplinary approach for the affected individual.

Keywords: CHARGE syndrome, *CHD7*, Choanal Atresia, Cryptorchidism

CR116

Complications of improper ICD electrode extraction in 28 year-old patient

Jurica Putrić Posavec[1], Jakov Emanuel Bogdanić[1], Tomislav Cigić[3], Dinko Ezgeta[1], Marin Boban[1], Vedran Velagić[1,2]

1 - School of Medicine, University of Zagreb, Zagreb, Croatia
2 - Cardiology Department, The University Hospital Centre Zagreb, Zagreb, Croatia
3 - Department of Emergency Medicine, Karlovac County, Karlovac, Croatia

Introduction: Imblantable Cardioverter Defibrilator (ICD) is a device which works both as a pacemaker and defibrilator. It detects arrhythmias in patients and provides therapy with an electric shock. Studies have shown ICDs to have a role in preventing cardiac arrest in high-risk patients who haven't had, but are at risk for, life-threatening ventricular arrhythmias. Infections of newly implanted ICD devices are one of the most common complications of implantation procedure, however, following the standard procedure could prevent unwanted outcome.

Case report: In April of 2021 a 28 year old male patient was brought to the Cardiology Department for an infected ICD electrode removal. Medical record showed the patient had an ICD implantation in 2011 due to a total AV node block. In 2016, the device pocket decubitus occured as a late complication and the device was unfoundedly replaced with a standard pacemaker. In July of 2017 the pacemaker was malpositioned and had to be removed with the electrode, surprisingly, being left in its position. The patient had no cardiovascular symptoms until April of 2021, when the electrode got infected and needed to be extracted. Laboratory results showed *Staphylococcus epidermidis* infection. The operation went without any further complications. Afterwards, the patient was treated with vancomycin and left the hospital in good condition.

Conclusion: It is highly unrecommendable not to extract all parts of the ICD/pacemaker device because it could be a source of a new infection of the area, an additional cost to the hospital and unnecessary incommodity for the patient.

Keywords: complication, electrode, heart, implantable cardioverter defibrilator, infection

CR117

Neuroendocrine tumor of unknown primary origin

Andrea Racetin[1] ; Borislav Belev[2,3]

1 - School of Medicine – University of Zagreb, Zagreb, Croatia
2 - Department in Medical Oncology, University Hospital Centre Zagreb, Zagreb, Croatia
3 - Department of Pathophysiology, School of Medicine, University of Zagreb, Zagreb, Croatia

Introduction: NETs are neoplasms originating from neuroendocrine cells mostly localized in gastrointestinal and bronchopulmonal tracts. Although in the majority of the cases the primary origin of the tumor can be identified, in approximately 11-22 % no primary tumor is found and such cases are called NETs of unknown primary origin (UPO). Despite detailed diagnostics primary origin of some cases remains unknown even after prolonged follow-up.

Case report: 36-year old woman, appendectomized as child, otherwise previously healthy. In April 2006 noted enlarged lymph node in the neck which was removed and histopatology revealed neuroendocrine tumor. After comperhensive diagnostic evaluation, other enlarged lymph nodes were found but primary origin of the tumor remained unknown. Treatment was continued at University hospital Uppsala, Sweden, with exploratory duodenotomy, investigation with intraoperative ultrasound and excision of tumorous lymph nodes. Histopathology revealed a well-differentiated neuroendocrine tumor positive for chromogranine and synaptophysin. Postoperative, she developed chylous ascites which was treated by removing fluid and parenteral low fat diet. Between 2007 and 2019 patient developed several metastases of the bone and other lymph nodes and was treated with temozolomid and lanreotide. Therapy was continued with octreotide and has continued up to nowdays, as „maintanance treatment“. The primary origin of the tumor has not been found yet.

Conclusion: According to the literature, NET of unknown primary origin is rare, usually arising from an occult gastrointestinal site. This case presents a rare manifestation of oligometastatic disease with good response to systemic treatment and favorable biological profile.

Keywords: NET, octreotride, UPO

CR118

Cytological and histological diagnosis of multiple endocrine neoplasia type 2b – A case report

Zlatka Radičević[1,2], Darija Damjanović[1], Adela Benkotić[3], Biljana Pauzar[2,3], Jasmina Rajc[1,3]

1 - Department of Pathology and Forensic Medicine, University Hospital Centre Osijek,
2 - Faculty of Medicine, J.J. Strossmayer University of Osijek,
3 - Clinical Department of Clinical Cytology, University Hospital Centre Osijek

Introduction: Multiple endocrine neoplasia type 2b (MEN2b) is a very rare autosomal dominant syndrome characterized by early presented medullary thyroid carcinoma (MTC), pheochromocytoma and extra-endocrine features (marfanoid habitus, mucosal neuromas, ophthalmological and gastrointestinal signs). The prognosis of the disorder is related to the aggressiveness of the MTC, which often metastasizes within the first year of life. Even though, the disease can be cured with early thyroidectomy, diagnosis of MEN2b syndrome is often made too late.

Case report: We report a case of 24 year old female patient presented with a thyroid nodule and enlarged cervical lymph nodes at the age of 15. Cytologic evaluation of both findings showed cellular smears with round cells, eccentric nuclei and abundant well circumscribed amphophilic cytoplasms containing red granulationes, suggestive of a metastatic MTC. Imaging methods showed metastasis in mediastinum, lung, liver, sternum and pubic bone. Patient underwent a total thyroidectomy and extensive surgical excision of above mentioned metastases. Five years after the surgery, she started experimental treatment with Cabozantinib. At the age of 22, patient went through the surgical excision of the nodules placed bilaterally on the buccal mucosa, and histologic evaulation revealed bundles of disorganised and tortuous hypertrophic nerve fibers surrounded by collagen connective tissue consistent of mucosal neuroma specific to MEN2b syndrome.

Conclusion: Consequently, with an average life expectancy of 30 years, early recognition of MEN2b syndrome is crucial.

Keywords: multiple endocrine neoplasia type 2b, medullary thyroid carcinoma, mucosal neuroma

CR119

Aminotransferase elevation and anemia as the only clinical manifestation of the celiac disease in twins

Petra Raguž[1], Klara Ormanac[1], Dominik Seletković[1], Eleonora Strujić[1], Dea Sabo[1], Nika Pušeljić[1], Vlatka Konjik[2]

1 - Faculty of Medicine, University of Osijek, Cara Hadrijana 10E, Osijek, Croatia
2 - University Hospital Center, Department of pediatric, Division of gastroeneterology, hepatology, pulmonology, allergology and immunology, Josipa Huttlera 4, Osijek, Croatia

Introduction: Celiac disease is an immune-mediated enteropathy that occurs in genetically predisposed individuals exposed to gluten. Although it most commonly affects the gastrointestinal system, it can also be manifested by an extraintestinal symptoms or be asymptomatic. The aim was to present a case of accidentally detected asymptomatic celiac disease in two identical twins with very unspecific biochemical characteristics as the only clinical sign of the disease.

Case report: The case shows two identical twins with asymptomatic celiac disease. At the age of 2, one of the brothers was hospitalized due to a recurrent cerebral affective crisis. Elevated aminotransferases and sideropenic anemia were observed as part of routine laboratory work. He had no other symptoms. After excluding other potential causes of elevated aminotransferases, celiac disease was suspected and serological analysis performed, was positive. Given the importance of genetic predisposition in the pathogenesis of celiac disease, the asymptomatic screening for the other brother was performed too. Immunogenetic and biochemical characteristics were the same. Diagnosis was confirmed for both by a biopsy, and after starting a gluten-free diet, the findings have returned to normal.

Conclusion: Celiac disease, characterized by a wide range of symptoms, is also called "a disease with a thousand faces" and as such is a major diagnostic challenge. Although elevated aminotransferases and anemia are common findings in celiac disease, if found as an isolated finding, they are very nonspecific and difficult to diagnose in the direction of celiac disease. This case is that much more interesting because of the fact that shows not only the wideness of its clinical presentation, but also the role of the genetic background.

Keywords: anemia, celiac disease, elevated aminotransferases

CR120

Suspicious left-sided supraclavicular lymphadenopathy following COVID-19 vaccination: a case report

Robert Rončević[1]; Alen Rončević[2]; Anja Tomić[3]

1 - University Hospital Center Osijek, Department of Diagnostic and Interventional Radiology
2 - University Hospital Center Osijek, Department of Neurosurgery
3 - Dom Zdravlja

Introduction: Vaccination is the most effective way of combating COVID-19 and like every other vaccine, the vaccine against COVID-19 causes certain side effects, including regional lymphadenopathy – with axillary lymphadenopathy being the most common. Left supraclavicular lymph nodes (Virchow's) are sentinel lymph nodes of various tumors of the abdomen and pelvis, and reactive lymphadenopathy in this region is relatively uncommon.

Case report: Otherwise healthy 40-year-old patient reported a painless palpable lump in the left supraclavicular region, 2 weeks after the first dose of Pfizer-BioNTech COVID-19 vaccine. Systemic symptoms such as fever and general weakness were not present. Ultrasound examination at the site of palpable formation visualized enlarged, cortically thickened lymph node with preserved fatty hilum. Ultrasound examination of the breast and neck showed no other pathology. Due to atypical localization, we decided to perform fine-needle aspiration of the altered lymph node. Transformed lymphatic cells, some histiocytes and erythrocytes were found in the lymph node sample. Cytological findings confirmed the result of reactive lymph node hyperplasia.

Conclusion: The differential diagnosis of lymphadenopathy is broad and includes infection, inflammatory changes, but also advanced malignancy and lymphoma. When using imaging methods to examine altered lymph nodes, the clinician and radiologist should obtain the date of vaccination, the type of vaccine, and the site of application. To avoid the use of invasive methods such as biopsy and any additional diagnostics, a more conservative approach in the form of short-term ultrasound controls is recommended.

Keywords: Lymphadenopathy, vaccine, COVID-19

CR121

Once unthinkable, today everyday life

Robert Rončević[1]; Zdravka Krivdić Dupan[1]; Ivana Canjko[2]

1 - University Hospital Center Osijek, Department of Diagnostic and Interventional Radiology
2 - University Hospital Center Osijek, Department of Oncology

Introduction: According to data, in Croatia lung cancer is the second most common cancer in men, and third in women. There are two groups of lung cancers: small cell and, more commonly, non-small cell lung cancer (NSCLC). In about 5% of NSCLC, impaired gene expression of anaplastic lymphoma kinase (ALK) occurs and consequently a fusion oncogene is formed. ALK-positive NSCLC is very sensitive to ALK inhibitors and alectinib represents the first line of treatment for advanced cases.

Case report: We present the case of a 36-year-old otherwise healthy, non-smoking man. He first presented with prolonged dry cough, persistent low-grade fever, tiredness, and general weakness. As a part of diagnostics, pleural punction and analysis were performed, which indicated metastatic adenocarcinoma. Pathohistological analysis of the lung tissue biopsy confirmed NSCLC, and immunohistochemistry analysis showed ALK positivity. With further diagnostic procedures, metastases were found in the pleura, lungs, lymph nodes, liver, skin, bones and thyroid gland. According to the classification of lung tumors, the stage of malignancy was IV (T4N3M1c). Alectinib was introduced and after 34 cycles of therapy and 32 months after initial diagnosis, patient is in complete remission, with no signs of the underlying disease.

Conclusion: Our case highlights a patient with highly advanced stage of lung cancer with numerous extra thoracic metastases. By detecting specific mutations in tumor cells and acting with appropriate novel drugs, it is possible to prolong and increase the quality of life of patients who were once doomed to palliative care.

Keywords: Alectinib, NSCLC, ALK

CR122

Epileptic seizure as the first manifestation of multiple sclerosis

Dea Sabo[1]; Eleonora Strujić[1]; Petra Raguž[1], Klara Ormanac[1], Mirna Matišić[1]; Jelena Šarić Jurić[2]; Stjepan Jurić [1,2]

1 - Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 - Department of Neurology, University Hospital Center Osijek, Osijek, Croatia

Introduction: Multiple sclerosis (MS) is an inflammatory demyelinating disease of the central nervous system, most frequently of the relapsing-remitting type. Because of the wide spectrum of neurological symptoms, MS is still difficult to diagnose. We report the case of a patient with an epileptic seizure as the first manifestation of multiple sclerosis.

Case report: A thirty-one-year-old woman suffered a car accident as the driver of a vehicle. While driving she felt as if she was reliving an event, after which she lost consciousness. For the last 2 years, she has been having disturbances of consciousness that she describes as an unusual reliving of dreams or former events. The neurological examination found no neurological signs. Within the emergency processing, a brain CT scan was done and showed as normal. The EEG showed focal discharges in the left frontotemporal lobe. The brain MRI showed diffused T2-weighted-Fluid-Attenuated Inversion Recovery (T2-FLAIR) hyperintensity lesions, which correspond to the demyelination lesions of specific etiology. The lesions are juxtacortical, in the deep white matter, and periventricular. The lumbar punction shows oligoclonal bands. Evoked potentials are shown as normal. Based on the results, multiple sclerosis and focal epilepsy were diagnosed. Lamotrigine and glatiramer acetate are prescribed as a therapy.

Conclusion: The incidence of epileptic seizures in patients with MS is higher than in the general population. In most cases, the seizures come after MS has already been diagnosed, and very rarely as a first manifestation. The causal link between these diseases is still unclear. It is assumed that the newly formed cerebral lesions in MS patients support the occurrence of focal seizures.

Keywords: multiple sclerosis, epilepsy, seizures

CR123

HACEK endocarditis and its epiphenomena

Mihovil Santini[1]; Maja Sirovica[1]; Martina Lovrić Benčić[1,2]

1 - School of Medicine, University of Zagreb, Zagreb, Croatia
2 - University Hospital Center Zagreb, Zagreb, Croatia

Introduction: The HACEK group of bacteria is a rare cause of infective endocarditis with a good prognosis if properly identified. However, delay in diagnosis can lead to life-threatening complications and even death. The aim of this case report is to emphasize the clinical presentation of HACEK endocarditis and its epiphenomena.

Case report: A 50 year-old caucasian male with recurrent fever of unknown etiology, night sweats and weight loss was initially admitted to the rheumatology department. He was followed by a hematologist due to anemia (chronic disease) and mono- and polyclonal hypergamma-globulinemia with a positive rheumatoid factor and sterile blood cultures. After one of the outpatient examinations, the patient was hospitalized due to the deterioration of his general condition. Two weeks before hospitalization he developed pain in the lumbosacral spine (subsequently diagnosed as septic discitis), while 5 days before hospitalization transient purpuric changes of the lower leg were observed. During hospitalization he developed sepsis and cardiac decompensation which were treated with antibiotics and congestive heart failure therapy. Echocardiography revealed severe mitral regurgitation with mitral valve endocarditis (HACEK-*Aggregatibacter aphrophilus* was isolated from a blood culture). Infection control was not achieved by antibiotics and therefore mitral valve replacement with a mechanical prosthesis was indicated and successfully performed. Afterwards the patient was discharged in very good condition.

Conclusion: Long-term unregulated infection and the epiphenomena of endocarditis can present as various hematological and immunological conditions as well as septic emboli and therefore infective endocarditis should always be considered in the differential diagnosis.

Keywords: HACEK endocarditis, Hypergammaglobulinemia, Recurrent fever

CR124

Microduplication 1p13.3 with unclear clinical influence in children with intellectual deficiency and obesity-case report

Dominik Seletkovic[1], Petra Raguž[1], Nikola Zelić[1], Domagoj Soldo[1], Klara Ormanac[1], Leon Perić[1], Silvija Pušeljić[1,2]

1 - Faculty of Medicine, University of Osijek, Cara Hadrijana 10E, Osijek, Croatia
2 - University Hospital Center, Department of pediatric, Division of neurology, genetic, metabolic disease and endocrinology, Josipa Huttlera 4, Osijek, Croatia

Introduction: Microduplication 1p13.3 is a rare genetic disorder that is either inherited or caused by a de novo mutation. The aim was to present a child with microduplication of region 1p13.3 described in literature with non-ST elevation myocardial infarction, facial dysmorphism, hyperactivity, hypoplastic or absent corpus callosum, autism and intellectual disability.

Case report: We present a 14 year-old-boy, born as the first child of young and healthy parents from a normal pregnancy. The delivery was in time, completed by caesarean section due to fetal macrosomia. Birth weight was 5100 g, birth length 54 cm, Appgar score 10/10. In the second generation of the family on the mother's side there are two female children with global developmental delay, one of whom has been diagnosed with DiGeorge's syndrome. Boy has elements of facial dysmorphism: wide tip of the nose, deeper set eyes, chunky fists, thicker fingers with diffuse obesity, and moderate intellectual disabilities. At the age of 13 he developed type 2 diabetes mellitus. Molecular karyotyping revealed microduplication of 1p13.3 of paternal origin. Due to intellectual disabilities, constant care is required.

Conclusion: A review of the DECIPHER database described only a few cases of paternal origin of 1p13.3 microduplication with clinical findings of intellectual disability, ataxia, and behavioral disorders. In the mentioned duplicated region there is one pathogenic gene SLC25A24 which is associated with the development of hypertrophic cardiomyopathy and ophthalmoplegia. The second oncogene VAV3 in the duplicate region is associated with the development of meningioma and glaucoma. In our patient according to current knowledge of impact of changes in this region, we can't yet reliably link the identified microduplication with the clinical phenotype of our patient.

Keywords: intellectual disability, obesity, inheritance.

CR125

A case series of Trichinosis in people in eastern Croatia

Matea Smajić[1], Damir Tolić[1], Luka Medić[1], Marta Poje[1], Ema Schönberger[2], Ljiljana Perić[1,3], Petra Smajić[1,3]

1 - Faculty of Medicine, J. J. Strossmayer University of Osijek, Osijek, Croatia
2 - Clinical Hospital Cnetre Osijek, Department of Endocrinology, Osijek, Croatia
3 - Clinical Hospital Centre Osijek, Department of Infectious Diseases, Osijek, Croatia

Introduction: Trichinosis is a parasitic disease caused by eating raw/undercooked meat infected with *Trichinella* larvae. Objective of this report is to present a case series of Trichinosis caused by *Trichinella spiralis*.

Case report: This report presents 22 similar cases of infection with *Trichinella spiralis* in Osijek-Baranja County, which occurred in December 2021 following the consumption of raw pork of unknown origin. The diagnosis was made clinically based on diarrhoea, myalgia and periorbital oedemas that appeared 3 weeks following the consumption of raw meat in 17 people in close surroundings and in 5 patients sporadically. It was serologically confirmed in 14 patients. Most common laboratory findings in most patients included eosinophilia and increased levels of lactate dehydrogenase (LDH), creatine kinase (CK) and high-sensitivity serum troponin (hsTnI). Their median blood eosinophil percentage was 14.50 % (normal range 0-7 %), median level of serum LDH was 312 U/L (normal range 130 – 241 U/L), of CK = 727 U/L (normal range 17 – 153 U/L) and of hsTnI = 78.2 ng/L (normal range < 51.4 ng/L). There was one case of suspected myocarditis in a 51-year-old patient with hsTnI level = 4225.8 ng/L. However, he was discharged from the hospital after 5 days without confirmed myocarditis. All patients responded well to therapy that included taking 3x200 mg of mebendazole for 12 days.

Conclusion: This case series shows how to detect and treat Trichinosis early. Even though its incidence in Croatia was very low in the past 15 years, Trichinosis should always be kept in mind, especially in eastern Croatia.

Keywords: eosinophilia, myocarditis, periorbital oedemas, trichinosis, *Trichinella spiralis*

CR126

Alcohol and cannabinoid dependence in emotionally unstable personality

Domagoj Soldo[1]; Dominik Seletković[1]; Jelena Pokos[1]; Dunja Degmečić[1,2]

1 – Faculty of Medicine, J.J. Strossmayer University of Osijek, Osijek, Croatia
2 – Psychiatric Clinic, Clinical Hospital Center Osijek, Osijek, Croatia

Introduction: Alcohol dependence is becoming a growing medical and public health problem for both adults and young people. The severity of alcoholism as a disease is influenced by a number of genetic, psychological and cultural factors.

Case report: We present the case of an 18-year-old patient who was admitted to the Psychiatric Clinic in 2021 due to alcohol addiction. Psychiatric heredity in the family is positive, the father suffers from post-traumatic stress disorder, and the mother has problems with depression. The patient has panic attacks with occasional aggression during childhood. She has finished primary school, and she dropped out of high school after her parents divorced. She currently lives with a mother she avoids and a brother with whom she has a solid relationship. Since 2016, she has been in psychiatric treatment due to emotional instability, propensity to self-harm and suicide attempts of which there have been 4 in the last 5 years. Suicidal attempts were using psychopharmaceuticals and cutting veins on the wrist, but also hanging. For a long time, she consumed strong alcoholic beverages every day until she was completely intoxicated and abused various psychopharmaceuticals as well as marijuana. She fails to establish abstinence on her own. Self-injury scars are present on the lower and upper extremities. During the conversation, she is conscious and adequate in contact, declaratively critical of her condition, but states that she would again exhibit suicidal behavior and continue to consume alcohol.

Conclusion: The patient is diagnosed with alcohol dependence and cannabinoid abuse in addition to depressive disorder and emotionally unstable personality.

Keywords: stress, alcoholism, depression

CR127

Regression of psychomotor development caused by acute necrotizing encephalopathy: a case report

Eleonora Strujić[1], Ena Bandov[1], Iva Mijatović[1], Klara Ormanac[1], Petra Raguž[1], Dea Sabo[1], Andrea Šimić Klarić[1,2]

1 – Faculty of Medicine Osijek; Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 – General County Hospital Požega, Department of Pediatrics, Požega, Croatia

Introduction: Acute necrotizing encephalopathy usually occurs following a viral infection. Along with infection symptoms, affected individuals develop neurological symptoms such as convulsions, ataxia, abnormal muscle tone. The damage of the brain is permanent, although some functions can recover.

Case report: A 13-month-old boy, with normal psychomotor development, presented with febrile temperature in March 2015. He was given cefalexin, but soon refused to eat, vomited, became adynamic, somnolent, with occasional twitches of the extremities. The boy was admitted to the hospital and developed recurrent convulsions. Electroencephalography showed slow waves and epileptiform activity. Magnetic resonance imaging (MRI) showed areas of acute demyelination. He was diagnosed with acute necrotizing encephalopathy, most probably caused by human herpesvirus type 6 (HHV6). The treatment included acyclovir and oseltamivir, later replaced with ganciclovir and corticosteroids. Phenobarbitone was given for convulsions. Post-acute neurological examination showed regression in neurologic functions: visual, hearing, and severe motor impairment with bulbar paralysis. The boy required intensive physical therapy, specifically Bobath, Vojta and speech therapy. Regular neuropediatric check-ups over the years showed slight improvement in the boy's neurologic functions. Phenobarbitone was discontinued in the end of 2019. Last check-up was in November 2021, the boy is currently 7 years-old, can stand up, has hearing aid, can understand speech, but still doesn't produce it.

Conclusion: Viral infections can cause a great damage to the undeveloped brain. If the damage occurs, physical therapy and rehabilitation may be crucial to regain some of the lost functions and ensure the best possible quality of life.

Keywords: encephalopathy, herpesvirus 6, physical therapy

CR128

Malignant arterial hypertension accompanied by severe proteinuria - causes and treatment

Branko Šego[1]; Fran Popović[1]; Mario Špoljarić[1]; Neven Tripić[1]; Stipe Vidović[1]; Matej Lovrić[2]; Ivana Tolj[3]

1 - Faculty of Medicine / Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 - School of Medicine / University of Mostar, Mostar, Bosnia and Herzegovina
3 - Department of Nephrology / University Hospital Osijek, Osijek, Croatia

Introduction: IgA nephropathy is a disease characterized by formation of immune complexes between galactose deficient IgA1 and antibodies produced to aforementioned immunoglobulin, which are subsequently deposited in mesangium. Process is accompanied by complement activation and glomerulosclerosis. Most common clinical features are acute nephritic syndrome, hematuria and arterial hypertension.

Case report: We present a case of 36 years old male with IgA nephropathy. A patient was first admitted to hospitalization due to malignant hypertension and renal insufficiency of unknown cause. Kidney biopsy was performed and diagnosis of IgA nephropathy has been made. Treatment included cycles of methylprednisolone which was given in three days span. However, a year later, patient presents himself with worsening of overall condition, high blood pressure and exacerbation od 24-hour urine protein test. After further examination, it has been concluded that patient entered terminal phase of chronic kidney disease and patient was instructed to begin hemodialysis accordingly. Few days later, a patient is once again hospitalized due to vomiting and increase in BP. Following second exacerbation, minor modifications to existing antihypertensive therapy were made as well as to hemodialysis frequency which was increased to three times a week.

Conclusion: IgA nephropathy is a common glomerulopathy. Patients presenting with hematuria, especially younger males, should be aware of this disease since it has good prognosis if treated appropriately.

Keywords: Berger's Disease, IgA Glomerulonephritis, IgA Nephropathy

CR129

Young boy with gelastic epilepsy: long-term follow up

Luka Šižgorić[1], Andrija Miculinić[2] , Matilda Kovač Šižgorić[3], Hrvoje Jednačak[4]

1 - School of Medicine, University of Zagreb, Zagreb, Croatia
2 - Department for Pulmology and Alergology for preschol and school children, Children's Hospital Srebrnjak, Zagreb, Croatia
3 - Department od Neuropediatric and Sleep disorders, Children's Hospital Srebrnjak, Zagreb,Croatia
4 - Division of Neurosurgery, University Hospital Center Zagreb, Zagreb , Croatia

Introduction: Gelastic epilepsy (from Greek „gelos" - laughter) is a rare form of epilepsy characterized by atack of laughter that can follow a tonic clonic convulsions or loss of postural tone. The incidence is 0.1% of patients with epilepsy. Usually begins in early childhood and often remain unrecognized for long time. The origin may be of frontal lobe lesions, atrophy, tuberous sclerosis, hemangiomas, and hypothalamic hamartomas. The disease has a progressive course, accompanied by endocrine, behavioral and cognitive aberrations.

Case report : We report a boy now age 14,2 years with gelastic epilepsy. At the age of 2 years he started with the attacks of laughter followed by mydriasis and flexion spasm of the right side of the body. In the clinical status, weaker muscle strength was observed on the right side of the body. EEG after sleep deprivation showed focal bilateral changes FPT with secondary generalization. The brain MR showed hypothalamic hamartoma. During the years of follow-up, the boy took a number of antiepileptic drugs, mono or polytherapy, in order to delay surgical treatment. At the age of 12, after 10 years of follow-up, he underwent surgery for the first time. A year later, tumor remnants were reoperated. He is currently clinically stable with polytherapy, waiting invitation to a foreign center for another neurosurgical opinion.

Conclusion: Successful selected antiepileptic therapy can alleviate the progressive course of disease and delay the surgical treatment till the moment in which quality of life is impaired.

Keyword : hypothalamic hamartoma, gelastic epilepsy

CR130

Ranking neurological disability in patient with an Anterior Spinal Artery Syndrome: a case report

Mario Špoljarić[1], Krunoslav Buljan[1,2]

1 - Faculty of Medicine Osijek, University Josip Juraj Strossmayer of Osijek, Osijek, Croatia
2 - University Hospital Centre Osijek, Clinic of Neurology, Osijek, Croatia

Introduction: Anterior spinal artery syndrome (ASAS) is an extremly rare cause of ischemic acute spinal cord infarction, which usually involves complete motor paralysis and loss of pain and temperature perception distal to the lesion. Main goal of this case report is objective assessment of neurological disability using Modified Rankin Scale (mRS) and NIH Stroke Scale (NIHSS).

Case report: 56-year-old male was brought into the emergency department with weakness in his upper extremities that occurred during circular head movement. Upon emergency admission mRS score was +3, and NIHS score was 8. Magnetic resonance imaging showed acute cervical disc extrusion in region C V-VI with cervical myelopathy. Computed tomography angiography of intracranial and extracranial vessels did not show abnormalities. Day after admission patient developed diplegia of upper extremities with plegia of his right leg. MRS score was +4, and NIHS score was 15. Control magnetic resonance imaging verified anterior spinal artery infarction with signal abnormality in anterior halt of the cervical cord from C3-C6. After two weeks of treatement patient was referred to rehabilitation center with mRS score +2, and NIHS score 4. After three weeks of rehabilitation the patient has minimal motor deficit on the right side extremities with mRS score of +1, and NIHS score 2.

Conclusion: Modified Rankin Scale and NIH Stroke Scale are effective tools for objective assessment of neurological patients. These scales are used by health care practitioners to objectively quantify the impairment.

Keywords: Anterior spinal artery, Assessment, Infarction, Plegia

CR131

37-year-old patient with non-traumatic, non aneurysmal perimesencephalic subarachnoid hemorrhage (SAH): a case report

Mario Špoljarić[1], Krunoslav Buljan[1,2]

1 - Faculty of Medicine Osijek, University Josip Juraj Strossmayer of Osijek, Osijek, Croatia
2 - University Hospital Centre Osijek, Clinic of Neurology, Osijek, Croatia

Introduction: Subarachnoid hemorrhage is most often caused by rupture of aneurysm on the intracranial artery. Source of bleeding in case of non-traumatic perimesencephalic SAH is often hard to identify. One of the key characteristic is a collection of blood in perimesencephalic or prepontine area and it is often venous blood.

Case report: A 37-year-old patient was brought to the hospital due to a severe intensity headache localized in the occipital area with diffuse forward irradiation which lasted 3 days. Neurological status at admission was normal, without signs of meningism, Hunt-Hess grade I. Computed tomography showed hyperdense content in the perimesencephalic area and basal cisterns which corresponded to blood. CT angiography showed normal morphology of the arteries of the Willis circle, without showing the right posterior cerebral artery. Digital subtraction angiography showed a neat morphology of the posterior cerebral circulation with no visible aneurysms. During hospitalization, the patient was hemodynamically stable with normal state of consciousness and without neurological deficits, and also with gradual reduction and cessation of headache. The patient was treated with crystalloid solutions, analgesics, and with continuous nimodipine therapy (to reduce arterial spasm). The patient had normal neurological status at discharge.

Conclusion: Non-traumatic, non-aneurysmal subarachnoid hemorrhage is characterized by a collection of blood of venous origin in the perimesencephalic region in the absence of aneurysms or arterial-venous malformations. The prognosis for SAH of this type is generally good, and unlike other aneurysmal hemorrhages, patients have no deficit.

Keywords: Subarachnoid Hemorrhage, Intracranial Aneurysm, Headache

CR132

Individualized approach in early treatment and sequencing of multiple sclerosis

Ivan Šporčić[1], Jelena Pokos[1], Nikolina Zagorac[1], Magdalena Zulumović[1], Tea Marošević Zubonja[1,2]

1 – Faculty of Medicine, J. J. Strossmayer University of Osijek, Osijek, Croatia
2 – University Hospital Center, Department of Neurology, Osijek, Croatia

Introduction: Multiple sclerosis (MS) is the most common demyelinating disease that can affect the brain and spinal cord. This case report aims to show the importance of an individualized approach in the early treatment of multiple sclerosis.

Case report: We present a case of a 29-year-old woman with multiple sclerosis. In March 2014. the patient was admitted to Emergency Room because of vertigo, instability, and transient diplopia which lasted 10 days. Neurological status showed hypoaesthesia of right extremities without motoric deficit, retropulsion in Romberg, broad-based gait. EDSS score was 3,0. MR showed active demyelinating lesions indicating multiple sclerosis. Lumbar puncture showed positive oligoclonal bands. The patient was started on pulse corticosteroid therapy with Solumedrol 1000mg IV. First-line immunomodulatory therapy Rebif was introduced as a response to disseminated demyelinating changed which were found at follow-up MR. The patient complained about flu-like symptoms and redness at the site of injection and consequently skipped therapy multiple times which led to a relapse of the disease. A dilemma arose should the patient be started on second-line immunomodulatory therapy or continue with first-line with the change of drug due to side effects. The patient was continued on first-line therapy with dimethyl fumarate. The patient showed improved quality of life, decreased fatigue levels (M12-M24), improved walking endurance, and no new MR lesions. The patient currently works full time.

Conclusion: Treatment of multiple sclerosis is becoming ever more complex and it requires an individualized approach with the involvement of the patient in therapeutical decisions.

Keywords: Dimethyl Fumarate, Diplopia, Hypoesthesia, Multiple sclerosis, Vertigo

CR133

SARS-CoV-2 and EBV coinfection – entity more common than we think?

Luka Švitek[1,2]; Dario Sabadi[1,2]; Nika Vlahović[1,2]; Petra Smajić[1,2]; Bernarda Berišić[1]; Ljiljana Perić[1,2]; Dubravka Lišnjić[1,2]

1 – Clinic for Infectious Diseases, Clinical Hospital Center Osijek, Osijek, Croatia
2 – Faculty of Medicine, J.J. Strossmayer University of Osijek, Osijek, Croatia

Introduction: SARS-CoV-2 as an emerging public health problem occupied scientific community in the last two years. It is a respiratory virus with many non-respiratory manifestations.

Case report: A 33-year-old patient was hospitalized on 10th day of COVID-19. When admitted, patient was fulfilling criteria for severe COVID-19. Laboratory check-up was done. Aspartate-aminotransferase (AST) was 43 U/L and alanine-aminotransferase (ALT) was 38 U/L. Patient was treated with corticosteroids and low-molecular-weight heparin, he recuperated and continued treatment in home environment. At check-up on 22nd day since onset of the disease his AST was 113 U/L, ALT 225 U/L, and on 30th day his AST was 135 U/L, ALT 296 U/L. Serology for hepatitis, Epstein-Barr virus (EBV) and cytomegalovirus (CMV) was done. Results suggested primary EBV infection. Since EBV incubation lasts 4-6 weeks it is to presume that patient was having EBV when he got COVID-19. Serum PCR for EBV-DNA was done, and result came back positive. Through this time patient reported severe fatigue. After 42 days since first COVID-19 symptom patient was feeling healthy, his AST was 18 U/L, ALT 42 U/L.

Conclusion: Since hepatic lesion is common in COVID-19 it is usually neglected during check-up. Could it be a sign of another viral infection, could fatigue reported after COVID-19 be connected to other etiology? In this patient, an answer was yes, but was it an isolated case or is this more common than we think? Clinical trials are required to determine importance of findings like this.

Keywords: Coinfection; Herpesvirus 4, Human; SARS-CoV-2

CR134

Pneumothorax as a complication of Covid-19 infection in patients on non-invasive ventilation

Ines Tamaš[1], Petra Markuš[1], Toni Maloča[1], Leon Terek[1], Marta Milošević[1], Jelena Miletić[1], Slavica Kvolik[1,2]

1 - Faculty of Medicine Osijek, Study of Medicine, University of J. J. Strossmayer, Croatia
2 - Clinical Hospital Centre Osijek, Clinic of Anesthesiology, Intensive Care and Intensive Care, Osijek, Croatia

Introduction: The onset of SARS-COV-2 infection results in viral lung infection. In the patients with pulmonary emphysema, it may develop bullae and end in pneumothorax.

Case report: A 50-year-old adipose SARS-COV-2 positive patient, BMI 35.4kg / m^2, arrives on the 14th day of illness that began with fever, daily subfebrile fever, and difficulty breathing. Due to pneumonia and deterioration of the respiratory function. caused by SARS-COV-2 infection patient was transferred to the Respiratory Center (RC). Upon admission to the RC, he was awake, conscious, dyspneic SpO2 50%, hemodynamically stable, afebrile, maintained diuresis, no severe pain. Inflammatory consolidates of both the lower and middle left pulmonary fields, with pleural effusions, were radiologically verified. He was non-invasively mechanical ventilated using helmet (PEEP 5, P supp 10, FiO2 0.9, SpO2 97%), and HNFC later, (FiO2 0.7-0.8, 50L / min). *Clostridium difficile* Ag and toxin A / B positive were isolated from stool. The patient was treated with vancomycin, Metronidazole, Solumedrol 80mg i.v, Clexane 2x80mg s.c, ASKA 100mg, Esomeprazol, with other symptomatic therapy. When the patient was no longer contagious, he was transferred to the ward during the recovery phase. He was still oxygenated via NIV CPAP respirator and then he developed pneumothorax. A thoracic drain was placed and removed after 4 days with continued symptomatic therapy. On day 16th he was discharged home.

Conclusion: Pneumothorax may be a complication of noninvasive ventilation in obese COVID-19 patients. The goal of pneumothorax therapy is complete re-expansion of the lungs and normalization of pulmonary function during recovery from COVID-19.

Keywords: viral pneumonia, obesity; SARS-Cov-2, non-invasive mechanical ventilation

CR135

Case report - Perioperative procedures in a COVID-19 positive neurosurgical patient

Leon Terek[1]; Petra Markuš[1]; Toni Maloča[1]; Jelena Miletić[1]; Marta Milošević[1]; Ines Tamaš[1]; Slavica Kvolik[1,2]

1 - Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 - Clinical Hospital Center Osijek, Department of Intensive Care Medicine, Osijek, Croatia

Introduction: Delays are common in cancer surgery due to COVID-19 pandemic. This case report describes perioperative procedures in a COVID-19 positive neurosurgical patient.

Case report: Ms. T.B. was urgently hospitalized on 27.12.2021 for additional diagnosis and treatment of dizziness and gait instability with drift to the left. Both CT and MR of the brain revealed multiple tumors in the frontal and in the left cerebellar lobe. The origin of the primary tumor was unknown. The surgery planned for 10.1.2022 was postponed because the patient tested positive for COVID-19 (8.1.2022). The patient is in self-isolation. After 8 days when it was obvious that COVID-19 infection was asymptomatic, the patient underwent surgery. In the postoperative course she was admitted to the Intensive Care Unit (ICU), and was sedated, intubated, mechanically ventilated. She was eurythmic, afebrile and was awake in the ICU. Hypertension (>140 mmHg) and hyperglycemia (10.04 mmol/L) were treated with perindopril/ indapamide / amlodipine and insulin aspart. The patient is currently breathing independently, SpO2 in room air is 93-96%. It is possible to establish verbal contact, but she answers the questions slowly.

Conclusion: In COVID-19 positive surgical patients it is necessary to determine the urgency of the surgical procedure. Emergency surgical procedures aimed at preventing permanent disability and death of patients, must be performed on COVID-19 positive patients with all protective measures. In the case presented, the operation was postponed due to the risk of COVID-19 infection for the patient himself. In due course, the patient was rescheduled for surgery due to the tumor growth.

Keywords: COVID-19, operation, patient

CR136

Lemierre's syndrome-case report

Lucija Todić[1]; Ivana Jurić[1]; Nika Pušeljić[1]; Vedrana Pavlović[1]; Maja Pavlovsky[1]; Ana Dukić[3]; Damir Mihić[1,2]

1 - Faculty of Medicine, University of Josip Juraj Strossmayer, Osijek, Croatia
2 - University Hospital Center, Department of Internal Medicine, Intensive care unit, Osijek, Croatia
3 - Faculty of Dental Medicine and Health, University of Josip Juraj Strossmayer, Nova Gradiška, Croatia

Introduction: Lemierre's syndrome(LS) is a rare life-threating condition caused mainly by Fusobacterium necrophorum(FN) which occurs in children and young adults. LS is characterized by thrombophlebitis of the internal jugular vein and bacteremia, following a recent oropharyngeal infection. Treatment involves antibiotic therapy combined with anticoagulants. The aim was to show the importance of an early diagnosis and treatment which leads to an increased survival rate of the patients.

Case report: We present a previously healthy 19-year-old female patient administered to Intensive care unit from infectious disease clinic by suspicion of septic shock. Five weeks prior, she had streptococcal pharyngitis which, a few days before hospitalization, led to worsening in her clinic state characterized as prostration, febrility, neck and shoulder pain accompanied by soreness with limited movement. Upon hospitalization, patient was hypotensive, oliguric, with high CRP and thrombocytopenic. Signs of right shoulder and arm oedema were present, accompanied with crepitations in the shoulder. X-ray showed supraclavicular and hemithoracic subcutaneous emphysema along with pleural effusion. Emergency computer tomography showed abscess in the posterior cervical triangle, peritonsillar and parapharyngeal space, thrombosis of internal jugular vein along with hepatomegaly. Parenteral volume resuscitation, broad spectrum antibiotics, anticoagulants, vasoactive therapy, and emergency surgery to drain the infected area was performed. Antibiogram swabs taken during surgery were positive on FN. Tracheotomy and continuous veno-venosus hemofiltration was indicated after the surgical procedure. After 7 days of treatment, patient showed regression of symptoms and fully recovered.

Conclusion: This case shows the importance of an early diagnosis of LS especially due to its rare condition and need for emergency treatment. An early diagnosis and treatment lead to the best outcome among patients.

Keywords: Lemierre syndrome, Fusobacterium necrophorum

CR137

Cardiometabolic consequences of obesity

Damir Tolić[1]; Dorian Garac[1]; Mirela Okolić[1]; Matea Smajić[1]; Ines Bilić-Ćurčić[1,2]

1 – Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 – University Hospital Center Osijek, Department of Internal Medicine, Osijek, Croatia

Introduction: Diabetes mellitus type 2 (DMT2) is one of the most common chronic conditions worldwide. DMT2 is usually associated with obesity thus significantly increasing risk of cardiovascular incidents and mortality. The aim of this case report is to demonstrate synergystic effect of empagliflozin, a sodium glucose transporter 2 inhibitor (SGLT2i) and dulaglutide, glucagon-like peptide 1 receptor agonist(GLP-1 RA) on cardiometabolic syndrome.

Case report: A 66-years-old man with cardiometabolic syndrome came to Diabetes Center outpatient clinic in May 2020. His body weight was 114kg, body mass index (BMI) 37.25kg/, fasting plasma glucose (FPG) 11.8mmol/l and glycated hemoglobin (Hba1c) 9.4%. Current therapy at the time was glimepiride (sulphonylurea) in combination with sitagliptin (dipeptidyl peptidase 4 (DPP-4) inhibitor) and metformin which was then replaced with empagliflozin, metformin and dulaglutide 1.5mg weekly. After 3 months patient lost 9kg and reduced Hba1c to 8.8%. He was recommended to continue with his therapy. In January 2021, patient's body mass was the same and Hba1c decreased by 0.2%. In order to improve metabolic regulation the dose of dulaglutide was further increased up to 4.5mg weekly. In December 2021, the patient lost 16 kg, Hba1c was decreased to 7.1% and FPG reduced to 7.2 mmol/l.

Conclusion: Our report shows the effectivennes of pharmacological therapy including two drug classes with proven cardiovascular benefit in DMT2 patients, SGLT2I and GLP-1RA in reducing Hba1c and body mass. This way we can protect patients from developing cardiometabolic complications.

Keywords: diabetes mellitus, obesity, cardiometabolic syndrome, GLP-1RA, SGLT2i

CR138

Amoebic colitis in an HIV-infected male patient

Nina Trepić[1]; Nikola Janjatov[1]; Vanja Andrić[1,2]

1 – Faculty of medicine, University of Novi Sad, Novi Sad, Serbia
2 – Clinic for Infectious Diseases in Novi Sad, Clinical Center of Vojvodina, Novi Sad, Serbia

Introduction: Amoebic colitis results from infection of the colonic mucosa by Entamoeba histolytica. It typically presents with symptoms of diarrhea with blood in the stools, although the symptoms can be nonspecific and closely simulating ulcerative colitis or Crohn disease on clinical grounds. Amoebiasis has been recognized as an emerging sexually transmitted infection, especially among homosexual men.

Case report: A 45-year-old male, who had diarrhea with traces of blood and mucus, underwent colonoscopy and was diagnosed with Inflammatory Bowel Disease (M. Crohn) for the first time in June 2015. Therapy with anti-inflammatory drugs and corticosteroids was initiated. After reappearance of symptoms, the patient was hospitalized. Stool samples for bacterial pathogens and the clostridium difficile toxin A/B were negative, but Candida spp was found in large numbers. A CT scan of the abdomen and pelvis and colonoscopy confirmed the diagnosis of chronic active colitis. Starting biological therapy was considered and as part of the preparation for the therapy itself, the patient was tested also for HIV, with a positive result. After improvement of his general condition, he was discharged. Later, findings of clippings of the colonic mucosa taken during colonoscopy confirmed E. histolytica, therefore the diagnosis of amoebic colitis was established. On revision of the diagnosis, corticosteroids and anti-inflammatory drugs were excluded from therapy, and antiretroviral therapy was introduced.

Conclusion: Chronic diarrhea in HIV patients can have many possible etiologies and can be an early symptom of acute HIV infection. Therefore, we emphasize the importance of conducting HIV testing, in order to provide adequate treatment.

Keywords: Amoebic colitis, Crohn disease, HIV

CR139

Interdisciplinary approach and early integration of palliative care in improving the outcome of treatment in a lung cancer patient

Nina Trepić[1]; Tomi Kovačević[1,2]

1 – Faculty of Medicine, University of Novi Sad, Novi Sad, Serbia
2 – Institute for Pulmonary Diseases of Vojvodina, Sremska Kamenica, Serbia

Introduction: Palliative care is a specific medical approach focused on quality-of-life improvement and on providing patients relief from symptoms of a serious illness in physical, psychosocial and spiritual aspects.

Case report: A 42-year-old male patient, was diagnosed with lung adenocarcinoma of the right upper lobe, stage T1bN2M1b, in August 2019. Specific tumor treatment was applied in two lines. The first line was initiated after diagnosis in 30 cycles until March 2021. Due to disease progression, in June 2021, treatment was continued with second line protocol in four cycles until August 2021. During specific oncological treatment, the patient was introduced to a palliative medicine specialist, already in October 2019. The therapy for the physical symptoms of chest pain, persisting throughout the treatment, was adjusted according to his needs. After diagnosis the patient started socially isolating himself, which only contributed to worsening of his psychological state, characterized by hopelessness and pessimism. Improvement in this aspect has been made by consulting the palliative medicine specialist when needed and taking advices, focusing not only on physical, but also on other aspects of the tumor burden. This interdisciplinary approach contributed to a better general condition of the patient, allowing him to make peace with an incurable disease and to be able to live a normal life.

Conclusion: Palliative care approach in this case, lead to improvement of quality in all aspects of life, which enabled the patient to return to work. Early integration of palliative medicine should be the imperative for all patients diagnosed with incurable diseases.

Keywords: lung cancer, incurable disease, inter-disciplinary, palliative care

CR140

Massive pulmonary embolism following HIPEC in treatment of appendiceal mucinous adenocarcinoma

Ines Trkulja[1], Marin Davidović[2], Lucija Brkić[1, 2], Petar Matošević[1, 2]

1 - School of Medicine University of Zagreb, Zagreb, Republic of Croatia
2 - Department of Surgery, University Hospital Centre Zagreb, Zagreb, Republic of Croatia

Introduction: Appendiceal mucinous neoplasms (AMN) are rare tumors, mostly of neuroendocrine origin, and appear in less than 1% of all neoplasms. Mucinous adenocarcinomas represent only 0.2-0.3%. Treatment of this malignancy is unpredictable, especially when postoperative complications arise. The cytoreductive procedure followed by hyperthermic intraperitoneal chemotherapy (HIPEC) is the standard of treatment. Among other postoperative complications, venous thromboembolism occurs in 4-4.4% of cases.

Case Report: The first admission of a 63-year-old female was for suspected gangrenous appendicitis. Median laparotomy revealed a large amount of mucin, a perforated right ovary, and an altered appendix. Intraoperative biopsy confirmed mucinous adenocarcinoma of appendiceal origin. Mitomycin and doxorubicin were administered in the second procedure during HIPEC. After discharge, the patient was readmitted for progressive dyspnoea. Electrocardiography (ECG) showed S1Q3T3 pattern - a typical sign of right ventricle overload. Computed tomography (CT) angiography showed massive pulmonary embolism: saddle embolus and contrast filling defects distally from the right pulmonary artery. Low molecular heparin therapy was urgently introduced. Further respiratory deterioration and overload symptoms warranted an additional thrombolytic pharmacotherapy (alteplase). The patient fully recovered and is oncologically monitored.

Conclusion: Venous thromboembolism is a common postoperative complication, but in this case, it is unknown if the HIPEC procedure additionally increased risk. A fast and correct diagnosis is crucial, as well as urgent medication.

Keywords: Adenocarcinoma, Mucinous; Hyperthermic Intraperitoneal Chemotherapy; Postoperative complications; Pulmonary embolism; Thrombolytic Therapy

CR141

Immune deregulation in patient with PANDAS, case report

Ema Turkalj[1], Marijana Udovičić[1], Matilda Kovač Šižgorić[2], Mirjana Turkalj[2,3,4]

1 – School of Medicine, University of Zagreb
2 – Children's Hospital Srebrnjak, Srebrnjak 100, Zagreb
3 – Faculty of Medicine, J. J. Strossmayer University of Osijek
4 – Medical Studies, Catholic University of Croatia

Introduction: PANDAS (Pediatric Autoimmune Neuro-psychiatric Disorder Associated with Streptococcal infection) is an autoimmune disorder initially triggered by streptococcal infections. The aetiology of PANDAS is still unclear. The leading theory suggests that the proteins found on the surface of the streptococcus bacteria mimic the proteins found in the basal ganglia of the brain. The immune system produces antibodies, intended to fight an infection, and instead mistakenly attacks healthy tissue in the child's brain, resulting in inflammation of the basal ganglia and inducing a sudden onset of neuropsychiatric, behaviours and movement disorders.

Case report: A 12-year-old boy presented with early-onset of obsessive/compulsive and neuromotor dysfunction (tics, hyperactivity) and the diagnosis was made almost two years after the onset of the first symptoms. He had recurrent symptom exacerbations (flares) after strep infection but later also when exposed to other (non-strep) infections. Elevated levels of antistreptolysin titers were found, as well as anti-DNAse-B levels. Attention disordes were present and he had sleeping and speech difficulties. Decline in school performance was also presented. We did not found pathological changes in EEG, and with neuroimaging he did not have any speciffic findings. In addition diagnostics, immunophenotyping of peripheral blood were made with decreased level of memory B cells, switched memory B cells, and nonswitched memory B cells.First-line antibiotics were given and partial regression of symptoms was registered. Therapy with intravenous immunoglobulin were given after initial antibiotic treatment with incomplete regression, as well.

Conclusion: Children and adolescents suffering from PANDAS often go unrecognized or are misdiagnosed. Effective treatment must properly target the infection if present, and address the underlying immune system issues.

Keywords: Autoimmune Disease ; Basal Ganglia ; Obsessive/Compulsive Disorder ; Streptococcal Infection

CR142

How to diagnose primary ciliary dyskinesia, case report

Marijana Udovičić[1], Ema Turkalj[1], Željko Ferenčić[2], Mirjana Turkalj[2,3,4]

1 – School of Medicine, University of Zagreb
2 – Children's Hospital Srebrnjak, Srebrnjak 100, Zagreb
3 – Faculty of Medicine, J. J. Strossmayer University of Osijek
4 – Medical Studies, Catholic University of Croatia

Introduction: Primary ciliary dyskinesia (PCD) is a genetically heterogeneous condition with various clinical manifestations including chronic sinopulmonary disease, otitis media with impaired hearing, situs viscerum inversus and infertility. There is no specific test for diagnosing PCD. Diagnosis is based on clinical presentation, nasal nitric oxide, electron microscope, genetic testing and immunofluorescence.

Case report: A 13-year-old girl, presenting at birth with symptoms of neonatal respiratory distress (tachypnea, hypoxemia). During the first 3 years of her life she had recurring upper respiratory tract and middle ear infections. By the time she was 6, she had six hospitalizations regarding recurring pneumonias. She had repeated exacerbations characterized by difficulty breathing with bronchoopstruction. She was diagnosed with asthma and allergy testing found sensitization to multiple allergens. When she was 6-years-old, the flexible bronchoscopy and therapeutic endoscopic lavage were performed. Bronchial aspirate came positive with *H. influenzae*a nd *S. viridans.* Samples of respiratory mucosa were analyzed by an electron microscopeand we made the definitive diagnosis of PCD. From ages 6-9, she was clinically stable, and from 9-11, she had 3 pneumonias. Chest MSCT in age 11 showed situs inversus and bilateral bronchiectasis in lingula, middle and lower left lobe. Consolidations and mucosal edema were present in upper right lobe and lung bases showed minimal pleural adhesions. We treated her with respiratory physiotherapy, topical steroids, broncho-dilators, secretolytics, antibiotics in exacerbations and prophylactic antibiotic during Autumn/Winter months.

Conclusion: PCD is often diagnosed in late stage when there are present complications and irreversible lung changes (bronchiectasis) with chronic respiratory pathogen colonization.

Keywords: Bronchiectasis ; Child ; Chronic Disease ; Cilia

CR143

Individual, holistic physical therapy as a major part of conservative treatment of sciatica at 21 century

Ivan Veber[1]; Antea Kršek[2]; Marinko Žulj[1,3]

1 - Department of Clinical Medicine / J.J. Strossmayer University of Osijek, Faculty of dentalmedicine and health Osijek, 31000 Osijek, Croatia
2 - The Faculty of Medicine of the University of Rijeka, 51000 Rijeka, Croatia
3 - Department of Internal Medicine / J.J. Strossmayer University of Osijek, Faculty ofMedicine, 31000 Osijek, Croatia

Introduction: Sciatica is a common clinical condition at 21 century. If not treated properly, it can be very disabling, agonizing and life changing.

Case report: We present the case of a 50-year-old obese forestry technician who suffered from moderate low back pain during work and daily activities for 2 months. He reported that he had been under physical and mental stress lately. After lifting a heavy load his condition greatly deteriorated, eventually developing into severe pain, stiffness and tingling in his right leg. He has a history of lower back pain. At initial examination patient reported pain 9/10 on a Visual Analogue Scale (VAS). Lasègue test positive. Oswestry Disability Index (ODI) was 85%. Magnetic resonance imaging (MRI) scans show disc bulging at the L2-3, L3-4, L5-S1 and disc extrusion at the L4-5 level. One neurosurgeon suggested surgery and the other conservative treatment that the patient eventually opted for. After 4 weeks of physiotherapy which included massage, spinal decompression therapy, DNS technique, core stability exercises, swimming and pool exercises, as well as relaxation techniques, risk factor modification, ergonomics consulting, weight loss and lifestyle change, patient reported 0/10 pain on VAS and ODI was 6%.

Conclusion: There is still much debate as to whether surgical or conservative treatment of sciatica is better. Individual, holistic physiotherapy, which aims to promote physical and psychological health, in this case proved to be a beneficial component of conservative treatment of sciatica for a successful recovery process.

Keywords: physiotherapy, sciatica, treatment

CR144

Total avulsion of ingrown toenail in family practice

Dorotea Vidaković[1], Ana Gmajnić[2], Stefan Topuzović[3], Ivanka Maduna[4], Petra Jurić[5] , Dora Karl[3], Rudika Gmajnić[1,2,3]

1 - Family medicine, private practice Rudika Gmajnić, Dom zdravlja Osijek, Park kralja Petra Krešimira IV, 6, Osijek, Croatia
2 - Medical Faculty "Kallos" Tuzla, Tuzla, Bosna i Hercegovina
3 - Faculty of Medicine Osijek, The J.J. Strossmayer University Osijek, Osijek, Croatia
4 - Family medicine, Private practice Tatjana Vuletić-Vuica, Otokara Keršovanija 3, Osijek, Croatia
5 - Health center of Osijek-Baranja county,Osijek, Osijek, Croatia

Introduction: An ingrown toenail (onychocryptosis or unguis incarnatus) is a condition in which the nail plate of the toe grows into the surrounding tissue, causing inflammation and infection. A total nail avulsion (TNA) is a procedure that includes the removal of the entire nail. The aim of this paper is to show the process of a performed TNA in a family medicine clinic (FM).

Case report: The patient comes to the FM clinic with an ingrown nail of the hallux. The affected area is painful, swollen and the skin is erythematous. The patient agrees to have TNA in a family medicine clinic (FM). The procedure area is sterile prepared. A local anesthetic is injected into the hallux. An elevator is used to separate the nail plate from the toe. The nail plate is cut and removed entirely with scissors. A procedure area is flushed with saline and sterile dressed. The patient is informed about postoperative care.

Conclusion: TNA is a procedure of short duration, has a low risk of complications, and with adequate equipment and education can easily be performed in an FM.

Keywords: hallux, ingrown nail, nail avulsion

CR145

Patient with anteroseptal STEMI and drug-resistant hyperlipidemia

Stipe Vidović[1], Marko Mešin[1], Branko Šego[1], Marin Dujmović[1], Hrvoje Roguljić[1,2]

1 - Faculty of Medicine Osijek, University Josip Juraj Strossmayer of Osijek, Osijek, Croatia
2 - University Hospital Centre Osijek, Clinic of Internal Medicine, Department of Cardiology, Osijek, Croatia

Introduction: STEMIs make up about 30% of all AMIs and are associated with atherosclerosis in about 95% of cases. In principle atherosclerosis is an inflammatory response to the presence of lipid particles in the wall of blood vessels, especially LDL. In addition to a number of risk factors of 21st century lifestyle, hyperlipidemia is one of the key etiopathogenetic factors for the development of atherosclerosis. This case-report shows a patient with anteroseptal STEMI with the presence of hyperlipidemia that does not respond to maximal drug therapy.

Case report: 47-year-old patient with a medical history of hyperlipidemia was hospitalized due to chest pain. EKG indicated anteroseptal STEMI. Blood test results relieved elevated cardioselective enzymes, C=5.24[mmol/l], HDL_C=0.88[mmol/l], LDL_C=3.77[mmol/l] and TGC=1.17[mmol/l]. Coronarography showed total occlusion on D1 LAD. PCI LAD was performed with 1DE stent implantation. The patient was discharged for home treatment in a clinically stable condition with the appropriate therapy including Calipra(80mg) and Elanix(10mg). Over the next year LDL remains significantly elevated despite therapy. Coroswer(40 / 10mg) is included instead of Calipra and Elanix. On the lipidogram done after 2 months LDL levels were still elevated (LDL=3.0[mmol/l]). After the inclusion of Atoris (80mg) and Elanix (10mg), LDL remains elevated (LDL=3.1[mmol/l]). A genetic test is negative for familial hypercholesterolemia.

Conclusion: This case presents a patient with anteroseptal STEMI and hyperlipidemia. Hyperlipidemia as an important predisposing factor for the development of atherosclerosis and AMI, is “drug-resistant” in this patient.

Keywords: drug-resistant, hyperlipidemia, STEMI

CR146

Mucinous breast cancer: A case report

Ivo Vincetić[1]; Marko Vincetić[1]; Leon Perić[1]; Matea Petrinović[1]; Kristina Bojanić[1,2,3]

1 - Faculty of Medicine Osijek, J.J. Strossmayer University of Osijek, Osijek, Croatia
2 - Faculty of Dental Medicine and Health Osijek, J.J. Strossmayer University of Osijek, Osijek, Croatia
3 - Dom zdravlja Osječko-baranjske županije, Osijek, Croatia

Introduction: Mucinous breast cancer (BC), also called colloid BC, is a rare type of invasive ductal BC, representing between 1 and 4% of BC. As a "special histology" BC, it shows better prognostic feature, but a challenging differential diagnosis.

Case report: We report a case of an 88-year-old woman, with no family history of BC, who was admitted to have mammography. She felt a harder formation in the upper left quadrant of her left breast. Mammography showed that the formation had certain benign radiomorphological characteristics such as oval shape and mostly regular borders. Since it was a newly formed breast formation in older female patient, we did a complementary breast ultrasound. During ultrasound examination, an 18,7x10,7 millimetre formation in the upper left quadrant was diagnosed. Elastography showed that the lesion was soft and the patient was referred to a core biopsy. Due to technical reasons, instead of the core biopsy, cytological puncture of the formation was performed. Mucinous adenocarcinoma has been diagnosed. It was positive to estrogen and progesterone receptors, meaning it can be neoadjuvantly treated. MRI was also performed and it showed oval-shaped lobulated formation that imbibes contrast rapidly after application, but without recorded washout - so the possible infiltration cannot be ruled out. The patient was not operated on, so anastrozole, which is a nonsteroidal aromatase inhibitor, was included in the therapy.

Conclusion: Mucinous breast cancer is a very rare type of BC and it differs from the typical carcinoma in radiomorphological characteristics. Therefore, timely diagnosis and treatment are difficult and great care should be taken with these patients.

Keywords: Breast MRI, breast ultrasound, mammography, mucinous carcinoma

CR147

Cardiac amyloidosis: A case report

Ivo Vincetić[1]; Leon Perić[1]; Matea Petrinović[1]; Marko Vincetić[1]; Marko Stupin[1,2]

1 - Faculty of Medicine Osijek, J.J. Strossmayer University of Osijek, Osijek, Croatia
2 - Clinical Hospital Centre Osijek, Department of Internal Medicine, Osijek, Croatia

Introduction: An 81-year-old man, who have a cardiomyopathy with high-grade diastolic dysfunction and chronic kidney disease, which is in exacerbation, presented with dizziness and bradycardia.

Case report: ECG showed low QRS amplitude in standard leads. Furthermore, an echocardiography of the heart was performed and shown biventricular cardiomyopathy of hypertrophic walls and high-grade diastolic dysfunction. There were also reduced global longitudinal strain of left ventricle: -16.5% and incomplete apical sparing which is a typical pattern for amyloidosis. Given the ECG and echocardiography of the heart amyloidosis was suspected and extensive diagnostic methods were initiated. Scintigraphic findings showed slightly diffuse accumulation of radiopharmaceuticals in the heart area and 1.03 H / CL ratio. According to the laboratory findings, there were elevated levels of free light chain lambda, pathological ratio of light chains and proteinuria with >3g in 24-hour urine. Immunophenotyping of bone marrow showed 2-3% of monoclonal plasma cells and pathohistological analysis of adipose tissue, with congo staining, was negative. Patient received reduced therapy for heart failure due to lower blood pressure values. Mortality rate in these patients is high and they usually die within six months to a year after proper diagnosis, as in the above-mentioned case, the patient died before his diagnosis was confirmed.

Conclusion: Severe diastolic heart failure should prompt a further search for subtle signs on echocardiography that indicate possible amyloid deposition disease. Use of systolic strain analysis increases the specificity of echocardiography for diagnosis of amyloidosis. Echo results combined with specific clinical symptoms and results of a hematology workup can be used to diagnose cardiac amyloidosis when other, less common tests are not available or invasive testing is not desirable.

Keywords: Amyloidosis, apical sparing, cardiomyopathy

CR148

"Broken Heart Syndrome": A case report

Ivo Vincetić[1]; Matea Petrinović[1]; Marko Vincetić[1]; Leon Perić[1]; Marko Stupin[1,2]

1 - Faculty of Medicine Osijek, J.J. Strossmayer University of Osijek, Osijek, Croatia
2 - Clinical Hospital Centre Osijek, Department of Internal Medicine, Osijek, Croatia

Introduction: A 59-year-old woman with a number of cardiovascular risk factors and chronic coronary syndrome presented with sudden chest pain in the last two days when her husband died. ECG showed ST elevation in inferolateral leads and troponin levels were significantly raised.

Case report: Although ECG was characteristic for acute myocardial infarction, coronary angiography did not show culprit lesion and acute coronary syndrome was excluded. Echocardiography showed mildly reduced ejection fraction (40-45%) with akinesia of apical regions of the left ventricle and apical ballooning syndrome. Considering death case in the family causing consequent stress and given results, a diagnosis of Takotsubo cardiomyopathy has been made. The patient had no signs of acute heart failure and no malignant arrhythmias were observed by monitoring. Repeated echocardiography in 7 days did not show recovery of systolic function, apical ballooning was still present and ECG was normalized. Standard therapy for heart failure like beta-blocker, angiotensin-converting enzyme inhibitors, mineralocorticoid receptor antagonist was included in the therapy in the maximum tolerated dose. Control echocardiography was scheduled in one month.

Conclusion: It has been suggested that coronary spasm, coronary microvascular dysfunction, catecholamine toxicity and myocarditis might contribute to the pathogenesis of Takotsubo cardiomyopathy, however, its pathophysiology is not clearly understood. It occurs more often in postmenopausal elderly women, it is characterized by a transient hypokinesis of the left ventricular apex, and it is associated with emotional or physical stress. Wall motion abnormality of the apex is generally transient and resolves within a few days to several weeks. Prognosis is generally good.

Keywords: Broken-heart syndrome, stress, Takotsubo cardiomyopathy

CR149

Acute Myocarditis Masquerading as Acute Coronary Syndrome: A Case Report

Oskar Maria Voll[1]; Carmen Clasen[1]; Alina Scridon[1]

1 – University of Medicine, Pharmacy and Technology "George Emil Palade" of Targu Mures, Targu Mures, Romania

Introduction: Chest pain, ST-elevation, and increased cardiac enzymes are typical findings in patients with acute myocardial infarction (AMI). However, similar abnormalities can occasionally be seen in other settings. We report a case of acute myocarditis masquerading as AMI and emphasize the importance of a thorough, stepwise approach in such clinical settings.

Case report: A 21-year-old Caucasian male was directed to the Emergency Department by his family doctor after 2-day history of atypical chest pain. At that time, he was asymptomatic for the past 24-h with no recent history of viral illness. The ECG showed ST-segment elevation in leads I and aVL, and he had elevated troponin I and CK-MB, and normal inflammatory markers levels. Echocardiography revealed hypokinetic apical and mid-ventricular regions of the lateral left ventricular (LV) wall. A diagnosis of lateral AMI was established. Coronary angiography was performed revealing spasm of the middle segment of the first diagonal artery that ceded after intracoronary nitroglycerine administration, and no significant coronary lesions. The next day, the ECG showed normal ST-segment and negative T-waves in leads I and aVL. Cardiac MRI was performed, which revealed diffuse patchy mid-myocardial and epicardial late gadolinium-enhancement involving the LV lateral wall, highly suggestive for myocarditis.

Conclusion: The case underlines the diagnostic challenges raised by an apparently classic clinical scenario and the utility of thorough investigation, for establishing a correct myocarditis diagnosis. In this case, the most likely etiology was parvovirus B-19 infection, known to mimic AMI.

Keywords: Acute Myocardial Infraction, Electro-cardiogram, Magnetic Resonance Imaging, Myocarditis

CR150

Comminuted Left Femur Fracture with Dynamic Condylar Screw Plate Osteosynthesis: A Case Report

Oskar Maria Voll[1]; Carmen Clasen[1]; Felix Wiethuechter[1]; Flaviu Moldova[1]; Tiberiu Bataga[1]

1 – University of Medicine, Pharmacy and Technology "George Emil Palade" of Targu Mures, Targu Mures, Romania

Introduction: Femur shaft fracture is a fracture on the femur located between 5 cm distal to lesser trochanter and 5cm proximal to adductor tubercle. In young adults the cause is usually a high-impact injury, whereas in older patients the cause is a low-impact injury. Swelling and pain with restricted range of motion and inability to wear weight on the injured leg are common symptoms. Diagnosis is based on an X-ray. Antegrade intramedullary nailing is the preferred treatment for femoral shaft fracture. The aim of this study is to raise awareness of comminuted femur fractures and its special treatment

Case report: A 48-year-old male, who is a known alcoholic who suffered from epilepsy, presented to the emergency department because he fell down his bike while he was drunk. X-ray was performed and the diagnosis of comminuted left femur fracture was made. The patient went in delirium tremens, thus, the surgery had to be postponed for 1 ½ week. The patient was immobilized with transtibial skeletal traction on a Bohler-Braun splint. Osteosynthesis was achieved by a Dynamic Condylar Screw (DCS) plate after he recovered from delirium tremens.

Conclusion: This case illustrates that in specific cases DCS is the better choice of treatment compared to the gold standard antegrade intramedullary nailing. Additionally, it emphasizes the importance of proper treatment of alcohol withdrawal symptoms and prevention of delirium tremens.

Keywords: Comminuted Fracture, Delirium Tremens, Dynamic Condylar Screw, Femur Fracture

CR151

Papillary urothelial carcinoma in a patient with a positive smoking history - case report

Klara Vranešević[1]; Dora Jurić[2]; Dean Markić[3]

1 - University of Rijeka, Faculty of Medicine, Rijeka, Croatia
2 - University of Rijeka, Faculty of Medicine, Rijeka, Croatia
3 - Department of Urology, Clinical Hospital Centre Rijeka, Rijeka, Croatia

Introduction: Urothelial carcinoma is a common urological cancer. It proliferates mainly in a papillary form and can be invasive and noninvasive, the latter of which is more likely to recur. Although there may be no symptoms in the early stages, hematuria constitutes the most prominent symptom. The most important risk factor is smoking, which is responsible for over 50% of new cases. The aim of this case report is to present smoking as a risk factor and to show the correlation between bladder cancer and smoking.

Case report: A 77-year-old man presented to the ER with blood in his urine, which he noticed the day before. He informed that he smoked approximately 3 cigarette packs a day for over 40 years. While the ultrasound of the bladder showed no abnormalities, MSCT of the abdomen showed thickened mucosa above the urethral opening with an intraluminal papillary lesion which was confirmed with cystoscopy. He underwent endoscopic resection of the tumor, later defined as low-grade papillary urothelial carcinoma with invasion into lamina propria, but not into muscularis propria. For the next 2 years, the patient had check-ups every 3 months. During the last check-up, cystoscopy showed a smaller papillary lesion on the posterior bladder wall. He again underwent endoscopic resection of the tumor.

Conclusion: Bladder cancer is a potentially life-threatening condition that requires surgical intervention. In patients with a positive smoking history and hematuria, the presence of bladder cancer must be excluded.

Keywords: Hematuria; Smoking; Urologic neoplasms

CR152

Pulmonary embolism and cardiomyopathy due to coronavirus disease 2019 (COVID-19)

Nikolina Zagorac[1], Ivan Šporčić[1], Magdalena Zulumović[1], Jelena Pokos[1], Lana Maričić[1,2]

1 – Faculty of Medicine Osijek, University of J.J.Strossmayer Osijek, Josipa Huttlera 4, 31000 Osijek, Croatia
2 – Clinical Hospital Centre Osijek, Department of Internal medicine, Division of Cardiovascular Diseases, Osijek, Croatia

Introduction: Pulmonary embolism (PE) is a life-threatening condition that is defined as an occlusion in one of the pulmonary arteries. The incidence of PE in patients with COVID-19 is around 2.6-8.9%. However, although respiratory complications are the most frequent, the disease also affects other systems in the body, such as cardiovascular system. Some studies have shown that patients with COVID-19 have nearly 16 times higher risk of developing myocarditis, a condition that can lead to both heart failure and death. We present a case of patient who developed respiratory and cardiac complications due to COVID-19.

Case report: A 71-year-old woman with arterial hypertension was hospitalized under the diagnosis of COVID-19. She was subfebrile to febrile the past 10 days. She had dry cough and dyspnea. Chest X-ray showed bilateral pneumonia. Pleural effusion was found bilaterally. Laboratory analyses revealed elevated D-dimer value, while pulmonary computed tomography angiography confirmed the PE. On the 14th day of hospitalization echocardiography was performed. It recorded the hypertrophic left ventricle and reduced systolic function. Ejection fraction was 27%. Treatment included low molecular weight heparin, mineral corticosteroid receptor antagonists, sacubitril/valsartan, diuretic and corticosteroid therapy. After the patient's condition improved, she was discharged.

Conclusion: Pulmonary embolism is the most common COVID-19-related thromboembolic complication. Due to its severity, treatment should start as soon as possible. Although the occurrence of myocarditis with consequent development of cardiomyopathy is not a common complication of COVID-19 infection, this should always be considered in patients with a more severe form of COVID-19 infection.

Keywords: cardiomyopathy, COVID-19, pneumonia, pulmonary embolism

CR153

Ganglioneuroma of the adrenal gland: a case report

Nikolina Zagorac[1], Ana Nuić[1], Jelena Pokos[1], Magdalena Zulumović[1], Goran Kondža[1,2]

1 – Faculty of Medicine Osijek, University of J.J. Strossmayer Osijek, Osijek, Croatia
2 – Clinical Hospital Centre Osijek, Department of Abdominal Surgery, Osijek, Croatia

Introduction: Ganglioneuromas are rare, benign tumors mostly situated along paravertebral sympathetic ganglia, but they also may be found in adrenal medulla. Adrenal ganglioneuroma mostly occurs in the fourth and fifth decades of life, while in children and young adults ganglioneuromas of retroperitoneum and posterior mediastinum are more often. Adrenal ganglioneuromas are usually asymptomatic, which is why they are frequently detected incidentally.

Case report: A 25-year-old male patient was admitted to the Department of Abdominal Surgery due to elective surgery of the adrenal gland formation. A few months prior, during a systematic examination, an irregular heterogeneous, mostly hypoechoic formation was found by abdominal ultrasound. Formation measured 7x5 centimeters in size and was located in the area of the right adrenal gland. Shortly after that the patient was examined by an endocrinologist which led to hospitalization due to further diagnostic processing. Upon hospitalization the patient felt subjectively well and his blood pressure was normal. Further physical examination didn't show significant anomalies and the patient was referred for surgery. Following preoperative preparation, a right adrenalectomy was performed. After pathohistological analysis of the sample, tumor was diagnosed as a right adrenal ganglioneuroma. Postoperative course was with no complications and the patient was discharged.

Conclusion: Although very rare, adrenal ganglioneuroma is hard to diagnose due to its similarity to other adrenal malignancies. This case is a great example how diagnosis can't be made based only on clinical, endocrinological and radiological findings.

Keywords: adrenal gland**,** adrenalectomy, ganglioneuroma

CR154

A case report of a patient with multivessel coronary artery disease and postinfarction angina pectoris

Magdalena Zulumović[1]; Jelena Pokos[1]; Nikolina Zagorac[1]; Ivan Šporčić[1]; Anto Stažić[2,3]; Tatjana Bačun[2,4]

1 – Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 – Department of Internal Medicine, History of Medicine and Family Medicine, Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
3 – Department for Heart and Vascular Diseases, Clinic of Internal Medicine, Clinical Hospital Centre Osijek, Osijek, Croatia
4 – Department of Endocrinology, Clinic of Internal Medicine, Clinical Hospital Centre Osijek, Osijek, Croatia

Introduction: Postinfarction angina is an ischemic chest pain that occurs in 10 to 15 percent of patients 24 hours or more following a myocardial infarction (MI). We present a case of a patient suffering from coronary artery disease (CAD) and postinfarction angina to highlight the importance of optimal treatment and effects it has on patients' life quality.

Case report: The patient is a 79-year-old man with a history of hypertension, CAD and ST-elevation MI. During his hospitalization, coronarography showed chronic total occlusions of both left circumflex and distal part of left anterior descending artery. Percutaneous coronary intervention (PCI) to the culprit lesion of MI as a first treatment option wasn't performed due to coronary anatomy. After the evaluation of risks using European System for Cardiac Operative Risk Evaluation II, coronary artery bypass grafting (CABG) was suggested. The patient had refused the surgery and was given nitroglycerin spray, acetylsalicylic acid, enoxaparin, ticagrelor, atorvastatin, pantoprazole, amlodipine/perindopril, bisoprolol, trimetazidine chloride and instructed to control his hypertension, stop smoking, as well as to increase his physical activity. After discharge, the patient complained of his reduced exercise tolerance during which he had chest pain.

Conclusion: Postinfarction angina can reduce life quality. In its management, coronary reperfusion (PCI, CABG), optimal medical therapy and lifestyle changes can cause symptom reduction, while heart transplant remains a last-line treatment for those who have exhausted all other options. Moreover, patients' education is important in aiming to achieve better compliance and reduce mortality risk.

Keywords: angina pectoris, chest pain, coronary reperfusion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CM01

Endocrine management of transgender individuals in a tertiary referral hospital centre

Dora Cesarec[1]; Anton Malbašič[1]; Tina Dušek[1,2]

1 – School of Medicine, University of Zagreb, Zagreb, Croatia
2 – Department of Endocrinology, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: The aim of this study was to explore the demographic characteristics and the therapeutic modalities used in transgender persons treated at University Hospital Centre Zagreb.

Materials and methods: The data on age, age at the beginning of hormonal transition and treatment modalities applied in transgender individuals managed at Department of Endocrinology University Hospital Centre Zagreb were obtained from hospital information system database (BIS).

Results: Out of 25 study participants, 14 were transgender women (M2F) and 11 transgender men (F2M). Their age ranged from 18 to 45 years, mean age being 30,04 (M2F 28,93 and F2M 31,45, respectively) while the age when hormone therapy was started ranged from 17 to 37 years, mean age being 24,48 (M2F 24,14 and F2M 25,72, respectively). In the M2F group, 13/14 individuals were on estrogen treatment (11 had oral estrogens, one estrogen patch and one estrogen injections). Eight of them had additional treatment with anti-androgens and two with progesterone. One individual was exclusively on anti-androgen therapy. The average dose of orally administered estrogen was 4,8 mg. All F2M study participants were on testosterone treatment (9 on intramuscularly administered testosterone depot, and two on testosterone topical gel). Ten out of 25 study participants have had sex reassignment surgery, 4/14 M2F underwent orchydopexy and genitoplasty, 3/11 F2M had hystero-adnexectomy and genitoplasty and six F2M had mastectomy.

Conclusion: Most commonly prescribed therapy was the combination of oral estrogens and anti-androgens in transgender women and intramuscular testosterone injections in transgender men. Only minority of study participants underwent sex reassignment surgery.

Keywords: gender dysphoria; gonadal steroid hormones; sex reassignment procedures; transgender persons; transsexualism

CM02

Analysis of risk factors and preventions on survival of patients with acute myeloid leukemia in University Hospital Osijek

Marijan Ćuk[1]; Boris Čvangić[1]; Stjepan Ištvanić[1]; Branka Lončar[1,3]; Jasminka Sinčić-Petričević[2]; Stefan Mrđenović[1,2]

1 - Faculty of Medicine, J. J. Strossmayer University of Osijek, Osijek, Croatia
2 – Department of Internal Medicine, Department of Hematology, University Hospital Osijek, Osijek, Croatia
3 - Department of Clinical Cytology, University Hospital Osijek, Osijek, Croatia

Introduction: Acute myeloid leukemia (AML) is leukemia of unknown cause and pathogenesis. This study aims to determine the impact of risk factors and preventions on patient survival.

Materials and methods: This research is a retrospective cross-sectional study on cohort of patients with AML, treated in University Hospital Osijek from 2017 to 2021.

Results: We detected 99 patients with newly diagnosed AML. 48 (48.5%) patients were female and 51 (51.5%) male. Median age at the time of diagnosis was 69 (27-89) years. AML was secondary in 20 (20.2%) and primary in 79 (79.8%) patients. 8 (8.1%) patients had coexisting non-hematological malignant diseases. 59 (59.6%) patients had arterial hypertension and 20 (20.2%) patients diabetes mellitus at the time of diagnosis. 21 (21.2%) patients were overweight (BMI > 25). 75 (75.8 %) patients were nonsmokers, 14 (14.1%) smokers and 10 (10.1 %) former/ever smokers (FES). At the median follow up time of 4.4 years the median survival time was 5.1 months (95% CI [2.44 – 7.76]). Kaplan–Meier survival estimates revealed that nonsmokers had a significant shorter median overall survival time (OS) at 3 months compared to FES at 4 years. Multivariate analysis revealed FES status as a significant prognostic factor for superior OS with a hazard ratio (HR) of 0.366 (95% CI [0.143 – 0.934]).

Conclusion: FES status was found to be associated with superior OS in our cohort of patients. Possible protective mechanism of FES status on AML survival needs further evaluation.

Keywords: Acute myeloid leukemia; Body mass index; Obesity; Risk factors; Smoking

CM03

Assessing cost-saving enabled by etanercept biosimilar approval

Matej Dobrošević[1]; Vinko Michael Dodig[1]; Robert Marčec[1]

1 - School of Medicine, University of Zagreb, Zagreb, Croatia

Introduction: Etanercept is an anti-TNF recombinant fusion protein drug. As a biologic drug, its financial costs are significantly higher than those of small molecule drugs – in 2015 it was the 34th drug according to total financial consumption. However, the approval of the first etanercept biosimilar in 2016 may have had an impact on the drugs financial consumption. Therefore, the aim of this study is to analyse potential cost-savings enabled by the approval of etanercept biosimilars.

Methods: Data was collected from annual drug utilization reports published by the Croatian Agency for Medical Products and Medical Devices regarding the total annual financial consumption (kn) and utilization (DDD/1000 inhabitants/day) of etanercept (L04AA11) in the period of 2010-2020. The yearly cost of 1 DDD etanercept was calculated and using data from 2010-2016 an autoregressive integrated moving average (ARIMA) model was used to simulate price movements in the years 2017-2020 in the comparative scenario in which no biosimilar was approved, but drug utilisation remained the same.

Results: After the approval of the first biosimilar, the cost of 1 DDD etanercept significantly decreased in 2017 for 20.63% compared to 2016, falling outside of the 95% confidence interval of the model. Total savings in the 4-year period are substantial and amount from 6501393kn to 35368920kn, if calculated by the lower and upper boundaries of the 95% confidence interval of the ARIMA model.

Conclusion: The approval of the first etanercept biosimilar in 2016 resulted in a significant decrease of etanercept price and resulted in substantial cost-saving.

Keywords: biosimilars; etanercept; pharmacoeconomics

CM04

Impact of demographic characteristics on outcomes of COVID-19 patients in the Respiratory Center in Clinical Hospital Center Osijek

Mia Edl[1], Lucija Čolaković[1], Antonio Kovačević[1], Mario Horvat[1], Šimun Rezo[1], Slavica Kvolik[1,2]

1 – Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 – Clinical Hospital Center Osijek, Department of Anesthesiology, Osijek, Croatia

Introduction: Demographic characteristics such as age, sex, body mass index (BMI), comorbidities and the type of ventilation are significant predictors of outcome in many patient populations. The aim of this study is to analyze the association between these factors and the outcome of COVID-19 positive patients.

Material and methods: This retrospective study analyzed records of 145 COVID-19 positive patients hospitalized in the Respiratory Center (RC) during December 2021 and January 2022. The patients whose hospital stay was shorter than 24 hours were excluded from the study.

Results: The analysis included 121 patients, mean age 66.3 years ±14.3, mean length of stay 7.45 days ±5.3, mean BMI 30.74 ± 6.2. An average of 2.7 ± 1.5 comorbid conditions per patient were reported in the total patient base. Body weight was recorded in 64 patients, with 32 patients with a BMI >30. None of the comorbidities recorded had a unique significant effect on the outcome. The presence of diabetes had the greatest impact on mortality (AUC=0.596), followed by cardiovascular diseases (AUC=0.592). Univariate analysis revealed that the need for invasive mechanical ventilation was statistically the most significant predictor of patients' mortality, p=0.003. BMI was associated with increased mortality, which did not achieve statistical significance in this sample, p=0.067, while the effect of vaccination on mortality was p=0.34.

Conclusion: A need for invasive mechanical ventilation was confirmed as a risk factor for increased mortality in COVID-positive patients, but the data were insufficient for increased body weight. Better data recording and inclusion of a larger number of patients in a prospective study could provide better insight into the importance of particular comorbidity.

Keywords: Body mass index, COVID-19, Mechanical ventilation

CM05

Dietary supplementation of capsaicinoids reduces caloric intake: a meta-analysis of controlled human trials

Leonardo Kelava[1], Kata Fekete[1], Zsófia Merkl[1], Zsolt Fehér[1,2], Eszter Pákai[1], András Garami[1]

1 - Department of Thermophysiology, Institute for Translational Medicine, Medical School, University of Pécs, Hungary
2 - Department of Anaesthesiology and Intensive Therapy, Medical School, University of Pécs, Hungary

Introduction: Obesity is a medical condition characterized by excessive fat accumulation, which is associated with susceptibility to various diseases such as cardiovascular diseases and diabetes mellitus. Animal experiments and clinical trials suggested that capsaicinoid supplementation could help to maintain healthy body mass and improve metabolic profile.

Methods: In our recently published meta-analysis of the capsaicinoids' effects on lipid profile, the collected data from 10 controlled trials corroborated previous results, showing a decrease in serum low density lipoprotein and total serum cholesterol, while high density lipoprotein remained unchanged. Here, we conducted additional analyses of the extracted data to study the effects of capsaicin on glucose metabolism and energy intake.

Results: Data from 4 studies, including a total of 176 participants, showed that oral capsaicinoid supplementation significantly decreased caloric intake (SMD = -0.9879; CI, -1.9658, -0.0099; p = 0.0477), as compared to placebo. Fasting plasma glucose and insulin levels were unchanged, while there was not enough data to conduct analysis of postprandial serum glucose, insulin, glucagon, and HOMA-IR (homeostasis model of insulin resistance).

Conclusion: These results indicate a beneficial effect of capsaicinoid supplementation on energy intake, while glucose metabolism seems unaffected by this type of diet. However, the results of our meta-analysis should be interpreted with care because of the small number of eligible studies and due to the potential reporting bias. Future studies are warranted to verify these results and determine the usefulness of capsaicinoid supplementation in the regulation of energy metabolism.

Keywords: capsaicin, chili, diet therapy, obesity, TRPV1

CM06

The influence of unhealthy lifestyle habits on the cardiometabolic profile of young seemingly healthy adults in Osijek-Baranja County

Matea Lukić[1], Marko Burić[1], Antonio Burić[2], Lorena Stanojević[1], Kristina Kralik[1], Livija Sušić [1,3]

1 – Faculty of Medicine, J.J. Strossmayer University of Osijek, Osijek, Croatia
2 – Institute of Emergency Medicine of Osijek-Baranja County, Osijek, Croatia
3 – Health center of Osijek-Baranja County, Department of specialist-consultative health care, Osijek, Croatia

Introduction: Lifestyle habits are an important factor in the development of the disease. The primary goal of this study was to assess the impact of unhealthy lifestyle habits on an adverse cardiometabolic profile. The hypothesis is that most young and seemingly healthy people will have unhealthy lifestyle habits and consequently an adverse cardiometabolic profile.

Materials and methods: In the period from July 1, 2017 to December 31, 2019, a cross-sectional clinical study was conducted on 82 adults, aged 20-50 in an internal medicine clinic within the Health Center of Osijek-Baranja County. Subjects were divided according to 11 unhealthy lifestyle habits into two groups: 1. ≤ 5 unhealthy lifestyle habits and 2. ≥ 6 unhealthy habits, and according to the cardiometabolic profile into a group with and without an unfavorable cardiometabolic profile.

Results: The results show that more than 90% of the respondents have ≥ 6 unhealthy lifestyle habits, and 88% have an adverse cardiometabolic profile. Regardless of age, men, smokers and respondents who drink up to 2 dcl of coffee daily have a significantly worse cardiometabolic profile. The number of unhealthy lifestyle habits in relation to gender and age is not statistically significant.

Conclusion: The seemingly healthy young adults of Osijek-Baranja County have extremely bad lifestyle habits overall, and consequently a high percentage of adverse cardiometabolic profile. The subjects with ≥ 6 unhealthy lifestyle habits are 5.7 times more likely to have an adverse cardiometabolic profile.

Keywords: Cardiometabolic Risk Factors, Dyslipidemias, Lifestyle

CM07

The development of hypothermia in young children

Zsófia Merkl[1], Kata Fekete[1], Leonardo Kelava[1], Eszter Pákai[1], András Garami[1], Zsolt Fehér[2]

1 - Department of Thermophysiology, Institute for Translational Medicine, Medical School, University of Pécs

2 - Department of Anaesthesiology and Intensive Therapy, Medical School, University of Pécs

Introduction: The development of hypothermia in young children is a worldwide problem, especially in those children who were born preterm, because their thermoregulation system is immature. In children under the age of two, the risk of hypothermia is increased during surgeries requiring general anesthesia. However, no routine screening test is available for prediction of a harmful hypothermic event.

Materials and methods: We retrospectively analyzed the incidence of hypothermia during surgeries performed on children under the age of two in 2019 at the Pediatric Surgical Unit and the Intensive Care Unit of Department of Pediatrics, Medical School, University of Pécs. Additionally, in a prospective study we used a FLIR C3 Thermal Camera as a potential candidate of a fast, non-invasive method to determine brown adipose tissue activity, and thereby the susceptibility of the young children for hypothermia.

Results: Young children born as preterms were more prone to develop hypothermia both at the ICU and during surgical procedures than children born as mature neonates ($p<0.05$). In accordance, the interscapular temperature (an indicator of brown fat activity) was significantly lower in full-term born children than in preterm borns (mean ± standard error: 36.8±0.1°C vs. 36.5±0.1°C; $p<0.05$).

Conclusion: Brown fat activity is higher in full-term-born than in preterm-born children under the age of 2, which can explain the higher tendency for hypothermia of the latter group. In our study the used thermal camera was suitable for detecting brown fat activity of young children.

Keywords: brown adipose tissue, hypothermia, thermal camera, thermophysiology, thermogenesis

CM08

The role of biochemical parameters in determining the etiology of acute pancreatitis

Nataša Mišić[1], Ana Milenković[1], Marijeta Božinović[1], Snežana Tešić-Rajković

1 - Faculty of Medicine, University of Niš, Niš, Serbia
2 - Gastroenterology and Hepatology Clinic, Clinical Center Niš, Niš, Serbia

Introduction: Acute pancreatitis is an inflammatory disease of pancreas. About 80% of cases of acute pancreatitis are caused by gallstones or excessive alcohol intake. The diagnosis is established by following criteria: patient's history, laboratory data, physical examination and abdominal imaging. The aim of this paper is to determine the role of biochemical markers in the process of establishing etiology of acute pancreatitis (distinction between biliary, alcoholic and other etiologies).

Material and methods: This study included 110 patients diagnosed with acute pancreatitis at the Clinical Center Niš over a period of one year. Based on etiologies established by conventional methods, they were divided into three groups: biliary group (n=57), alcoholic group (n=21), and group with other etiologies (n=32). The biochemical parameters that were monitored across all groups are serum and urine amylase, serum lipase, alanine transaminase (ALT), aspartate transaminase (AST), alkaline phosphatase (ALP), cholesterol, triglycerides, total and direct bilirubin.

Results: Serum and urine amylase values were higher in biliary pancreatitis compared to pancreatitis of alcoholic origin, while serum lipase and lipase/amylase ratio were significantly higher in alcoholic pancreatitis ($p=0,01$ and $p=0,04$, respectively). In patients with biliary pancreatitis there was statistically significant higher value of AST ($p<0,01$), ALT ($p<0,01$), ALP ($p<0,01$) and total and direct bilirubin ($p<0,01$) than in alcoholic pancreatitis. In patients with alcoholic pancreatitis, there is a significantly higher AST/ALT ratio ($p<0,01$), and higher serum triglyceride levels ($p=0,01$) than in biliary pancreatitis.

Conclusion: Our findings suggest that biochemical parameters could be of great importance when determining etiology of acute pancreatitis.

Keywords: acute pancreatitis, alcoholic, amylase, gallstone, lipase

CM09

Ectopic neurons in the dentate gyrus in human temporal lobe epilepsy

Abigél Molnár[1], József Janszky[2], Tamás Dóczi[3], László Seress[1], Hajnalka Ábrahám[1]

1 - Department of Medical Biology and Central Electron Microscopic Laboratory University of Pécs Medical School, Pécs, Hungary
2 - Department Neurology University of Pécs Medical School, Pécs, Hungary
3 - Department Neurosurgery University of Pécs Medical School, Pécs, Hungary

Introduction: Temporal lobe epilepsy (TLE) is often drug-resistant. Hippocampal sclerosis (HS), malformation of cortical development (MCD) and intracranial tumors are the most common causes. During cortical development, neuronal migration can be disrupted resulting in the presence of ectopic cells in various positions. The aim was to examine ectopic neurons in the human dentate gyrus exploring possible association of the presence of ectopic cells and the expression of calcium-binding proteins.

Materials and methods: Ectopic cells were detected by immunohistochemistry based on the presence of calcium binding proteins: calretinin (CR), parvalbumin (PV) and calbindin (CB) in neurosurgically removed sections of the hippocampal formation of patients with TLE. Patients were grouped based on preoperative MRI: 1 HS; 2 HS+MCD; 3 MCD; 4 normal MRI.

Results: Patients in the HS group had the largest density of ectopic CR-immunoreactive (IR) and PV-IR neurons. Significantly larger number of ectopic CR-IR cells were in those patients who had dispersion of granule cells. Density of ectopic PV-IR neurons in the dentate molecular layer was significantly higher in those patients whose right hippocampus was removed. No significant correlation was found between density of ectopic CR- and PV-IR cell numbers, as well as between density of ectopic PV-IR neurons and the morphology of the granule cell layer.

Conclusion: We can conclude that in HS, large number of ectopic neurons are present in the dentate gyrus. The lack of correlation between the appearance and density of different ectopic neuronal groups suggests that the appearance of ectopic PV-, CR-, and CB-IR cells occurs by different mechanisms.

Keywords: calcium binding proteins, epilepsy, ectopic neurons, hippocampus

CM10

Neck-shaft angle measurement in children – can we trust in conventional radiographs?

Viktória Nyakas[1]; Dániel Kovács[1]; Péter Maróti[2]; Gergő Józsa[3]; Péter Than[1], Ádám Tibor Schlégl[1]

1 – Department of Orthopaedics, Pécs, Hungary
2 – 3D Printing and Visualization Centre, Pécs, Hungary
3 – Department of Pediatrics, Section of Pediatric Surgery, Pécs, Hungary

Introduction: Aim of this study was to examine the accuracy of widely used conventional radiography-based (2D) neck-shaft angle measurements compared to 3D reconstruction.

Materials and methods: In our retrospective study, EOS 2D/3D images of 156 patients (312 limbs) were selected from our database (4–16 years old: 6 girls and 6 boys/year), where no pathology was revealed. Using the 2D modality of the EOS method neck-shaft angle was measured using the “biggest diameter” and “circle fitting” techniques to define the femoral neck axis and 1/3, 1/2 and full femur to determine the femoral shaft axis – in 4 combinations. EOS 3D reconstructions of same images were also performed and a comparison of 2D and 3D results was made. 19 anatomical and biomechanical parameters were examined as possible influencing factors. Student’s t-test, Pearson’s and Spearman’s correlation tests were used for statistical analysis.

Results: We did not find any significant difference between accuracy of the four examined 2D methods, although the deviation between 2D and 3D results was considerable (average difference (°): biggest diameter-1/3 femur: 5.58±4.12, circle fitting-1/3 femur: 5.35±3.80, circle fitting-1/2 femur: 5.11±3.99, and circle fitting-full femur: 5.37±3.87, $p<0,001$). In 31% of the cases, difference was more than 10°. Only femoral torsion showed significant influence on the difference (correlation coefficient: 0.380, $p<0.001$).

Conclusion: We did not find a clinically significant difference between the examined 2D methods, although their accuracy was highly questionable compared to 3D results. We suggest using any 3D imaging method for surgical planning and in uncertain cases.

Keywords: EOS imaging, neck-shaft angle, paediatric, validity study

CM11

A retrospective study of next generation sequencing at the Faculty of Medicine in Rijeka (Croatia) from 2017 to 2021

Željka Poslon[1], Borut Peterlin[3], Saša Ostojić[2], Nina Pereza[2]

1 - Faculty of Medicine, University of Rijeka, Croatia
2 - Department of Medical Biology and Genetics, Faculty of Medicine, University of Rijeka, Croatia
3 - Clinical Institute of Genomic Medicine, University Hospital Centre Ljubljana, Slovenia

Introduction: Next generation sequencing (NGS) is becoming increasingly important in numerous medical specialties. The aim of this study was to determine the number, indications and results of diagnostic NGS tests performed at the Faculty of medicine in Rijeka, Croatia since its implementation.

Materials and Methods: A retrospective study was performed from 2017 to 2021 and included the analysis of referral diagnoses and NGS test reports of patients who were referred to the Faculty of Medicine in Rijeka for diagnostic NGS testing from Clinical Hospital Center Rijeka. NGS was performed in collaboration with the Clinical Institute of Genomic Medicine in Ljubljana (Slovenia), using Illumina NovaSeq 6000 (Illumina Inc).

Results: A total of 108 diagnostic NGS were performed, including 9 in 2018, 34 in 2019, 48 in 2020, and 33 in 2021. The most common indications for testing were neuromuscular diseases (32.4%), cardiomyopathies (23.1%) and multiple congenital anomalies (19.4%). Positive test results were obtained in 32 (29.6%) cases, in whom likely pathogenic or pathogenic sequence variants were determined. Class 3 sequence variants were identified in 13 (12%) cases, whereas in 53 (70.4%) cases no genetic aberration could be found. Out of the total number of positive findings, 78,1% of referral diagnoses were confirmed.

Conclusion: Our results show an increase in the number of diagnostic NGS tests from 2017 to 2021, which reflects the increased awarness of clinicians for the need of genomic testing in clinical practice. Unfortunately, the large number of incorrect indications for genetic testing, indicates that genetic education of clinicians is needed for an improved diagnostic yield.

Keywords: education, genetic testing, next generation sequencing

CM12

Epidemiological, clinical and therapeutic characteristics of very low birth weights infants with retinopathy of prematurity

Ema Poznić[1], Nora PušeIjić[1], Nika Pušeljić[2], Ivana Jurić[2], Višnja Tomac[2,3], SiIvija Pušeljić[2,3]

1 − Department of Pediatrics, KBC Osijek, Osijek, Croatia
2 − FacuIty of Medicine, University of J.J.Strossmayer Osijek, Osijek, Croatia
3 − Division for neuropediatrics, genetics, metaboIic diseases and endocrinoIogy, Department of Pediatrics, KBC Osijek, Osijek, Croatia

Introduction: Retinopathy of prematurity (ROP) is a proliferative vascular disease of the immature retina. Our objective is to examine the epidemiological, clinical, and therapeutic characteristics of patients with ROP.

Subjects and Methods: The group of respondents consists of all preterm infants with very low birth weight born at the Osijek Clinical Hospital from 2015 to 2020. Data were collected from medical records and the hospital information system and processed by computer program R.

Results: The overall prevalence of ROP was 50,9 %. In patients with gestational age below 30 weeks, the prevalence of ROP was 61,6 % and above 30 weeks 31,9 %. Most were patients with II. degree (57,8 %), then III. degree (23,9 %), and at least I. degree (18,3 %). Most patients had affected zone II (86,92 %), followed by III. zone (31,78 %), and at least I. (3,74 %). "Plus" disease was present in 29,31 % of patients, and the majority (65,49 %) did not require therapy. Of the therapies, the laser was used more frequently (23,01 %) than bevacizumab (19,47 %). The median postnatal age at the time of diagnosis was 39 days, while the median postmenstrual age was 239 days. The median day of laser therapy was 65,5 days and bevacizumab was 72 days.

Conclusions: This study highlighted the overall prevalence of ROP and its clinical and therapeutic characteristics in very low birth weight infants emphasizing lower gestational age as an important risk factor.

Keywords: preterm; retinopathy of prematurity; very low birth weight

CM13

Initial deviations in laboratory parameters of very low birth weight infants as indicators for the development of necrotizing enterocolitis

Nora Pušeljić[1]; Ema Poznić[1]; Luka Perić[2]; Nika Pušeljić[3]; Alen Rončević[4]; Ivana Jurić[3]; Silvija Pušeljić[3,5]

1 − Pediatric Clinic, University Hospital Center Osijek, Osijek, Croatia
2 − Department of Oncology, University Hospital Center Osijek, Osijek, Croatia
3 − Faculty of Medicine, University of J.J.Strossmayer Osijek, Osijek, Croatia
4 − Neurosurgerical Clinic, University Hospital Center Osijek, Osijek, Croatia
5 − Pediatric Clinic, Division of neuropediatrics, genetics, metabolic diseases and endocrinology, University Hospital Center Osijek, Osijek, Croatia

Introduction: Necrotizing enterocolitis (NEC) is inflammation and necrosis of the intestinal wall in infants that can result in intestinal perforation. Laboratory findings that accompany NEC in the clinical picture are most often anemia, immature granulocytes, neutropenia, thrombocytopenia, metabolic acidosis, and hyponatremia

Materials and Methods: All very low birth weight infants (<1500 grams) that were born on the in the Clinical Hospital Center Osijek between January 2015 - December2019, who lived longer than 72h. Data was collected from the medical documentation and statistically analyzed in a R-4.1.2.

Results: Study had 247 very low birth weight infants, NEC developed 70 infants. Patients with NEC had slightly lower serum bicarbonate values, bigger base excess, lower erythrocyte values, hemoglobin and thrombocytes.

Conclusion: Preterm infants in whom NEC will appear have deviations in initial laboratory parametars that can be useful for separating them under special supervision on admission in intensive care unit.

Keywords: enterocolitis; infant; necrotizing

CM14

The concept of personalized medicine in the diagnosis and treatment of drug resistent epilepsy with autism spectrum disorder

Luka Šižgorić[1], Andrija Miculinić[2], Ivo Barić[3], Matilda Kovač Šižgorić[4]

1 - School of Medicine, University of Zagreb, Zagreb, Croatia
2 - Department for Pulmology and Alergology for preschol and school children, Children's Hospital Srebrnjak, Zagreb, Croatia
3 - Division of Paediatrics ,Departmet for Genetic and Neurometabolic disorders, University Hospital Center Zagreb, Zagreb ,Croatia
4 - Department for Neuropediatric and Sleep disorders, Children's Hospital Srebrnjak, Zagreb, Croatia

Introduction: In the treatment of children with drug resistent epilepsy significant difficulties represent the inability to control seizures with a combination of multiple antiepileptics, the onset of side effects of antiepileptics at lower or medium doses, psychomotor retardation due to drug resistent epilepsy seizures. The existence of comorbidities such as the autism spectrum makes it significantly more difficult for us to conclude about the causative consequence between epilepsy itself and pervasive disorder, and makes difficult choose a combination of drugs.

Case report: We present the concept of personalized medicine in the diagnosis and treatment of boys with autism spectrum disorder and drug resistent focal motor epilepsy .Semiology of his seizures, incidence of antiepileptic side effects and pervasive developmental disorder required personalized approach to pharmaco-genetic profile, genetic sequencing to the most common genes associated with epilepsy and finding an individualized drug combination.

Conclusion: Growing genetic technology has enabled the genotyping of a certain epilepsy phenotype in some people with epilepsy and provided hope for individualized treatment of epilepsy on the principle - each patient his drug. Particularly significant progress has been made by genomic research on syndromes that present with an extremely severe clinical picture and progressive neurodegeneration. Accurate clinical diagnosis of specific forms of epilepsy in children is a major challenge, caused by genetic heterogeneity, phenotypic similarities, and overlapping symptoms with other types of epilepsy and neurodegenerative diseases.

Keywords: personalized medicine, epilepsy, autism spectrum, pharmacogenetic, whole exom sequencing

CM15

Comparison of external ventricular drain related infections before vs during the COVID-19 Pandemic

Dora Spantler[1], Zoard Istvan Batai[1], Erzsebet Ezer[1], Tihamer Molnar[1]

1- Department of Anaestesiology and Intensive Care, University of Pecs, Medical School, Pecs, Hungary

Introduction: External ventricular drain (EVD) insertion is a life-saving procedure in neurocritical care unit (NCCU). Major complications of EVD are bacterial colonization and ventriculo-meningitis. Several measures have been introduced to reduce EVD related infections including protocolized disinfection. The massive working overload due to the pandemic was a significant hinderance to follow such protocols. Therefore, we aimed to explore EVD-related infection rate comparing the pre- vs intra-COVID periods.

Materials and methods: Data of patients treated with EVD in the NCCU were analyzed. Cerebrospinal fluid, white blood cell count and C-reactive protein (CRP) as well as microbiological cultures were assessed in the pre-COVID (n=97) and intra-COVID (n= 72) groups. In addition, each group was further divided into the early post-insertion (0-3 days following EVD) and late periods (4-9 days).

Results: A total of 169 patients were analyzed. There were no significant differences between the two groups concerning the demography, etiology or duration of EVD implantation. No significant difference was observed regarding the prevalence of culture validated EVD infections between the pre- and intra-COVID periods. We observed significantly higher CSF lactate in the early period of culture positive intra-COVID patients compared to respective culture positive subgroup (p=0.0046). Besides, CRP was found to be significantly lower among the late period culture positive pre-COVID patients compared to the respective culture negative subgroup (p=0.0247).

Conclusion: Comparing the pre- vs intra-COVID periods, we were unable to reveal significant differences regarding EVD-associated infections suggesting that such patients received similar quality of care even in the pandemic scenario.

Keywords: COVID-19, external ventricular drain, intensive care unit

CM16

The efficacy of preoperative radiotherapy for patients with signet-ring cell rectal carcinoma: a retrospective case-control study

Albina Azatovna Zagidullina[1], Sergey Sergeevich Gordeyev[2]

1 – International Faculty/ Russian National Research Medical University named after N.I. Pirogov, Moscow, Russian Federation
2 – Colorectal Surgery/ National Medical Research Center of Oncology named after N.N. Blokhin of the Ministry of Health of Russia, Moscow, Russian Federation

Introduction: Signet-ring cell rectal cancer (SRCCR) is a rare tumor, data on its sensitivity to chemoradiotherapy (CRT) is contradictory. We aimed to evaluate the efficacy of CRT in patients with SRCCR.

Materials and methods: We conducted a retrospective analysis of patients with SRCCR who received preoperative CRT (25x2Gy) at the N.N. Blokhin National Medical Research Center of Oncology during 1998-2020. Inclusion criteria were histologically verified primary non-metastatic SRCCR. A control group of patients with rectal adenocarcinoma was selected by matching each case of the control group with the study group according to the following criteria: year of treatment; cT, cN. The primary endpoint was grade 3-4 tumor regression (Dworak), secondary endpoints included 5-year overall survival (OS) and disease-free survival (DFS).

Results: 16 patients were included in each group: clinical stage was cT3 in 7 (43.8%), cT4 in 9 (56.3%) patients, cN0 in 3 (18.8%), cN1 in 8 (50%), cN2 in 5 (31.3%) patients. Grade 3-4 tumor regression was achieved in 8 (50%) patients in the SRCCR group and 4 (25%) patients in the control group (p = 0.273), while 1 (6.3%) patient in each group had a pathological complete response. 5-year OS was 34.9% in the SRCCR group and 51.4% in the control group (p = 0.833), 5-year DFS was 30.8% and 35.6%, respectively (p = 0.094).

Conclusion: SRCCR has CRT sensitivity equal to rectal adenocarcinoma. Combined therapy including neoadjuvant CRT allows to achieve comparable long-term outcomes.

Keywords: chemoradiotherapy, rectal neoplasms, signet-ring cell carcinoma

OSCON

R

REVIEWS

R01

Congenital heart disease, prenatal diagnosis and management

Lucija Barić[1]; Klara Jurišić[1]; Astrid Kalazić[1]; Ena Kolak[1]; Petra Lukač[1]; Luka Medić[1]; Lea Paradinović[1]

1 – Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Croatia

Introduction: Cardiac defects are the most common congenital malformations associated with prenatal morbidity and mortality, so the goal of this review is to show the rate of prenatal detection and to consider the characteristics of fetal therapy of cardiac anomalies.

Review: Data were taken from PubMed. While a recent systematic review reports only a 45% prenatal detection rate for heart disease, another important aspect is its late detection. Intrauterine detection depends on several factors, which is why it is very important to have easy access to the health system, but even in highly developed countries, detection of congenital heart disease does not exceed 50-60 %. A high proportion of congenital heart disease without prenatal diagnosis is seen in patients who have undergone several ultrasounds that report fetal heart rate without assessing the anatomy of the fetal heart. Fetal therapies that are still under investigation, which is why they should not be considered standard care, include valvuloplasty, stent placement and pericardiocentesis. All these procedures do not put the mother at high risk, but the fetus itself, whose mortality rate is 11%.

Conclusion: Current methods for prenatal diagnosis of congenital heart defects, although useful, are not advanced enough to detect potential disorders with certainty and early enough. Even after diagnosis, therapy and interventions pose a high risk to the fetus. Current researches lay the foundation for the establishment of diagnostic medicine that will detect malformations in the early stages of pregnancy and provide adequate therapy and procedures.

Keywords: Cardiac defects, prenatal detection rate, fetal therapies

R02

Risk Factors For Recurrence After Atrial Fibrillation Catheter Ablation: A Literature Review

Carmen Clasen[1]; Oskar Maria Voll [1]; Lucy Zimmermann[1]; Marian Pop[1]

1 – University of Medicine and Pharmacy and Technology "George Emil Palade" of Targu Mures, Targu Mures, Romania

Introduction: Atrial fibrillation is characterized by uncoordinated atrial activation, resulting in an irregular ventricular response. Surgical treatment frequently includes catheter ablation, being a minimally invasive intervention. Recurrence rates after ablation unfortunately seem to be very high.

Review: This review assesses the long-term effectiveness and recurrence rates after catheter ablation in atrial fibrillation, including the yielding of corresponding articles from PUBMED, whereas 9 articles between 2017 and 2022 were included. According to studies, early and multiple recurrences predict late recurrences within one year in 20-50% of patients. Further on half of all recurrences in the first three months occurred in the first 14 days. Several risk factors for developing recurrence could be observed. Obesity, in fact, leads to more persistent forms and poorer ablation outcomes. Additionally, vascular disease and cardioversion during the procedure were predictors for recurrence. Hydrochlorothiazide therapy following the ablation procedure, could not reveal any benefit in the prevention of short-term recurrences.

Conclusion: Unfortunately, recurrence rates after catheter ablation procedures are high in atrial fibrillation. Risk factors such as obesity, vascular disease, and cardioversion during the procedure were identified to increase recurrence rates. High-risk patients should be assessed individually, and it is recommended to improve further comorbidities as obesity or sleep-disordered breathing prior to repeated ablation. This in fact could improve recurrence rates in repeating ablation procedures.

Keywords: Atrial fibrillation, Catheter ablation, Obesity

R03

Hypertension After Aortic Coarctation Repair: A Literature Review

Carmen Clasen[1]; Oskar Maria Voll[1]; Sofia Leonardi[1]; Marian Pop[1]

1 – University of Medicine and Pharmacy and Technology "George Emil Palade"of Targu Mures, Targu Mures, Romania

Introduction: Aortic Coarctation describes the narrowing of the aorta usually at the level of the aortic isthmus. Treatment is typically surgical repair, including stenting, stent grafting, balloon angioplasty, or a combination of graft stents and open surgery. Hypertension (HT) in this context describes a common and serious problem after aortic coarctation repair.

Review: Electronic searching for articles corresponding to Hypertension after aortic coarctation repair using PUBMED was performed, whereas 5 articles between 2011-2022 were included. The reported prevalence of late HT after coarctation repair ranges from 25% to 68%. The incidence of residual hypertension increases with age, body mass index (BMI). The age at the time of original aortic coarctation repair has been shown to contribute to risk for HT. Further on stenting in abnormal geometry of the aortic arch is also discussed as a factor leading to loss of aortic compliance and therefore further increases the risk for residual HT.

Conclusion: Hypertension still appears as a common complication after aortic coarctation repair. Influencing factors include age, BMI, age at the time of repair, and abnormal geometry of the aortic arch. Determination of the aortic arch anatomy in patients can help to define high-risk patients for developing HT after stent implantation. This review demonstrates the frequency of HT after aortic coarctation repair and aims to raise awareness. In addition, a detailed analysis of the patient´s aortic arch anatomy after stenting could help to identify high-risk patients and developing adequate treatment.

Keywords: Aortic Coarctation, Hypertension, Stenting

R04

Pain management in patients with chronic kidney disease

Điđi Delalić[1], Ingrid Prkačin[1,2]

1 - University of Zagreb School of Medicine, Zagreb, Republic of Croatia
2 - Emergency internal medicine department, Clinical hospital Merkur, Zagreb, Republic of Croatia

Introduction: Pain is both an often seen and inadequately managed problem of patients with chronic kidney disease, especially in the later stages of the disease progression. Some authors claim that about 50% of patients on hemodialysis experience pain and more than 75% of those affected by pain do not receive adequate treatment for their symptoms. The goal of this article is providing both nephrologists and physicians from other specialties the tools and knowledge required to understand, diagnose and properly treat pain in patients with chronic kidney disease.

Review article: The sources and references used in construction of this article were found by searching the MeSH database for results including both "chronic kidney disease" and "pain management" as search terms. Out of 74 results, six papers were evaluated by the authors as being an adequate and relevant source of information for this review article, all of which are literature reviews. This paper describes and compares the findings regarding the clinical classifications of pain, pharmacologic agents used in the treatment of pain and nonpharmacologic strategies of pain management in chronic kidney disease patients and strives to provide a simple, streamlined approach to the issue of pain in this fragile and troubled patient population.

Discussion: This article is not meant to shake the foundations of medical knowledge, but to shine a light on an often overlooked subject and provide a small contribution to the better treatment of a very special and sensitive patient population.

Keywords: Chronic Kidney Disease, Pain Management, Quality of Life

R05

Ectopic Cervical Pregnancy: Treatment Route

Klara Jurišić[1]; Lucija Barić[1]; Petra Lukač[1]; Luka Medić[1]; Ena Kolak[1]; Astrid Kalazić[1]

1 – Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Croatia

Introduction: Cervical pregnancy (CP) is a rare form of ectopic pregnancy, in which the implantation and embryo growth occurs inside of the endocervical canal. To enable needed treatments, early diagnosis is essential. This study aims to evaluate the efficiency of hysteroscopic management in early CP to preserve future fertility.

Review: Five hemodynamically stable patients with CP diagnosis have been included in a retrospective observational case series. Four patients had βhCG levels > 5000 mUi/mL and were all managed by hysteroscopy, with or without a previous systemic Methotrexate (MTX). The fifth patient, with βhCGlevels < 5000 mUi/mL was treated using MTX combined with Mifepristone and Misoprostol. Conducted research led to the following results; vaginal bleeding with a necessity for blood transfusion occurred in one of the patients treated by hysteroscopy alone. No vaginal bleeding or similar complications were recorded in the other cases. Serum βhCGlevels became undetectable within 15 – 40 days after hysteroscopy; while after the medical treatment they became undetectable after 35 days. In one of the patients treated by hysteroscopy, a spontaneous pregnancy at the normal implantation site occurred five months after the said procedure.

Conclusion: Early diagnosis of CP allows conservative procedures to preserve the uterus in patients with a desire for future pregnancies. Hysteroscopy alone or combined with MTX is effective in decreasing the levels of βhCG; reducing the hospitalization stay, decreasing costs and period for attempt pregnancy. Further studies on larger samples are needed to define therapeutic protocols for CP management.

Keywords: cervical pregnancy, ectopic pregnancy, fertility, hysteroscopy

R06

Do we ignore the facts because of unfounded guidelines? Aspiration during vaccination

Josip Kajan[1]; Marko Sablić[2]; Marija Heffer[3]

1 – Medical college Osijek, Osijek, Republic of Croatia
2 – Department of Anatomy and Neuroscience, Medical college Osijek, Osijek, Republic of Croatia
3 – Department of Medical Biology and Genetics, Medical college Osijek, Osijek, Republic of Croatia

Introduction: Aspiration has always been performed during intramuscular vaccine injections to confirm that the needle will not puncture one of the blood vessels. However, this procedure became disputable at the beginning of the 21st century.

Review: We searched the PubMed database for all articles regarding aspiration guidelines with an advanced search builder using logical operators. The blood vessels of the deltoid are substantial and diverse, with potentially dangerous changes in certain strata such as athletes or people with connective tissue diseases. Pharmacokinetics and reported side effects of improperly applied vaccines are different. Some reported vaccine related injuries can be prevented using the aspiration technique, such as subacromial bursitis. We discussed experiments that provide evidence that intravenous administration of mRNA vaccines can cause myopericarditis. Aspiration during vaccination is not technically demanding and does not require much time. Previous arguments against aspiration were based on efforts to alleviate the painful procedure when vaccinating children. Following the increased public concern about vaccine-induced thrombotic thrombocytopenia as a possible side effect, Denmark issued a guideline on mandatory aspiration during vaccination in March 2021.

Conclusion: Guidelines differ between countries and there is a need for an updated and globally applied instruction manual. Countries should document vaccine side effects more carefully so that they could be compared between countries that aspirate and those who do not. More directed research experiments are required to insight the causation between aspiration and side effects. We suggest a randomized study to compare the effectiveness of aspiration.

Keywords: covid 19 vaccines; intravenous injection; vaccination.

R07

Neurotransmitter modulation by the gut microbiota

Astrid Kalazić[1]; Luka Medić[1]; Lucija Barić[1]; Klara Jurišić[1]; Petra Lukač[1]

1 - Faculty of Medicine, University Josip Juraj Strossmayer of Osijek, Osijek, Croatia

Introduction: The gut microbiota seems to influence development and diseases of the central nervous system by several different mechanisms. The goal of this paper is to show how intestinal microbiota affect the nervous system.

Review: Data was extracted from PubMed. Several different mechanisms by which intestinal bacteria affect the nervous system have been identified: alternation of the activity of the stress-associated hypothalamic–pituitary–adrenal axis, vagal nerve stimulation, secretion of short chain fatty acids, changes in permeability of the blood brain barrier and the ability of the gut microbiota to modulate neurotransmitters directly or through host biosynthesis pathways. Of the latter, bacteria have been shown to produce a wide range of neurotransmitters, including dopamine, norepinephrine, serotonin, or gamma-aminobutyric acid. Certain bacterial taxa in the gut produce enzymes that can facilitate the synthesis of neurotransmitters or their precursors. These neurotransmitter precursors can pass through the blood–brain barrier to enter the brain where they participate in the synthetic cycles of various neurotransmitters. In addition, some gut bacteria can regulate the synthesis and release of neurotransmitters by intestinal enteroendocrine cells, which can act locally on the enteral nervous system or transmit fast signals to the brain via the vagus nerve.

Conclusion: Emerging evidence indicates that gut microbiota has influence on the nervous system by several different mechanisms, including production of neurotransmitters. Nonetheless, more work is required to determine which are the exact physiological implications of microbiota-mediated manipulation of human neurotransmission and how it may be leveraged therapeutically.

Keywords: gut microbiota; gut-brain-axis; neuro-transmitters

R08

The Gut Microbiota in Multiple Sclerosis: An Overview of Clinical Trials

Ena Kolak[1]; Lucija Barić[1], Klara Jurišić[1] , Petra Lukač[1], Luka Medić[1]

1 – Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Croatia

Introduction: Multiple sclerosis (MS) is a degenerative disease of the central nervous system. The interaction between the immune system and the intestinal microbiota plays a key role in the development of MS. This paper reports on composition of the microbiota in patients with relapsing-remitting MS (RR-MS) and the effectiveness of fecal microbiota transplantation (FMT), as well as the role of diet in restoring intestinal bacterial populations.

Review: Data was extracted from PubMed. The gut microbiota is defined as a set of microorganisms found in the mucosa of the human gut. Patients with RR-MS have a microbiota that, compared to healthy controls, has higher amounts of Pedobacteria, Flavobacterium, Pseudomonas, Mycoplana, Acinetobacter, Streptococcus, and Akkermansia. In contrast, MS patients have a microbiota with depleted microbial populations of Prevotella, Bacteroides, Parabacteroides, Coprobacillus, Lactobacillus, Clostridium, Anaerostipes, and Faecalibacterium. This dysbiosis in MS patients has a pro-inflammatory and regulatory effect on human T lymphocytes. It has been shown that in MS patients treated with FMT and under a modified diet, flora has been normalised. Furthermore, they show anti- inflammatory action.

Conclusion: Restoration of microbial population in patients with RR-MS reduces inflammatory events and reactivation of the immune system. These results, supported by further research, will pave the way for the development of better and more effective therapies that would enable the treatment of this devastating disease with low-tech therapies such as faecal transplants and/or diet. It will thus influence the very future of medicine and the development of personalized medicine.

R09

Capgras Delusion in Posterior Cortical Atrophy-A Quantitative Multimodal Imaging Single Case Study

Ena Kolak[1]; Lucija Barić[1], Klara Jurišić[1] , Petra Lukač[1], Luka Medić[1]

1 – Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Croatia

Introduction: Alzheimer's disease can cause several clinical phenotypes depending on the affected brain regions such as posterior cortical atrophy (PCA). It is associated with severe visual-spatial deficit in the absence of significant primary eye disease. For the first time, a case of Capgras delusion has been reported in patients with PCA. It is a syndrome characterized by the false belief that an identical duplicate has replaced someone significant to the patient. This paper elucidates the relationship between brain and behavior in PCA and Capgras delusion on the example of a 57-year-old female patient.

Review: Data was extracted from PubMed. Deep multimodal neuroimaging phenotyping and voxel- based morphometry were used as the main research methods to identify atrophies in the right posterior cingulate gyrus/precuneus and the right central frontal gyrus/anterior eye field associated with the development of Capgras delusion. Based on structural T1 magnetic resonance imaging, a progressive decrease in gray matter volume in the occipital and temporoparietal areas was detected. Positron emission tomography with F18-fluorodeoxyglucose (FDG-PET) as a marker of neuronal injury revealed glucose hypometabolism on both sides in the parietooccipital cortex. PET with F18-florbetaben showed accumulation of amyloid in the gray matter of the neocortex indicating Alzheimer's disease. In summary, the patient suffered from PCA at the syndrome-clinical level with evidence of the underlying Alzheimer's disease at imaging and biomarker levels.

Conclusion: PCA has been shown to affect specific structural and functional neural networks leading to Capgras delusion. Although further research is needed, the foundations have been laid for the development of treatment. There is currently no prescribed treatment plan for people with Capgras syndrome, but there are treatment options that can help alleviate the symptoms.

R10

Skin and soft tissue infections caused by body piercing

Mario Koporčić[1], Ivan Bobić[1], Andrija Karačić[2]

1 - School of Medicine, University of Zagreb
2 - Department of Surgery, University Hospital Sveti Duh, Zagreb, Croatia

Introduction. Body piercing (BP), gaining in popularity in recent years (prevalence of up to 95%, depending on population), is also gaining more and more attention from medical experts. There are many associated complications, including infections, allergic reactions, blood loss, scaring and site-characteristic complications. The aim of this paper is to point out frequency, clinical manifestations and therapy of skin and soft tissue infections caused by BP.

Review paper. In order to collect relevant data, Pubmed was searched. Soft tissue infections are the most common complication of BP (incidence of up to 30%, depending on piercing site). The most common manifestations are mild local infections and cellulitis, with redness, swelling, pain and purulent drainage, mainly caused by *Staphylococcus aureus* and group A streptococci (no exact incidence reported). There are also site-specific infections – mastitis, breast abscess and breast implant infections in nipple piercing, intra-abdominal infections in navel piercing, Fournier's gangrene in genital piercing. Mild local infections can be treated with topical antibiotics, with piercing removal not being recommended. Piercing should be removed in case of progressive infection or abscess development, when abscess drainage is required. Systemic antibiotics are used if infection persists or systemic signs appear. Empirical therapy based on piercing location can be corrected after antibiogram results.

Conclusion. Due to increased occurence, every physician should be able to recognize and treat BP-related soft tissue infections. Of great importance is their prevention, and education of people who want to get a piercing.

Key words: abscess, body piercing, soft tissue infections

R11

Systematic review and meta-analysis on the prognostic role of exosomal biomarkers in pancreatic ductal adenocarcinoma

Veronika Lillik[1], Stefania Bunduc[1,2,3,5,7], Noémi Gede[1,4], Szilárd Váncsa[1,4,5,7], Dorottya Kató[1], Alexandra Mikó[1,6], Péter Hegyi[1,4,5,7]

1 - Institute for Translational Medicine, Medical School, University of Pécs, Pécs, Hungary
2 - Carol Davila University of Medicine and Pharmacy, Bucharest, Romania
3 - Fundeni Clinical Institute, Bucharest, Romania
4 - János Szentágothai Research Center, University of Pécs, Pécs, Hungary
5 - Center for Translational Medicine, Semmelweis University, Budapest, Hungary
6 - Department of Medical Genetics, Medical School, University of Pécs, Pécs, Hungary
7 - Division of Pancreatic Diseases, Heart and Vascular Center, Semmelweis University, Budapest, Hungary

Introduction: Liquid biopsies are important in pancreatic cancer, because highly reliable diagnostic and follow-up biomarkers are needed in this highly fatal malignancy. The aim of our study was to perform a systematic review and meta-analysis on the prognostic value of exosomal biomarkers isolated from blood in pancreatic ductal adenocarcinoma (PDAC).

Materials and methods: We conducted a systematic search in the MEDLINE, Embase, Scopus, Web of Science, and CENTRAL databases and included studies that reported overall (OS) and progression-free survival (PFS) of PDAC patients with positive or negative exosomal biomarkers to our data pool. Finally, 634 patients from eleven studies were eligible for meta-analysis. For the statistical analysis, pooled multivariate-adjusted (AHR) and univariate relative hazard ratios (UHR) were determined using random effect model with 95% confidence intervals (CIs).

Results: Identification of positive exosomal biomarkers showed increased risk of mortality (UHR=2.81,CI:1.31–6.00,I^2=88.7%,p<0.001) and progression (UHR=3.33,CI:2.33–4.77,I^2=0,p=0.879) in various stages. The preoperative detection of positive exosomal biomarkers indicated a higher risk of mortality in resectable stage (UHR=5.55,CI:3.24–9.49,I^2=0,p=0.898). In non-resectable stage the risk of mortality was not significantly increased when positive exosomal biomarkers were detectable (UHR=2.51,CI:0.55-11.43,I^2=90.3%,p<0.001). The presence of exosomal microribonucleic acids were associated with a decreased OS (UHR=4.08,CI:2.16–7.69,I^2=46.9%,p=0.152) at various stages.

Conclusion: Our results express the reliability of exosomal biomarkers in evaluating the prognosis of PDAC. The heterogeneity we observed reflects the variability of test methods and the need to standardize them prior to clinical use.

Keywords: Exosomes, Liquid Biopsy, Pancreatic Ductal Carcinoma, Prognosis

R12

Fibrodysplasia ossificans progressiva (FOP)

Petra Lukač[1]; Luka Medić[1]; Lucija Barić[1]; Klara Jurišić[1]; Ena Kolak[1]; Jakov Kovačević[1]; Astrid Kalazić[1]

1 – Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia

Introduction: Fibrodysplasia ossificans progresiva (FOP), also known as Stoneman syndrome, is a rare genetic disorder of extraskeletal bone formation, but could be viewed as a seminal disorder of osteochondrogenesis. FOP is characterized by congenital bilateral hallux valgus malformation and early- onset heterotopic ossification, which may be spontaneous or caused by trauma.

Review: Data was extracted from PubMed. FOP is caused by a mutation of ACVR1, a bone morphogenic protein (BMP) type I receptor. Patients who have classic FOP have the identical single nucleotide mutation in ACVR1, which results in the substitution of histidine for arginine in the domain of the receptor. Because of this mutation, the BMP signaling pathway is disrupted. Extraskeletal ossification can occur at any location. It usually affects regions localized near the axial skeleton in the early and mild stages, then moves toward the appendicular skeleton. Due to the ossification of joints, movement is extremely restricted. More significant problems may occur due to the ossification around the axial skeleton. It can lead to the inability to eat, speak, and even breathe. There is no treatment for FOP, although research is focused on inactivating the ACVR1 receptor and its ligands. For now, the physicians are focused on preventing further ossification in those patients.

Summary: Fibrodysplasia ossificans progressiva is a difficult condition to have and to treat. Current methods of treatment are focused on symptoms and to ease patients' everyday life and fundamental functions. Hopefully, in the near future, a treatment method will be discovered so that these patients can live somewhat normal lives, hopes are put into genetic engineering in order to eliminate mutations that are behind this condition.

Keywords: extraskeletal ossification, fibrodysplasia ossificans progressiva, genetic mutation

R13

Medical Imaging Contrast Media Consumption: Overview in Croatia

Anton Malbašić[1]; Dora Cesarec[1]; Vinka Potočki[1]; Antonia Bukovac[1]; Gabrijela Buljan[1]; Vinko Michael Dodig[1]; Sandro Gašpar[2]

1 - School of Medicine, University of Zagreb, Croatia
2 - Department of Radiology, Children's Hospital Zagreb, Croatia

Introduction: Contrast media (CM) are used in diagnostic imaging techniques (DIT) to improve images by enhancing the differences between tissues of different density. Our goal is to review the consumption of CM in Croatia, so we could better understand the financial management of hospital system.

Review: We analysed the trend of CM consumption in Croatia over the last twelve years. Data was published by The Agency for medical products and medical devices of Republic of Croatia. We observed the overall consumption and consumption between four CM categories: iodine-based CM (ICM), iodine-free CM (IFCM), CM used for MRI (MRICM), and ultrasound CM (UCM). According to the available data, overall CM consumption has increased drastically over the last six years (from 29,171,207.00 HRK avg. from 2009 – 2014 to 50,311,039.50 HRK avg. from 2015 – 2020), mainly in ICM consumption (23,393,966.67 HRK avg. from 2009 – 2014 to 40,191,753.17 HRK avg. from 2015 – 2020). MRICM consumption also increased (5,509,104.33 HRK avg. from 2009 – 2014 to 9,687,056.00 HRK avg. from 2015 – 2020). UCM use in Croatia began in 2015 and, since then, its consumption increased (from 24,400.00 HRK in 2015 to 213,626.00 HRK in 2020). Its indications are still evolving, with more potential uses for it in the future. Consumption peaked in 2017 (65,321,267.00 HRK overall consumption), which could be caused by increased DIT referrals.

Conclusion: Analysis's purpose was to understand the financial aspect of hospital management in Croatia and to predict increases/decreases in adverse effects in patients. Further research is needed to determine the connection to adverse effects.

Keywords: Contrast Media; Diagnostic Imaging; Economics; Health Expenditures

R14

Tetralogy of Fallot

Luka Medić[1]; Lucija Barić[1]; Petra Galić[1]; Klara Jurišić[1]; Astrid Kalazić[1]; Ena Kolak[1]; Petra Lukač[1]

1 – Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Croatia

Introduction: Tetralogy of Fallot (ToF) is a congenital disorder in which four clinically important manifestations occur, namely: significant ventricular septal defect, right heart outlet obstruction, right ventricular hypertrophy, and overriding aorta. This paper aims to discuss current methods of prenatal diagnosis and therapy.

Review: Data was extracted from PubMed. The diagnosis of ToF is mainly made by ultrasound. After childbirth, an evaluation determines whether emergency intervention or palliative care is needed. Surgery is needed only for newborns who are at high risk of complications. The main goal of palliative care is to maintain sufficient oxygen saturation, it provides a greater chance of survival and a successful outcome for later surgery. One of the modern and frequently used methods today (in addition to open surgery as a permanent solution) is cardiac catheterization, which can correct some of the disorders. It can possibly be a less invasive solution for complete ToF repair (one of the options is shifting the septum to reduce pressure on the right side and minimalise septal defects). It is believed that the future of diagnostics lies in 3D technology.

Conclusion: ToF is a well-known disorder that doctors around the world face daily, current diagnostics lays a very good foundation for successful treatment, and the future promises an even more individualized approach. As far as therapy is concerned, there is currently no minimally invasive method of repair, but hopes are pinned on improving current methods and palliative care as a measure that enhances the positive outcomes of available interventions.

Keywords: cardiac catheterization, palliative care, Tetralogy of Fallot

R15

Stem Cell-Derived Viral Antigen-Specific T Cells Suppress HIV Replication and PD-1 Expression on CD4+ T Cells

Luka Medić[1]; Lucija Barić[1]; Klara Jurišić[1]; Astrid Kalazić[1]; Ena Kolak[1]; Petra Lukač[1]; Matea Smajić[1]

1 – Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Croatia

Introduction: HIV infection is currently considered a chronic infection that can be controlled with the use of available therapy (HAART), although very effective in preventing replication and particle formation, HAART still resists latent viral particles stored in tissues. This paper aims to summarize the research that stem cells introduced into the future of chronic HIV therapy.

Review: Data was extracted from PubMed. To discover the final solution for chronic HIV infection, special emphasis has been placed on stem cell therapy in recent years. To achieve this goal, a special lineage of cytotoxic T lymphocytes (CTLs) that are antigenically specific for the HIV-1 SL9 epitope (SL9-specific iPSC-CTLs) was created from multipotent stem cells (PSCs). The next step in the research was to inject EcoHIV (a chimeric HIV genome) into mice and it was found to have the same effect on organs as regular HIV-1. After injecting SL9-specific iPSC-CTLs into EcoHIV-infected mice, a drastic reduction in EcoHIV particles was found, and CD4 + lymphocytes, which are the main target of HIV-1, were preserved. Subsequently, it was found that the expression of programmed cell death protein 1 (PD-1) was reduced, resulting in reduced CD4 + lymphocyte death.

Conclusion: We can conclude that the combination of current therapy and stem cell therapy is the future treatment of chronic HIV infection which will be able to eliminate the virus. This research not only pushes the boundaries of what is possible and gives hope to many who are struggling with HIV but also lays the foundation for other stem cell-based medicine research.

Keywords: EcoHIV, HAART, HIV, SL9-specific iPSC-CTLs

R16

Genetic advances in autism

Rebeka Nađ[1], Karla Bubalo[1], Vlatko Perković[2]

1 – Faculty of Medicine, J.J. Strossmayer University of Osijek, Osijek, Croatia
2 – Faculty of Dental Medicine and Health Osijek

Introduction: In the last 40 years, extensive progress has been made in researching the correlation of autism with a genetic picture of the patient. Thanks to advances in technology and the expansion of knowledge, we know today that autism is a highly inherited disorder. Some are summarized in this article as clear examples.

Review: Data was extracted from PubMed. The concept of autism has greatly expanded, to the extent that the overarching term "autistic spectrum" is now used when talking about individual disorders. But it has also become exclusive to certain diseases, such as Rett syndrome - which, by being discovered to be caused by a mutation in a specific gene (MECP2), has been in a separate category, outside of autism. Further, by researching (identical) twins in several different countries confirms the importance of genes and lesser environmental factors (smoking, parental age) on the development of autism while still in the uterus. But between monogenic and polygenic autism there is still no clear one distinction. Comorbidity should also be noted, as a correlation between autism and ADHD. What is observed in the most common types of autism is the existence of single nucleotides polymorphisms (SNPs) that are difficult to detect, although, confusingly, they are associated with above-average IQ (although two-thirds of autistic cases are associated with decreased IQ). In general, the great majority of risk genes are associated with early brain development.

Conclusion: Despite progress, autism still needs to be investigated due to its marked heterogeneity and often mutations, certain precautions are recommended to families facing hereditary autism including treatments.

Keywords: autistic disorder, genetics

R17

Mind over muscle

Katarina Opačak[1]

1 - Faculty of medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia

Introduction: The mind is a brain phenomenon with direct effects on various biochemical and physiological processes. Since it can manifest through thoughts controllable by consciousness, it may serve as a useful tool for the betterment of health. The aim of this article is to present an overview of current data regarding the facilitatory mental influence over muscular strength and performance.

Review: Visualization of movement without volitional contraction has a facilitating effect on motor-evoked potentials. In addition, mental training promotes increased muscle activation level and strength. Incorporation of focused thinking about a specific movement while performing it is superior to exercise alone. Moreover, internal imagery training has proved to be more effective on strength of muscle contractions than external imagery training; this is due to considerably greater neuromuscular and cardiorespiratory responses as well as better sensory-motor stimulation. Motor imagery may help to prevent strength loss caused by muscle immobilization of patients. The data was sourced from PubMed.

Conclusion: People are not just sheer physical entities, but also sentient beings in a reciprocal equilibrium of the mind and the body. The conscious use of the mind as a tool for muscular development as well as its facilitation in physical recovery is advised to be incorporated in the classic medical approach.

Keywords: brain, consciousness, evoked potentials, muscle, muscular development

R18

Alcoholism as an obstacle for liver transplantation - pro et contra

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

1 – Faculty of Medicine, J. J. Strossmayer University of Osijek, Osijek, Croatia
2 – University Hospital Merkur, Department of Nephrology, Zagreb, Croatia

Introduction: Alcoholism is a disease that frequently leads to liver cirrhosis and hepatic failure, requiring liver transplant as a sole and irreplaceable life-saving treatment. Most transplant centres practice a rule that a transplant candidate should be free of alcohol intake for at least six months to be enlisted for transplantation. We present contemporary pro and contra arguments to that abstinence period rule.

Review: Data was extracted from PubMed, Cochrane library and Hrčak. During the abstinence period, liver function might be mended, thus preventing unnecessary transplantation. Some studies show that the length of the abstinence period is the strongest predictor of alcohol relapse. Furthermore, many countries deal with organ shortages, so they may use 6-month rule to lessen the likelihood of patients returning to alcohol consumption. However, we find it highly unethical and unfair that patients with drug (e.g. cocaine) induced liver failure can somewhere be immediately listed while patients with alcoholic liver disease (ALD) have to adhere to the abstinence period rule. In some cases, alcoholism has a genetic background; ergo, it is not always self-inflicted as many still believe.

Conclusion: ALD is certainly treated discriminatively compared to other non healthy lifestyles consequences. Their rights for health care have been more limited, even in life-threatening situations. On the other side, this is a unique example of self-care and treatment adherence requirements for getting appropriate medical service. The rule corrections are needed, although particular formulations are not easy to create.

Keywords: alcoholism, alcohol abstinence, ethics, liver cirrhosis, liver transplantation

R19

MicroRNA - New Biomarker for Early Diagnosis of Unstable Angina? Literature Review

Oskar Maria Voll[1]; Carmen Clasen[1]; Sofia Leonardi[1]; Marian Pop[1]

1 – University of Medicine, Pharmacy and Technology "George Emil Palade" of Targu Mures, Targu Mures, Romania

Introduction: Unstable angina (UA) was first defined as the intermediate state between myocardial infarction and the chronic state of stable angina. Nowadays it is defined as the non-ST-elevation acute coronary syndrome with no detectable myocardial enzymes. Due to high sensitive cardiac troponin (hs-cTn), levels have to be very low to be detected. This raises the question of other potential markers for the early diagnosis and differential diagnosis of unstable angina.

Review: Electronic searching of corresponding articles on PUBMED was performed with the term "unstable angina microrna", whereas 76 articles between 2010 and 2022 were yielded and 7 included. According to a study of the Department of Cardiovascular Diseases of the Meizhou People`s Hospital RNA sequencing was performed from the serum of patients with stable angina (SA), UA and normal coronary arteries (NCA). Results showed dysregulation and differentiation between SA, UA and NCA. Several studies showed similar results as described above. On the other side, a study concluded that microRNA has the potential to differentiate between patients with angiographically coronary artery disease, but there was no pattern to discriminate UA from SA.

Conclusion: It can be concluded that micro-RNAs are in fact potential biomarkers for the diagnosis of unstable angina and are used as early detection for SA and UA. Further research on microRNAs is needed to verify the use of microRNA as a biomarker in early diagnosis of UA.

Keywords: Acute Coronary Syndrome, Biomarker, Diagnostic Value, MicroRNA, Unstable Angina

VSCON

0

OTHER

001

Macronutrients in the diet of preschool children in North Macedonia

Jansun Bukovetz[1], Shaban Memeti[1], Igor Spiroski[1]

1 - Department of Nutrition, Institute of public health of North Macedonia, Skopje, North Macedonia

Introduction: Dietary habits are linked with the prevention or development of non-communicable diseases. Balanced nutrition should be established from an early age. The objective of this research was to assess macronutrients content of the diet of children in kindergartens in Macedonia in 2020.

Materials and methods: The analysis was performed on data collected in the Institute of Public Health (IPH) from regional Centers of Public Health (CPHs) for 2020. The average composition of daily meals that children receive five days a week during 2020, were analyzed using diet assessment software utilized in CPHs and IPH.

Results: The average energy value in the daily meal in kindergartens in the country is 1001 kcal. Proteins contribute with 35 g, fats with 35 g and carbohydrates with 135 g, with a daily share of total energy of 14%,32% and 54% respectively. Vegetable and animal proteins are almost equally present with 17.62 g and 16.42 g, respectively. The presence of saturated fats is 1.65% above than the maximum recommended intake of 10%. Monounsaturated and polysaturated fatty acids contribute with 9.87% and 12.37%, respectively, and meet the recommendations. Sugars (mono and disaccharides) account for 19.4% of total meal content, which is almost double the recommended maximum of 10%.

Conclusion: Macronutrients in meals are properly balanced, but foods with more nutritious content should be selected and prepared, particularly for foods that are source of carbohydrates.

Keywords: children, kindergartens, macronutrients

002

Investigation of changes in the chemical composition of teeth enamel after professional teeth cleaning

Tymur Iengalychev[1]; Vladislav Yevtushok[1]; Yana Yushchenko[1];Antonina Belyaeva[1]; Tetiana Tyshkovska[1]; Iryna Tkachenko[2]

1 – Poltava State Medical University, Poltava, Ukraine
2 – Department of Propaedeutics of Therapeutic Dentistry, Poltava State Medical University, Poltava, Ukraine

Introduction: The changes in the microelement content of the enamel, which are caused by mechanical cleaning, remain unexplored. Since the amount of minerals in the enamel have a strong direct correlation with its hardness and, consequently, with the clinical prognosis, data on the corresponding change in their content is necessary.

Materials and methods: 10 frontal human teeth, extracted due to orthodontic indications, were prepared for the experiment, wherein in every tooth, the right half of the vestibular plane of the crown was exposed to the professional teeth cleaning methods (air polishing & mechanical paste polishing. The left half of the crown remained untouched as a control area. An energy-dispersive spectrometer "X-max 80mm2" ("Oxford Instruments", UK) was used to evaluate the chemical composition of the enamel.

Results: There was a statistically significant decrease in the percentage of Oxygen (from 26,54±1,6% to 23,74±1,2, $p<0,05$), Phosphorus (from 16,6±0,63% to 14,89±0,85%, $p<0,05$) and Calcium (from 27,01±1,63% to 24,53±1,55%, $p<0,05$. Additionally, there was a statistically significant increase of Carbon content (from 25,16±1,04% to 32,02±1,8%, $p<0,001$).

Conclusion: Obtained results indicate the destruction of the hydroxyapatite prisms in the surface level of the enamel, which decreases its mechanical hardness and causes hyperesthesia. Consequently, frequent professional tooth cleaning may lead to the weakening of enamel structure; therefore, the concept of “routine” prophylaxis should be reevaluated.

Keywords: Dental Polishing, Dental Air Abrasion, Dental Enamel, Hydroxyapatites, Minerals.

003

Erectile function in university students in Osijek during pandemia COVID-19

Kurina Christian[1], Krešo Sara[1], Stojković Fran[1], Jurić Tomislav[1], Zibar Lada[1,2]

1 - Faculty of Medicine, University Josip Juraj Strossmayer in Osijek, Osijek, Croatia
2 - Clinical Hospital Merkur, Zagreb, Croatia

Aim: We examined erectile function (EF) in students during coronavirus disease (COVID-19) pandemia, presuming that the pandemia did not affect sexual function (SF) in young men thanks to their healthiness.

Study population and methods: 214 male students (median age 22 years, interquartile range 21 - 24) of University Josip Juraj Strossmayer in Osijek responded to the online questionnaire in May 2021, during the third pandemic wave in Croatia. Questions addressed demographics, antropometrics, history, COVID-19, relations, habits and IIEF-5 (International Index of Erectile Dysfunction) questionnaire.

Results: 14 % of students had some illness and 10.7 % were taking pharmacotherapy. 27.6 % had history of COVID-19. 50 % were in stable intimal relationship. 23.8 % declared change in their SF during pandemia. Confidence to get and keep an erection 19.7 % of them rated as very low, low or moderate. In 3.3 % erections were not hard enough for penetration and 16.4 % were not able to maintain erection after having penetrated the partner in more then half of the times. 33.2 % had difficulties to maintain erection to completion of the intercourse, while 17.8 % were not satisfied with sexual intercourse in more than half of the times. Erectile dysfunction (ED) was found in 33.2 % of them. Frequency of ED did not differ between those who had or had not history of COVID-19.

Conclusion: There was substantial prevalence in ED in university students and pandemia COVID-19 might have affected their sexual life. They were not overall healthy as we presumed.

Keywords: COVID-19, erectile dysfunction, sexual function, students, pandemia

004

The relationship between burnout, mental wellbeing and cognitive emotion regulation strategies among emergency department workers

Krisztina Pálfi[1], Réka Kereszti[2], Boróka Gács[3]

1 - Institute for Translational Medicine, Medical School, University of Pécs, Pécs, Hungary
2 - Medical School, University of Pécs, Pécs, Hungary
3 - Department of Behavioural Sciences, Medical School, University of Pécs, Pécs, Hungary

Introduction: Healthcare workers are at high risk of physical, mental and emotional strain, which can lead to burnout. The high prevalence of occupational stress has a negative impact on the healthcare workers, the healthcare system and the patients as well. The aim of this pilot study to explore the relationship of burnout with occupational stress, emotion regulation and wellbeing among healthcare workers.

Materials and Methods: A cross-sectional research was conducted between September and October of 2021. The online survey was filled out by 61 ER workers. Emotion regulation was assessed with the Cognitive Emotion Regulation Questionnaire. Burnout and wellbeing were measured with the Maslach Burnout Inventory and the WHO–5 Well-being Index. Depressive symptoms, anxiety and stress were examined with the Depression, Anxiety and Stress Scale.

Results: Almost 50% of the HCWs reported symptoms of depression, anxiety and high level of stress. The sample shows signs of depersonalisation and emotional exhaustion. Women are more likely to feel depressed and use more self-directed maladaptive emotion regulation strategies than men. Perceived stress, refocusing on planning and blaming others seem to predict the presence of burnout. A significant negative correlation is also observed between subjective wellbeing, maladaptive emotion regulation strategies and burnout.

Conclusion: The elevated stress, anxiety, depression and insufficient emotion regulation increase the risk of burnout. Organisational interventions to reduce stress and improve wellbeing of healthcare workers are essential for decreasing the risk of burnout in order to improve the quality of patient care.

Keywords: burnout, emotion regulation, healthcare workers, wellbeing

005

Assessment of Micro- and Macronutrients Intake During Pregnancy - Implementation of Epic-Norfolk Food Frequency Questionnaire

Lorena Stanojević[1], Matea Lukić[1], Martina Vulin[2,3], Ana-Maria Metzger[2], Lucija Magušić[2], Ines Drenjančević[4,5], Ana Stupin[4,5]

1 - Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
2 - Department of Obstetrics and Gynecology, University Hospital Osijek, Osijek, Croatia
3 - Department of Obstetrics and Gynecology, Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
4 - Department of Physiology and Immunology, Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
5 - Scientific Center of Excellence for Personalized Health Care, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia

Introduction: Present study aimed to investigate diet quality in healthy pregnant women at the third trimester of pregnancy based on the comparison of results from Epic-Norfolk food frequency questionnaire (FFQ) and current nutritional recommendations (RDA).

Materials and methods: This study included 27 healthy pregnant women between 37 and 40 weeks of gestation. All subjects completed two part FFQ. Part 1 included a food list of 130 lines with a frequency of consumption for each line. Part 2 contained questions regarding more detailed information about food lines in part 1. Epic-Norfolk FFQ was downloaded, translated to Croatian, and processed using FFQ EPIC Tool for Analysis (FETA).

Results: Average daily energy intake was 1993 ± 713 kcal/day (RDA 2550 kcal/day), with 16% of daily energy coming from protein intake (RDA 10-35%), 46% of total energy coming from carbohydrates (RDA 45-65%), and 38% of energy coming from fat intake (RDA 20-35%). Regarding micronutrients, average daily intake was as follows: iron 10.5 ± 3.6 mg/day (RDA 27 mg/day), folate 274 ± 87 mcg/day (RDA 600 mcg/day), iodine 153 ± 60 mcg/day (RDA 220 mcg/day), calcium 0.96 ± 0.34 g/day (RDA 1.0-1.3 g/day), and vitamin D 2.8 ± 1.7 mcg/day (RDA 5.0-15.0 mcg/day).

Conclusion: Total energy intake in healthy pregnant women was below the recommended values; energy derived from protein and carbohydrates intake was closer to the lower limit of the recommendations, while total fats intake exceeded the recommended reference. Inadequacy was also observed for micronutrients intake, essential to maintain fetal growth and development, showing suboptimal intake of iron, folate, iodine and vitamin D, while only daily calcium intake was optimal.

Keywords: micronutrients, nutrients, pregnancy nutrition, pregnant women

006

Torque fracture testing of autologous and autogenous bone block fixating mini-screws

Réka Stefanics[1]; Roland Told[2]; József Szalma[3]

1 - Undergraduate Study Program, Medical School, University of Pécs, 12. Szigeti St., 7624 Pécs, Hungary
2 - 3D Printing & Visualization Centre, Medical School, University of Pécs, 2. Boszorkány St., 7624 Pécs, Hungary
3 - Department of Oral and Maxillofacial Surgery, Medical School, University of Pécs, 5. Dischka St., 7621 Pécs, Hungary

Introduction: Mini- and micro-screws are used in maxillofacial osteosynthesis, for orthodontic skeletal anchorage or in bone augmentation procedures of the jaws. Several screw types of different manufacturers are available; however, our selection should be based on knowing the exact mechanical properties. Torque fracture of included screws were tested to investigate *ultimate tensile strength* (*UTS*), *yield strength* (*YS*) and exact *angle of UTS* (*UTS-A*).

Materials and methods: Promed_2000, Hager&Meisinger and DePuy_Synthes screws between the diameter of 1.0-2.0 mm were involved. *UTS*, *YS* and *UTS-A* was examined with Zwick/Roell_Z5.0 biaxial testing apparat, while macroscopic appearance of screws during testing was recorded by a video-microscope. For comparing screws' data, independent samples T-test and ANOVA followed by Tukey HSD post-hoc tests were used.

Results: Meisinger_1.0mm screw produced significantly higher *UTS* and *YS,* but lower *UTS-A* than Promed_Ti_1.0mm ($p<0.001$). *UTS* ($p=0.092$) and *YS* ($p=0.858$) of Synthes_1.3mm and Meisinger_1.3mm screws were similar, but *UTS-A* value of Synthes_1.3mm was higher ($p=0.001$). *UTS* and *YS* of Synthes_1.5mm was the highest among 1.5-1.6mm in diameter screws, however the Promed_1.6mm screw had the highest *UTS-A* (364.6° ±12.9°). In the total comparison, Promed_TiAl6V4_2.0mm showed the highest *UTS* (67.6 ±2.3 Ncm) and *YS* (37.5 ±1.5 Ncm), while Promed_Ti_1.0mm the lowest (6.3 ±0.3 and 3.5 ±2.4 Ncm) values. Right before screw fractures, the most characteristic macroscopic sign were an opal color change and frilled change in appearance of the threads.

Conclusions: For safe intraoperative applications oral surgeon should exactly know the limit of elastic deformations and torque fracture values of the selected screws.

Keywords: Bone augmentation; Screw; Torque fracture; Ultimate tensile strength; Yield strength

007

The effect of high-intensity rapid polymerization on degree of conversion and monomer elution of bulk-fill resin composites

Donát Tamás Szebeni[1], Katalin Böddi[2], Zsuzsanna Őri[3], Edina Lempel[1]

1 - Department of Restorative Dentistry and Periodontology, University of Pécs Medical School, Pécs, Dischka Gy. Street 5, 7621-Hungary
2 - Department of General and Physical Chemistry, University of Pécs, Pécs, Ifjúság Street 6, 7624-Hungary;
3 - Department of Biochemistry and Medical Chemistry, University of Pécs Medical School, Pécs, Szigeti Street 12, 7624-Hungary

Introduction: Novel resin-based composite (RBC), namely Tetric PowerFill (TPF) was developed for 3s high-irradiance rapid polymerization (RP) to decrease the working time. The purpose of this *in vitro* study was to compare the degree of conversion (DC) and the monomer elution (ME) of TPF and another bulk-fill RBCs with RP, turbo- (TP) or conventional polymerization (CP) settings.

Materials and methods: Samples were prepared from TPF and Filtek One Bulk Restorative (FOB) RBCs in diameter of 5mm and 4mm in depth. Four groups were established according to the polymerization settings: 3s-RP, 5s-TP, 10s-CP and 20s-CP. One mm thick samples with 20s-CP settings served as control groups. The DC at the top and bottom surfaces was measured with micro-Raman spectroscopy. The amount of released monomers was detected by high-performance liquid chromatography. ANOVA and Tukey's post-hoc test, multivariate analysis and partial eta-squared statistics were used to analyze the data ($p < 0.05$).

Results: Comparing the DCs at the top surfaces of the two RBCs, FOB provided higher values (61.5%-77.5%), meanwhile the DC of TPF ranged between 43.5%-67.8%. However, at the bottom, TPF samples achieved higher DCs (39.9%-58.5%) than FOB (18.21%-66.18%). With extending curing time, the DC increased (except at the top of FOB) and the ME decreased for both RBCs. BisGMA was released at the highest amount from both RBCs, however the amount was three-fold more from TPF. The factor *Material* and *Exposure* significantly influenced the DC and ME.

Conclusion: RP or TP provided inferior DC values and increased ME of both investigated RBCs.

Keywords: Bulk-fill, Degree of conversion, Monomer elution, Rapid light-curing

author index

PRESENTING AUTHOR INDEX

OSCON

Jurišić Klara: R01, R05, R07, R08, R09, R12, R14, R15
Kadivnik Mirta: CR60
Kajan Josip: R06
Kajba Lea: CR55, CR58, CR61, CR72, CR79
Kajić Josipa: CR59
Kalazić Astrid: R01, R05, R07, R12, R14, R15
Karačić Andrija: CR14, R10
Kardum Darjan: CR10, CR11
Karl Dora: CR55, CR58, CR60, CR61, CR72, CR79, CR80, CR144
Kató Dorottya: R11
Kecskés Angéla: BS05
Kelava Leonardo: BS03, CM05, CM07
Kereszti Reka: OT04
Kibel Aleksandar: CR56, CR105
Kisić Sven: CR62
Klobučar Majanović Sanja: CR54
Kokanović Marija Mateja: CR63, CR73
Kolačko Šćuric Fran: CR84
Kolak Ena: R01, R05, R08, R09, R12, R14, R15
Kondža Goran: CR153
Konkoly János: BS05
Konjik Vlatka: CR119
Koporčić Mario: R10
Koprek Damir: CR08
Koprivčić Ivan: CR49
Kormos Viktória: BS05
Kotromanović Darko: CR64
Kotromanović Sonja: CR64
Kotromanović Zdenka: CR64
Kovács Dániel: CM10
Kovač-Barić Maja: CR64
Kovač Šižgorić Matilda: CR129, CR141, CM14
Kovačević Antonio: CR29, CR105, CM04
Kovačević Ivana: CR66
Kovačević Jakov: R12
Kovačević Tomi: CR139
Kralik Kristina: CM06
Kralj Dominik: CR17
Krešo Sara: OT03
Krivdić Dupan Zdravka: CR57, CR121
Kršek Antea: CR65, CR143
Kurina Christian: CR24, CR42, CR51, OT03
Kurtović Anamaria: CR43
Kurtović Ivana: CR66, CR68, CR69
Kvolik Slavica: CR78, CR134, CR135, CM04
Laslo Dorian: CR67
Leaua Iuliana-Elena: CR50
Lekić Ivan: CR56, CR80
Lempel Edina: OT07
Leonardi Sofia: R03, R19
Letica Crepulja Marina: CR47
Levaković Adriana: CR79
Likić Robert: CR20
Lillik Veronika: R11
Listeš Ante: CR66, CR68, CR69
Lišnjić Dubravka: CR133
Lizatović Lucija: CR63, CR73
Loinjak Domagoj: CR21
Lončar Branka: CM02
Lošić Dorotea: CR63, CR73
Lovrić Matej: CR128
Lovrić Benčić Martina: CR123
Lucijanić Marko: CR23
Lukač Kaja: CR66, CR68, CR69
Lukač Petra: R01, R05, R07, R08, R09, R12, R14, R15
Lukenda Lana: CR44, CR70
Lukić Gordana: CR01
Lukić Matea: CR100, CM06, OT05
Lužaić Karla: CR71
Maduna Ivanka: CR58, CR61, CR72, CR79, CR144
Magušić Lucija: OT05
Majer Marjeta: CR96
Majstorović Ana: CR63, CR73
Malbašić Anton: CR33, CM01, R13
Maloča Toni: CR74, CR78, CR88, CR90, CR134, CR135
Mandac Smoljanović Inga: CR114
Marčec Robert: CR33, CM03
Margetić Marko: CR84
Maričić Lana: CR152
Marijanović Drago: CR75, CR76, CR82
Markić Dean: CR151
Markov Maria: CR63, CR73
Marković Ana: CR77, CR86
Markuš Petra: CR74, CR78, CR88, CR90, CR134, CR135

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DOMINIK SPAJIĆ

MARTINA FIRIĆ

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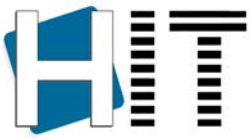
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