20th Croatian Student Summit

8th - 11th of April, 2025
Zagreb

Book of Abstracts

20 CROSS

University of Zagreb School of Medicine

20th Croatian Student Summit

Zagreb,
April 8th-11th, 2025

EDITOR-IN-CHIEF
Klara Cifrek

EDITORS
Lucija Cvitak • Jelena Jakšić

VISUALS
Lazarela Cuparić • Klara Rudan

COVER PAGE
Leonarda Maria Šitum

PUBLISHER
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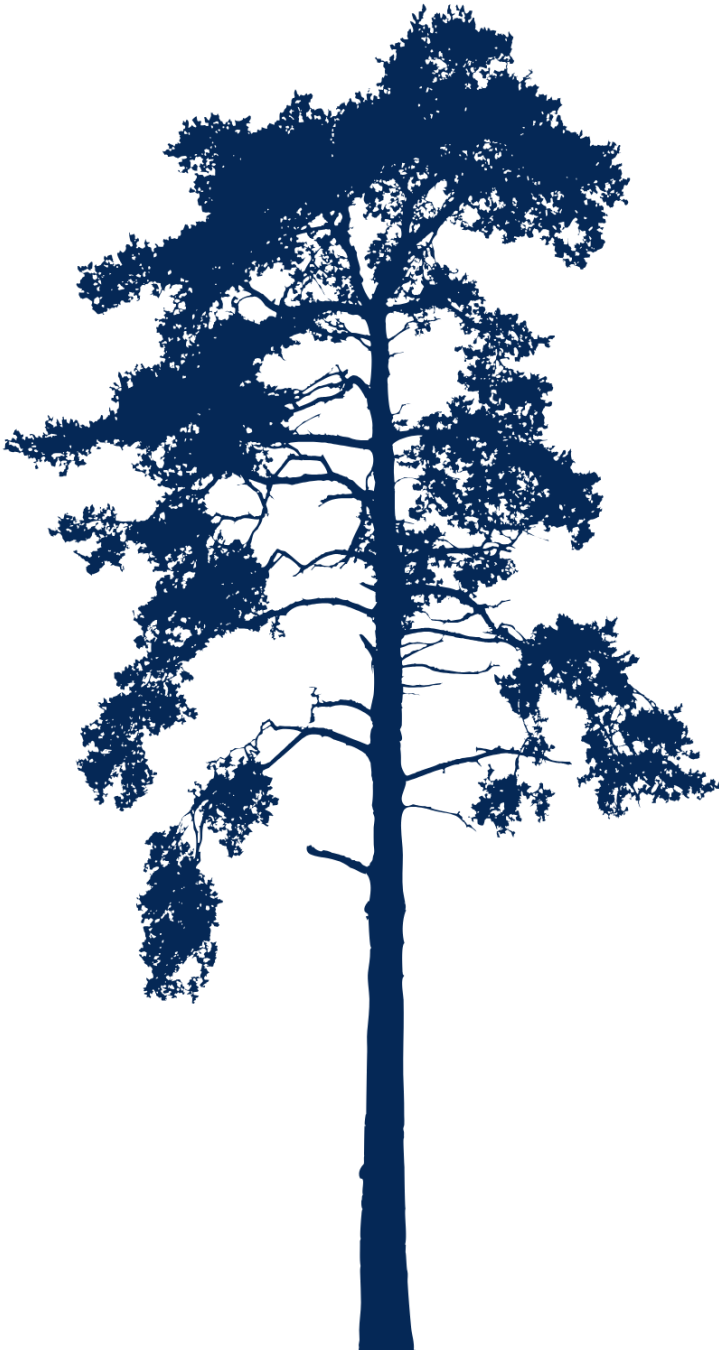


About This Year's Topic

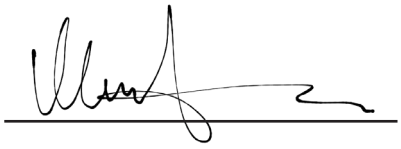
In an era of rapid social progress, medicine courageously keeps pace. However, today's medical problems are increasingly complex and often intertwined with non-medical aspects and influences. The intersection of biological, psychological, social, and environmental factors requires a **more holistic approach to healthcare delivery than ever before**.

With the topic "The Journey of Life", we wanted to **systematically examine medical challenges throughout human development**, from early life and childhood interventions through adolescence and young adulthood transitions into middle adulthood with emerging chronic conditions, and finally address the complexities of geriatric medicine and end-of-life care.

Every life stage brings medical challenges, and we want to highlight how future physicians like ourselves can best respond to them. The continuum of care from pediatrics to geriatrics presents unique considerations requiring specialized knowledge and integrated approaches. **We seek to identify and discuss future challenges, from new diagnostic methods to advanced therapies, analyzing how medicine adapts to patient needs in different life stages**. Each problem must be approached by looking at the broader picture, considering social determinants, technological integration, and personalized medicine strategies. We aim to encourage innovative thinking, reflect the progressive spirit of new medical professionals, and understand practice evolution through lectures and discussions that provide insight into how medical practice is developing today.

Like life, **the Journey of CROSS 20 is divided into different age stages while exploring medical challenges across every stage**. Beginning with prenatal care and pediatrics, we examine childhood vaccination strategies, obesity prevention, and digital technology's influence on developing minds. The second day transitions to teenagers and adolescents, addressing stress management, body image concerns, and peer influence dynamics. Day three investigates adulthood health challenges, covering chronic disease management, environmental health impacts, and emerging medical innovations. The final day completes our journey with geriatrics, examining longevity research, artificial intelligence applications in healthcare, and addressing ageing-related challenges.

Recognizing that life does not divide neatly into distinct phases, we conclude each day with an integrative panel discussion titled "What the Health is Going On?" These discussions emphasize the interconnected nature of life stages and illustrate how decisions made earlier in life manifest in subsequent phases, highlighting the **continuous thread of health decisions and their cascading effects throughout human life**.



Matija Martinić
President of the 20th Croatian Student Summit

Welcome Messages

Matija Martinić
President of the 20th Croatian Student Summit

Dear Colleagues and Distinguished Guests, Dear Friends,

With great honour and enthusiasm, I welcome you to the **20th Croatian Student Summit** on behalf of the entire CROSS team.

As we gather at the University of Zagreb School of Medicine, we continue a proud tradition of academic excellence and scientific collaboration that has defined CROSS since its inception. CROSS has evolved into a first-class international scientific congress for students and young scientists in the biomedical field. As one of the most significant international biomedical conferences organized by students for students in Central Europe, it has become a vital platform for **exchanging ideas, fostering collaborations, and advancing knowledge in medicine and related disciplines**. Also, it is important to forge valuable connections that will shape the future of healthcare.

This year's theme, "The Journey of Life", underscores our commitment to **addressing the complexities of healthcare from infancy to old age**. In an era of rapid societal progress, medicine must adapt to increasingly intricate challenges that often intertwine medical and non-medical factors. Our goal is to **educate, inspire, and connect participants**, equip them to navigate future obstacles with innovative approaches and contemporary methods, and, most importantly, **highlight how future physicians like ourselves can best respond to them**.

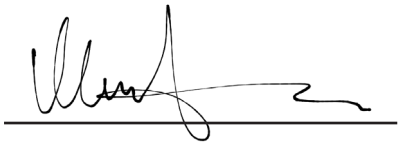
I extend a special welcome to our **international participants** in Zagreb and Croatia. Your presence enriches our congress and brings valuable perspectives worldwide from healthcare systems and research environments. To our student participants, I commend your commitment to academic excellence at this early career stage.

I want to express my sincere gratitude to **Assoc. Prof. Nadira Duraković, MD, PhD, our mentor**, whose guidance, care, and passion were invaluable. Her support helped us push our limits and achieve something truly remarkable. Furthermore, I would like to extend my heartfelt thanks to all **faculty members, speakers, and sponsors** who have made this event possible. Your support continues to be the foundation for CROSS's success.

I encourage all participants to engage actively in discussions, question, learn, and collaborate. Through this exchange of ideas, we can advance our field and better prepare ourselves to address tomorrow's healthcare challenges.

Wishing you all a productive and inspiring summit, and most importantly, **welcome to CROSS 20!**

Sincerely,



Lara-Nika Holjevac Stasiow
President of the Scientific Programme Committee

Dear colleagues, young doctors, and friends,

It is my honor to welcome you to the **twentieth anniversary edition** of the Croatian Student Summit!

Continuing the tradition of past years, we have once again chosen a theme that steps outside the box—one that offers something intriguing for everyone, regardless of their interest in a particular specialty. I hope you will enjoy this year's program as much as we enjoyed designing it and bringing it to life.

The future can be daunting—I know, I literally have "Do not worry" tattooed on my hand. But if we shift our perspective, it can also be exciting and full of opportunities. The wheel of time spins relentlessly, bringing new challenges but also new technologies to overcome them. Education is often criticized for not evolving fast enough to prepare us for what lies ahead. With this in mind, we wanted to offer you a **glimpse into the journey ahead**—hopefully making the future feel a little less uncertain.

When Matija first asked me to be his **right hand, third arm, and the designated stress-manager for minor inconveniences** (oh, and most importantly, the **Head of the Scientific Program Committee**), my biggest motivation for saying yes was knowing how passionate students always are about sharing their research. Our **poster team** worked tirelessly to review all the fantastic abstracts submitted, ensuring that the best ones reach a wider audience. Reading them was truly inspiring, and I encourage you all to explore them—even if you couldn't attend the presentations in person.

One of my absolute favorite parts of CROSS— and I believe many would agree—are the incredible **workshops**. They provide a unique opportunity to gain **hands-on experience** in a friendly, engaging atmosphere. I am deeply grateful to all the workshop organizers for their innovative ideas and the knowledge they bring to the table.

And last but not least, none of this—the **abstracts, this text, or anything else you're reading now**—would look half as good if it weren't for our **diligent Book of Abstracts team**, who saved us from mismatched fonts and chaotic formatting.

Now that the formalities are out of the way, let me speak from the heart: I am truly grateful for this experience. More than anything, the best thing I've gained from this journey has been the **amazing people I've met and the friendships I've deepened along the way**. At the end of the day, it's not just the lectures or workshops that stay with us—it's **the connections we make and the people we meet**. So, while you're here, don't just expand your knowledge—**make friendships that will last long after CROSS is over**.

Thank you, truly.

Dino Žujić
President of the Student Council

Dear friends,

It is with immense joy and deep gratitude that I welcome you to the **20th edition of the Croatian Student Summit** – a milestone that reflects two decades of passion, knowledge, and unwavering commitment to excellence. This year's theme, Journey of Life, could not be more fitting, as we not only explore the paths of science and medicine but also celebrate the incredible journey that CROSS itself has taken.

For twenty years, CROSS has been more than just a congress - it has been **a community, a tradition, and a legacy** built by generations of students who dared to dream bigger, work harder, and create something truly extraordinary. As medical students, we navigate demanding studies, yet we choose to dedicate ourselves to something greater, something that brings people together, fosters lifelong friendships, and inspires new perspectives. This dedication, this passion, is what makes CROSS unique.

This year holds a special meaning for me personally, as it marks my final year in a project that has shaped my entire journey as a student. From my very first steps in CROSS to now standing before you as the president of the student council, I have witnessed the **transformative power of this congress - its ability to challenge, unite, and inspire**. It is my greatest honor to see this anniversary edition come to life, crafted by an incredible team that has poured its heart and soul into making every detail unforgettable.

Over the next four days, you will engage in thought-provoking lectures, hands-on workshops, and inspiring research presentations. You will connect with brilliant minds, exchange ideas, and create memories that will stay with you far beyond these walls. And as we celebrate this special 20th edition, I hope you feel the spirit of all those who came before us - their vision, their hard work, and their belief that **together, we can achieve more**.

Welcome to CROSS 20. Welcome to a journey that will stay with you for a lifetime.

Sincerely yours,

The Journey of CROSS 20

8.04. tue — Prenatal and Pediatrics

11:00 - 15:30 Registration

15:30 - 16:00 Opening Ceremony

PLENARY SESSION 1

16:05 - 16:45 To Vax or Not to Vax
Maja Vrdoljak Pažur, MD, PhD

16:50 - 17:10 Coffee Break

PLENARY SESSION 2

17:10 - 17:30 The Weight of the Issue: Childhood Obesity in Croatia
Prof. Sanja Musić Milanović, MD, PhD

17:35 - 17:55 Caught between TikTok and the School Playground - Perspectives of Children and Young People on the Use of Digital Technologies
Boris Jokić, MPsy, PhD

18:00 - 19:00 Panel Discussion
What the Health is Going on?
Panelists:
Maja Vrdoljak Pažur, MD, PhD
Prof. Sanja Musić Milanović, MD, PhD
Boris Jokić, MPsy, PhD
Moderator: Assoc. Prof. Nadira Duraković, MD, PhD

19:00 - 20:00 Buffet Dinner

9.04. wed — Teenagers and Adolescents

08:00 - 10:00 Poster Session 1

10:00 - 10:30 Coffee Break

10:30 - 12:30 Poster Session 2

12:45 - 13:45 Lunch Break

PLENARY SESSION 3

14:00 - 14:20 Scrolling through Adolescence: Challenges and Opportunities for Empowerment
Assoc. Prof. Dora Dodig Hundrić, PhD

14:25 - 14:45 A Dialogue with My Body
Davor Dubravić, MPsy

14:50 - 15:10 Coffee Break

PLENARY SESSION 4

15:10 - 15:30 Mirror Mirror: Who's the Fairest of All?
Asst. Prof. Ivan Rašić, MD, PhD, FACS, EAFPS

15:35 - 15:55 What if Your Anger is What's Making You Stressed?
Iva Stasiow, MD, MSc in Psychotherapy

16:00 - 17:00 Panel Discussion
What the Health is Going on?
Panelists:
Iva Stasiow, MD, MSc in Psychotherapy
Davor Dubravić, MPsy
Asst. Prof. Ivan Rašić, MD, PhD, FACS, EAFPS
Moderator: Assoc. Prof. Nadira Duraković, MD, PhD

17:10 - 18:30 Workshop Session 1

18:40 - 20:00 Workshop Session 2

20:30 - 22:30 Pub Quiz

10.04. thu — Adults

08:00 - 10:00 Poster Session 3

10:00 - 10:30 Coffee Break

10:30 - 12:30 Poster Session 4

12:45 - 13:45 Lunch Break

PLENARY SESSION 5

14:00 - 14:20 Dancing to a Different Beat
Nikola Kos, MD, PhD

14:25 - 14:45 Winning the Great War
Prof. Ozren Polašek, MD, PhD

14:50 - 15:10 Coffee Break

PLENARY SESSION 6

15:10 - 15:30 Will We Weather the Storm?
Lidija Srnec, MSc in Meteorology

15:35 - 15:55 From Deadly to Daily
Assoc. Prof. Natalija Dedić Plavetić, MD, PhD

16:00 - 17:00 Panel Discussion
What the Health is Going on?
Panelists:
Assoc. Prof. Natalija Dedić Plavetić, MD, PhD
Assoc. Prof. Anna Mrzljak, MD, PhD, FEBGH, FEBTM
Assoc. Prof. Tina Dušek, MD, PhD
Nikolina Škaron, MD, Government Affairs & Market Access Manager, AstraZeneca d.o.o.
Moderator: Assoc. Prof. Nadira Duraković, MD, PhD

17:10 - 18:30 Workshop Session 3

18:40 - 20:00 Workshop Session 4

21:30 - 02:30 Gala Dinner

11.04. fri — Geriatrics

08:00 - 10:00 Poster Session 5

10:00 - 10:30 Coffee Break

10:30 - 12:30 Poster Session 6

12:45 - 13:45 Lunch Break

PLENARY SESSION 7

14:00 - 14:30 The Future Doesn't Have to Be so Gray
Assoc. Prof. Tajana Pavić, MD, PhD

14:35 - 15:10 Coffee Break

PLENARY SESSION 8

15:10 - 15:30 Restoring What Time Takes Away
Marta Grotić, MSc in Electrical Engineering and Information Technology

15:35 - 15:55 AI and the Quest for Immortality: Are We on the Brink of a Longevity Revolution
Prof. Robert Likić, MD, PhD

16:00 - 17:00 Panel Discussion
What the Health is Going on?
Panelists:
Prof. Robert Likić, MD, PhD
Marta Grotić, MSc in Electrical Engineering and Information Technology
Moderator: Assoc. Prof. Nadira Duraković, MD, PhD

17:00 - 17:10 Quick Break

17:10 - 17:30 Closing Ceremony

Special Thanks to our Biggest Sponsor

AstraZeneca

Nikolina Škaron, MD

Special Panel Discussion Participant

Nikolina Škaron, MD, brings over 20 years of experience in the pharmaceutical industry, primarily through her dynamic career at AstraZeneca, where she has advanced through diverse roles in sales, marketing, medical affairs, access, and external relations. For the past nine years, she has held the position of Governmental Affairs and Market Access Manager in Croatia, focusing on ensuring access to AstraZeneca's innovative medicines. Throughout her career at AstraZeneca, Nikolina is particularly proud of leading pioneering collaborative projects with Croatian healthcare professionals, including the introduction of molecular testing for oncology patients, and on initiatives in collaboration with patient groups to drive public awareness campaigns across various therapeutic areas, greatly enhancing health literacy and patient care in Croatia. Before joining AstraZeneca, Nikolina gained invaluable experience as a medical doctor in emergency medical practice and as a medical team leader in demining operations, which deepened her understanding of critical aspects of medical care.

Lecturers

Assoc. Prof. Nadira Duraković, MD, PhD

CROSS 20 Mentor & Panel Discussions Moderator

Assoc. Prof. Nadira Duraković, MD, PhD, is board-certified in Internal Medicine and Hematology and works as an attending physician in the Bone Marrow Transplantation Unit at University Hospital Centre Zagreb. She is also an assistant professor of Internal Medicine at the University of Zagreb School of Medicine.

After graduating from the University of Zagreb Medical School in 2000, she became a postdoctoral research fellow at Johns Hopkins University, focusing on transplantation immunology. Her work there deepened her interest in stem cell transplantation and T-cell biology.

Passionate about education, she actively mentors students and younger colleagues, believing that physicians have a duty to share knowledge to empower individuals and improve public health.

Plenary Session 1

Tuesday, April 8th 2025
Theme: Prenatal and Pediatrics

Maja Vrdoljak Pažur, MD, PhD

Maja Vrdoljak Pažur, MD, PhD was born in Sinj in 1990, where she completed primary and secondary education. She enrolled at the University of Zagreb School of Medicine in 2008 and graduated in 2014. She completed her medical internship at the Dr. Fran Mihaljević Clinic for Infectious Diseases, where she began her specialization in pediatric infectology in 2015. She passed her specialist exam in September 2022. In January 2024, she defended her doctoral dissertation under the mentorship of Professor Goran Tešović. Since 2024, she has also been working as a senior assistant at the Department of Infectious Diseases at the University of Zagreb School of Medicine. She is the author or co-author of several scientific papers published in domestic and international professional journals. She has actively participated in numerous national and international congresses.

Prof. Sanja Musić Milanović, MD, PhD

Prof. Sanja Musić Milanović, MD, PhD, is an epidemiologist, scientist, and university professor. She earned her MD and PhD from the University of Zagreb School of Medicine and a postgraduate Master's in Public Health Methodology from Université Libre de Bruxelles. She heads the Health Promotion Department at the Croatian Institute of Public Health and leads the "Living Healthy" national program. Her research focuses on the epidemiology of non-communicable diseases, particularly obesity, and public health promotion. She is a member of WHO and European Commission working groups on health promotion and obesity prevention. She also serves on the European Food Safety Authority board and the Croatian Academy of Sciences and Arts' Scientific Council for Anthropological Research. She leads Croatia's participation in the WHO European Childhood Obesity Surveillance Initiative and collaborates on major public health studies. She has authored numerous scientific papers and book chapters on obesity and health promotion.

Boris Jokić, MPsy, PhD

Boris Jokić, PhD, is a psychologist, scientist, and director of the Institute for Social Research. He earned his master's and doctoral degrees from the prestigious University of Cambridge in the United Kingdom. He was a member of the National Council for Education, the National Operational Body for the Development of the Strategy for Education, Science, and Technology, and the leader of the Comprehensive Curricular Reform for early childhood, primary, and secondary education. He is currently leading a wide range of scientific and developmental projects.

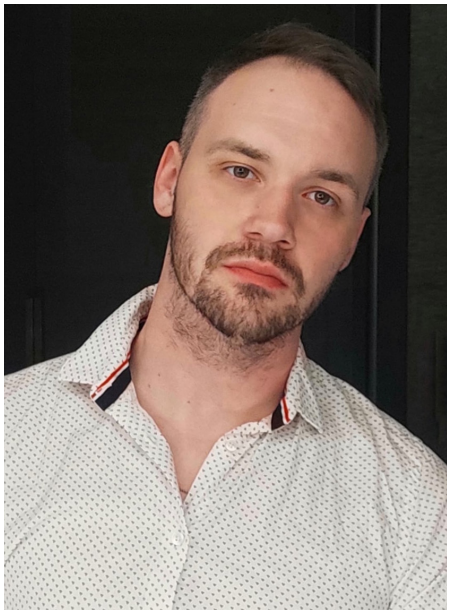
Plenary Session 2

Wednesday, April 9th 2025
Theme: Teenagers and Adolescence

Assoc. Prof. Dora Dodig Hundrić, PhD

Dora Dodig Hundrić, PhD, is an associate professor at the University of Zagreb, Faculty of Education and Rehabilitation Sciences. She holds a PhD in social pedagogy (2013) and has been engaged in research and teaching in the field of behavioural disorders since 2017. Her work focuses on behavioural problems and addictions in youth, especially gambling, gaming, social media use, and risks of the virtual environment. Committed to translating science into practice, she is a co-author of several evidence-based psychosocial interventions and has participated in numerous national and international research projects, ensuring that research-driven solutions make a real-life impact.

Davor Dubravić, MPsy



Davor Dubravić graduated in psychology in 2017 and worked at the HUHIV sexual health counseling center. Currently, he is training in cognitive-behavioral therapy and has completed sexual counseling education through the Croatian Institute of Public Health. As the author of several professional manuals on mental and sexual health, he focuses on hepatitis prevention and support for people living with HIV. He is active in harm reduction, regularly participating in the City Commission for the Prevention of HPV and STIs, and serves on the Board of Directors of the COBATEST network. With years of experience counseling the general population, parents, and vulnerable groups, he is also a member of "Nepopularna psihologija", contributing expert articles and public education initiatives.

Asst. Prof. Ivan Rašić, MD, PhD, FACS, EAFPS

Ivan Rašić, MD, PhD, is a specialist in otorhinolaryngology and a subspecialist in head and neck plastic surgery. He works at the Department of Otorhinolaryngology and Head and Neck Surgery at the University Hospital Center Sestre Milosrdnice in Zagreb. He completed his medical degree at the University of Zagreb with a GPA of 4.83 and later earned his PhD in Biomedicine and Health Sciences, focusing on gene expression in hypopharyngeal cancer. He has undergone extensive international training, including fellowships and observerships in Germany and Canada. He has published multiple research papers in indexed journals and co-authored book chapters on head and neck anatomy. He is an active member of professional societies, including the European Academy of Facial Plastic Surgery and the American College of Surgeons.

Iva Stasiow, MD, MSc in Psychotherapy

Iva Stasiow, MD and a university master of psychotherapy has been dedicated to that field for over 15 years in her private practice. She started with Cognitive Behavioral Therapy (CBT) but later specialized in Metacognitive Therapy (MCT)—becoming the only certified MCT therapist in the region (MCT Institute, 2022.). Her passion for understanding the mind started early—after graduating from the Classical Gymnasium in Zagreb, she pursued medicine, earning her degree in 1999. She later completed her MSc in Psychotherapy (2019.), focusing her thesis on the application of MCT in depression and anxiety disorders. But Iva doesn't just train the mind—she also believes in training the body! As a certified fitness trainer, she embodies the philosophy that a healthy mind needs a healthy body. Her expertise in mental health has also made her a frequent guest on TV, where she shares her knowledge with a wider audience.

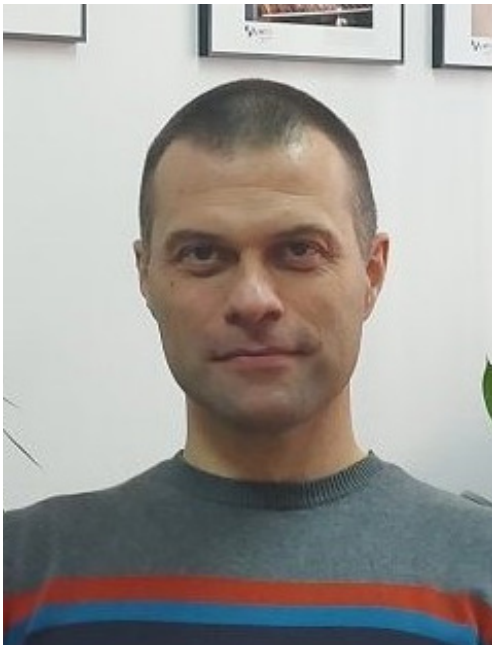
Plenary Session 3

Thursday, April 10th 2025
Theme: Adults

Nikola Kos, MD, PhD

Nikola Kos, MD, PhD, completed his primary education in his hometown of Poreč and his secondary education in Zagreb, where he also graduated from the School of Medicine at the University of Zagreb. He began his residency in cardiology in 2015 and completed it in 2021, earning the title of Doctor of Science in 2024. Since his student days, he has worked as a teaching assistant in several courses and, in recent years, has been an associate at the School of Medicine, University of Zagreb, where he participates in teaching various subjects in both the Croatian and English study programs. He is employed at the Clinic for Cardiovascular Diseases at the University Hospital Center Sestre Milosrdnice in Zagreb. His main areas of cardiology practice include interventional cardiology and angiology. He also graduated in piano playing from the Academy of Music in Zagreb.

Prof. Ozren Polašek, MD, PhD



Ozren Polašek, MD, PhD, is a Full Professor at the University of Split School of Medicine and Director of the Centre for Global Health. He holds two PhDs—from the Universities of Zagreb and Edinburgh—and has led major initiatives in public health, genetics, and epidemiology. Author of over 350 scientific papers with 43,000+ citations, he heads the Competence Centre for Molecular Diagnostics and the Centre of Excellence in Personalized Medicine. He served on the Croatian Government's COVID-19 Scientific Council and is a two-time recipient of the Croatian National Science Award. He has been recognized by Research.com as the top-ranked scientist in Croatia for Genetics, Molecular Biology, and Medicine. Since February 2023, he is Director of the Croatian Science Foundation.

Lidija Srnec, MSc in Meteorology

Lidija Srnec graduated from the Department of Geophysics and Meteorology at the University of Zagreb. In 2010, she completed a Postgraduate Study in Natural Sciences at the University of Zagreb. Since 1997, she has been working at the Croatian Meteorological and Hydrological Service, primarily in the fields of climate and bioclimate. Her main focus is on regional climate change and the influence of weather and climate on health. Since 2021, she has been the Head of the Climate Modelling, Climate Change Monitoring, and Biometeorology Division. She participates in several national and international scientific and Interreg projects and actively presents research work at conferences.

Assoc. Prof. Natalija Dedić Plavetić, MD, PhD

Natalija Dedić Plavetić, MD, PhD, is Head of the Oncology Outpatient Clinic at UHC Zagreb and Associate Professor at the Department of Pathophysiology, University of Zagreb Medical School. She earned her MD and PhD at the University of Zagreb, with a doctoral focus on breast cancer biology, and is board certified in Internal Medicine and Medical Oncology. Her research interests include tumor pathogenesis, hereditary breast and ovarian cancer, biomarkers of treatment response, and mechanisms of therapy resistance. She is Vice President of the Croatian Society for Medical Oncology and President of the National Committee for Cancer Treatment via Genomic Profiling. She is currently involved in a phase II–III breast cancer clinical trial, has participated in GI tumor trials, and is a regular speaker at national forums. She has authored numerous scientific papers, book chapters, and abstracts.

Assoc. Prof. Tina Dušek, MD, PhD

Tina Dušek, MD, PhD, is an endocrinologist at University Hospital Centre Zagreb and Associate Professor and Head of Internal Medicine at the University of Zagreb School of Medicine. She leads the Ministry of Health's Reference Centre for Neuroendocrinology, with clinical interests in pituitary, adrenal, thyroid, and gynecological endocrine disorders. She completed part of her subspecialty training at The Christie Hospital NHS Trust in Manchester, UK. She is the founder of the Summer School of Island Medicine on Šolta and is dedicated to advancing medical education through innovation and modern teaching methods, believing it is key to an effective and fair healthcare system.

Anna Mrzljak, MD, PhD, FEBGH, FEBTM

Anna Mrzljak, MD, PhD, is a Consultant Hepatologist, Head of the Liver Transplant Center Zagreb, and Associate Professor at the University of Zagreb. She earned her MD and PhD in Transplantation Medicine at the University of Zagreb, focusing on chronic kidney disease after liver transplantation. A Fellow of the European Boards of Transplant Medicine and Gastroenterology/Hepatology, she trained at King's College Hospital in London. She has led and contributed to numerous national and international projects on viral hepatitis, MASLD, and liver transplantation, and helped shape national consensus guidelines. She currently serves as an educator for the EU Program supporting liver transplantation in North Macedonia (2023–2025). Dr. Mrzljak received the Croatian Medical Chamber Award in 2019 and has authored over 110 peer-reviewed publications. She is Senior Secretary of the European Board of Transplant Medicine and an active member of ILTS, EASL, and the National Solid Organ Transplantation Committee.

Plenary Session 4

Friday, April 11th 2025
Theme: Geriatrics

Assoc. Prof. Tajana Pavić, MD, PhD

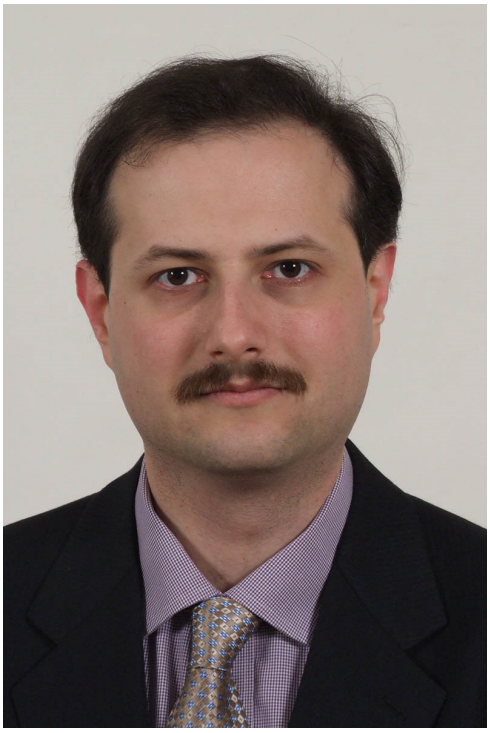
Tajana Pavić, MD, PhD, is an Associate Professor of Medicine at the University of Zagreb and Head of the Interventional Gastroenterology Unit at Sestre milosrdnice University Hospital Center. She directs the ESGE fellowship program and a postgraduate EUS master's course. Certified in clinical nutrition, she holds a European diploma in Clinical Nutrition and Metabolism. Her scientific focus includes metabolic and nutritional disorders of the pancreatobiliary system and endoscopic ultrasound, especially pancreatic endotherapy. She is President of the EUS Section of the Croatian Society of Gastroenterology, a faculty member at UEG Summer School, and a tutor at the ESGE Endoscopy Learning Area. Dr. Pavić is also President of the Croatian Society for Gerontology and Geriatrics and co-leads the EuGMS SIG on Diabetes. She has published over 60 peer-reviewed articles and several book chapters.

Marta Grotić, MSc in Electrical Engineering and Information Technology

Marta Grotić was born in Zagreb, where she received a master's degree from the Faculty of Electrical Engineering and Computing. During her master's degree, she specialised in biomedicine and signal processing, focusing on ECG analysis and detection. She currently works as an Arrhythmology Technical Consultant at Medtronic, one of the biggest medical tech companies in the world. She specialises in cardiac rhythm management and electrophysiology technologies. She is currently pursuing PhD at the Faculty of Electrical Engineering and Computing with a research focus on Conduction System Pacing, contributing to innovations in cardiac rhythm management.

Prof. Robert Likić, MD, PhD

Prof. Robert Likić, MD, PhD, graduated with honors from the University of Zagreb School of Medicine in 2001 and received the Dean's Award in 1999. He completed his residency in internal medicine at University Hospital Centre Zagreb, became board certified in 2007, and earned a PhD in 2008. He is now a tenured professor of internal medicine at Zagreb Medical School and a consultant in clinical pharmacology. His research interests include pharmacoeconomics, health technology assessment, medical informatics, and rational drug use. He has authored over 100 scientific papers, organized international meetings, and received several awards, including the Matovinovic Fellowship and the "Outstanding Early Educator Award." He holds leadership roles in national drug committees and international pharmacology societies and has served as a senior editor at the British Journal of Clinical Pharmacology since 2020.



Workshops

Ultrasound-guided procedures – seek & poke

Student Society for Anesthesiology, Reanimatology and Intensive Care

David Palijan, Dorotea Kozić, Sara Burić, Maria Bara, Assoc. Prof. Daniela Bandić Pavlović, MD, PhD

This workshop offers an in-depth exploration of ultrasound-guided procedures, focusing on peripheral vein access, peripheral nerve blocks, and central venous catheterization. Participants will begin with an informative lecture covering the principles and techniques of these essential skills, with an emphasis on safety, accuracy, and best practices. Following the lecture, the hands-on session will provide participants with practical experience using ultrasound to guide venous access, perform nerve blocks, and precisely place central venous catheters.

The workshop is designed to give students a comprehensive understanding of these techniques, as ultrasound has rapidly become the 'next stethoscope' for clinicians. It provides real-time, detailed imaging that enhances diagnostic accuracy and procedural success, offering a non-invasive, dynamic approach to patient care and allowing for more precise interventions in tasks such as vein puncture, peripheral nerve blocks, and central venous catheterization.

ValveVoyage: Lub Dub Lub Dub

Student Society for Cardiology & Student Society for Inovations in Medicine

Karolina Beg, Katarina Arbanas, Lovro Jančić, Konrad Alexander Kiss, Asst. Prof. Sandra Jakšić Jurinjak, MD, PhD

Valvular heart disease is an increasingly significant cause of cardiovascular morbidity and mortality worldwide, affecting people of various age groups. There are many causes of heart valve disease, including congenital, degenerative, infectious, traumatic, and many others. Heart valves can develop both regurgitation and stenosis at the same time, and any of the four valves (aortic, mitral, tricuspid, and pulmonary) can be affected, while aortic stenosis is the most common valvular heart disease.

At this workshop, our colleagues from the Student Society for Innovations in Medicine will demonstrate to participants 3D heart valve function with and without its pathology. The team from the Student Society for Cardiology will continue by showing how to recognize which valve is affected in valvular heart disease on 3D echocardiography.

Pharma & the Furious: Cardiovascular Drift

Croatian Pharmacy and Medical Biochemistry Students' Association

Una Jakšić, Ilija Žuljević, Assoc. Prof. Maja Ortner Hadžiabdić, PhD

This workshop offers participants the opportunity to solve a complex clinical case centered on cardiovascular diseases, the leading cause of mortality in Croatia, with a focus on identifying therapy-related problems and optimizing pharmacotherapy. Through interactive case discussions, participants will refine their ability to pinpoint therapeutic issues and their underlying causes, gaining a deeper understanding of the challenges faced in managing cardiovascular patients improving their confidence in applying these standards in real-world situations.

The workshop emphasizes the importance of making well-informed and accurate decisions in resolving therapy problems. A key focus will be placed on evidence-based decision-making, guided by current clinical guidelines. Recognizing that cardiovascular patients often have multiple comorbidities requiring an interdisciplinary approach, this workshop also aims to strengthen teamwork skills, mirroring the collaborative nature of clinical practice.

Code Blue: Lifesaving Adventures in Advanced & Paediatric Emergency Care

Student Society for Anesthesiology, Reanimatology and Intensive Care & Student Society for Pediatrics

Iskra Šimpraga, Petra Bolt, Ivan Borlinić, Marieta Alagić, Ivan Bambir, MD

This workshop, a collaborative effort between the Student Section for Pediatrics and Student Section for Anesthesiology, offers a unique blend of theory and practice in life-saving care. Beginning with an interactive lecture, participants will gain a solid foundation in the principles and protocols of Advanced Life Support (ALS) and Neonatal/Paediatric Life Support (NLS/PALS), exploring the science behind critical interventions and the teamwork required in high-pressure scenarios. Building on this knowledge, the practical session will engage participants in realistic simulations, allowing them to refine their skills in managing emergencies across the lifespan. With advanced equipment and expert guidance, this workshop provides a hands-on, dynamic experience that highlights the challenges and rewards of preserving life at its most vulnerable moments.

Who Framed Roger Rabbit: DNA Fingerprinting

Student Association for Medical Genetics and Metabolism

Chiara Krtak, Hrvoje Blažević, Marko Krklec, Lucija Kršlović, Prof. Ljiljana Šerman, MD, PhD, Prof. Tamara Nikuševa Martić, MD, PhD

In this workshop, participants will conduct a DNA fingerprinting exercise on simulated samples from a crime scene and 5 different suspects, referencing the movie Who Framed Roger Rabbit. Participants will first prepare 6 DNA samples and then analyze and compare the electrophoresis results to determine who out of the 5 suspects committed the crime.

Knot-To-Miss

Student Society for Surgery

Anamarija Tubikanec, Martin Pelin, Dea Maras, Prof. Igor Rudež, MD, PhD, Prof. Ivan Dobrić, MD, PhD, Prof. Hrvoje Silovski, MD, PhD

The workshop is a mixture of our regular primary and advanced wound care. We'll start with basics on how to hold instruments, anesthetize the wound, put on sterile gloves (if necessary), take anamnesis, and do a physical exam on patients with wounds. We'll continue the workshop by teaching simple knots, deep dermal knots, and one or two knots from advanced wound care (simple running suture or subcuticular running suture depending on the level that participants are on).

From Surviving to Thriving: The Physician's Path to Well-Being and Success

Student Section for Psychiatry

Ana Maria Antić, Veronika Lendvaj, Jana Majdak, Toma Perko, Krešimir Radić, MD

Since 1948. health is defined as a state of complete physical, mental and social well-being. Yet competencies for achieving that well-being, which should be the most important social and personal goal, are hardly even mentioned in medical school curricula. The participants will be introduced to Martin Seligman's "PERMA" model of well-being and happiness, and Christina Padesky's concept of personal resilience. After the theoretical introduction, workshop participants will practice in pairs to learn coping strategies for stress reduction as well as strategies aimed at personal growth and development, which are based on the aforementioned models. Lastly, before the end of the workshop, participants will discuss their experiences and what they have learned through the workshop.

The Oncoquest: Diagnosing, Treating, Triumphing

Student Section for Oncology and Immunology

Luciana Koren, Paula Đozić, Lucija Rukavina, Klara Bardač, Prof. Natalija Dedić Plavetić, MD PhD

In our workshop named "The Oncoquest: Diagnosing, Treating, Triumphing", the students will be divided into five teams to compete in solving a clinical case of a patient diagnosed with a particular type of cancer. They will be required to make decisions for their patient from the very beginning, starting with setting the primary suspicion and making the diagnosis, to tailoring the optimal treatment and managing its complications.

This will not just involve theoretical reasoning and answering the questions. The practical part—such as palpating the breast model, analyzing radiological images, and interpreting genomic profiling results—will also play a key role.

However, just like in the real world, the students will face unpredictable situations, simulated by our workshop authors, which they must handle successfully to continue solving the case.

With this workshop, we aim to highlight the complexity of oncologic patient care, inspire critical thinking in our colleagues, and encourage them to apply their extensive knowledge from both preclinical and clinical perspectives to make optimal decisions. Most importantly, we want to raise awareness of the vital role that teamwork and interdisciplinarity play in today's medical practice.

Island doctor's dilemma: What to do when there is no dermatologist in sight?

Student Society for Dermatovenerology

Ana Romac, Prof. Romana Čeović, MD PhD

The goal of this workshop is to empower us to recognize and understand the most common dermatological conditions that prompt patients to seek help, particularly when resources are limited. In a small clinic on a Croatian island, where a dermatologist is not always available, we will explore how to deliver the best possible care for our patients, despite these challenges. The focus will be on urgent cases and the most prevalent dermatological issues. We'll begin with an introductory presentation that outlines key conditions and critical considerations. Following that, participants will engage in a "clinical competition" divided into teams, each assigned different clinical cases with varying challenges. Without the support of a dermatologist, teams will need to make decisions about patient care, simulating the real-life scenario of a remote island clinic. Finally, we'll review the cases, discuss the decisions made, and determine which team navigated the situation most effectively, providing the best care for the patient.

Aphasia and augmentative communication

The Association of Speech-Language Pathology Students Logomotiva

Diana Firkelj, Elizabeta Matković, Prof. Tatjana Prizl Jakovac, PhD, Ana Došen, mag. logoped.

This workshop will cover a brief introduction to aphasia, the effects of stroke on the patient, their family and loved ones, the impact of aphasia on communication and on life in general, and how to communicate with someone with aphasia. We will introduce forms of assisted communication, AAC and what techniques to apply in the event of communication difficulties.

Heartbeats of Life

StEPP Association

Jana Šinka, Lara Maričić, Tea Smokrović, Anja Žužul, Nika Senjanović, MD

Sudden cardiac death (SCD) can affect people of all ages. The victim's survival depands on bystenders. Recognising cardiac arrest can be challenging. Once cardiac arrest has occurred, early recognition is critical to enable rapid activation of the EMS and to activate the chain of survival. Basic Life Support, or BLS, generally refers to the type of care that first-responders, healthcare providers and public safety professionals provide to anyone who is experiencing cardiac arrest, respiratory distress or and obstructed airway. It requires knowledge and skills in cardiopulmonary resuscitation (CPR), using automated external defibrillators (AED) and relieving airway obstructions in patients of every age. Cardiopulmonary resuscitation (CPR) is a vital intervention that maintains essential functions until early defibrillation can be administered. Its effectiveness can be enhanced through the use of an automated external defibrillator (AED). If successful, defibrillation leads to the return of spontaneous circulation (ROSC), after which advanced post-resuscitation care continues either on-site or in an appropriate medical facility.

In this workshop, the StEPP Association provides comprehensive, step-by-step training to equip participants with the necessary skills to effectively apply the Basic Life Support (BLS) algorithm. This training includes the systematic execution of chest compressions combined with effective ventilation, as well as guidance on the proper timing, technique, and safe administration of defibrillation for patients in life-threatening situations. By utilizing new and modern defibrillators and advanced training mannequins, this workshop offers participants a realistic and practical simulation of emergency response scenarios, ensuring they gain hands-on experience in managing critical situations.

When swallowing is tricky, food texture modification is a trick!

Student Society NuTrio

Amalija Danjek, Hana Petrlik, Maja Sigur, Petar Gulin, MD, Agata Ladić, MD, PhD, Paola Danjek, mag. logoped.

Dysphagia, or difficulty swallowing, is a condition that can arise from various medical causes, including neurological disorders, head and neck cancers, and age-related physiological changes. It can lead to reduced appetite and contribute to serious health complications such as malnutrition, dehydration, pneumonia, sarcopenia, and anaemia.

This interactive 80-minute workshop, led by nutrition students, is designed to introduce medical students to the principles of dietary modifications in managing oropharyngeal dysphagia. The session will begin with a theoretical overview covering the pathophysiology, diagnostic approaches, and treatment strategies for oropharyngeal dysphagia.

Participants will engage in hands-on activities, modifying food textures and thickening liquids using thickening agents in accordance with the International Dysphagia Diet Standardisation Initiative (IDDSI) framework. Through these exercises, they will learn to determine the most appropriate diet modifications based on patients' clinical status.

Beyond technical skills, this workshop emphasizes interdisciplinary collaboration, equipping medical students with the ability to assess patient needs, integrate dietary interventions into clinical practice, and work effectively alongside nutrition professionals. By the end of the session, participants will have a deeper understanding of the critical role of dietary modifications in dysphagia management and their impact on patient outcomes.

...Ready for It? The Journey of Life Begins

Student Society of Gynecology and Obstetrics

Aurora Vareško, Ema Žuna, Dora Pavlić, Vita Guljaš, Ida Marija Šola, MD, PhD

This interactive workshop is designed to equip future doctors with essential skills to handle emergency childbirth outside a hospital setting. Using a childbirth demonstration model, participants will learn to identify the key stages of labor, assess critical situations, and apply fundamental delivery techniques to ensure maternal and neonatal safety. Additionally, the workshop will cover crucial postnatal procedures, focusing on stabilizing both the mother and newborn until professional medical assistance is available. With a strong emphasis on practical, hands-on experience, this session prepares general practitioners and frontline healthcare providers for real-life emergency scenarios.

sEMG - Surface Electromyography for Non-invasive Assessment of Muscle Function

Faculty of Electrical Engineering and Computing, University of Zagreb

Matea Dunović, univ. bacc. ing. el. techn. inf, Gašpar Dončević, univ. mag. ing. el. techn. inf, Prof. Mario Cifrek, PhD

Workshop participants will learn the technique of surface electromyography (sEMG), its potential as a diagnostic tool and methods for processing and analyzing surface electromyographic signals. From the signals, which they will record during the workshop, they will extract features that provide information about muscle fatigue.
The workshop will consist of three parts:

1. Theoretical introduction: a short lecture on the origin, potential uses, measurement methods and methods for processing and analyzing surface myoelectric signals (20 minutes).
2. Measurement of surface myoelectric signals. A volunteer will perform a simple exercise which will be recorded and used for processing and analysis (30 minutes).
3. Processing and analysis of the recorded signals. Multiple segments of the signal will be processed individually and analyzed, using a prepared script. The changes in the key features of the signal segments will be compared and discussed (30 minutes).

ENT Crash Course: Mastering the basics

Student Society for Otorhinolaryngology and Head and Neck Surgery

Lukas Librić, Anna Braniša, Ika Gugić Radojković MD

The students will learn the basics of an Ear, Nose, Oral cavity and Throat examination. First, they will be shown how to do the examination, all the rules and steps to follow. Then they will be given a short PP presentation of what is normal and what is pathological in the examination. We will also talk and emphasize the importance of the quality of life for people who have problems with their voice, smell, taste and hearing. After that, they will be divided into five groups of 3 people. Each group will be supervised by someone from the Society. In each group the students will perform the exam on each other, so each student will examine two other students and will be examined two times. If there will be enough time, we will shift the groups and continue.

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Literature Reviews

LR01

Literature Review: Rezafungin in Therapy of Candidemia and Invasive Candidiasis

Karlo Petković[1], Zdeslav Strika[1], Petra Kašnjar Perković[2], Robert Likić[1,3]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Faculty of Pharmacy and Biochemistry, University of Zagreb, Zagreb, Croatia
[3]Division of Clinical Pharmacology, Department of Internal Medicine, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Echinocandins are the primary treatment for invasive candidiasis. Rezafungin, a novel echinocandin, offers an alternative with its once-weekly administration, reducing the burden of frequent hospital visits. Based on pivotal clinical trials, this study aims to evaluate rezafungin in comparison to caspofungin.

Materials and Methods: The STRIVE trial, a phase 2, double-blind, randomized study, compared rezafungin (400 mg once weekly) and rezafungin (400 mg once weekly followed by 200 mg every week) to caspofungin (70 mg loading dose, then 50 mg daily). The ReSTORE trial, a phase 3 multicenter, double-blind, randomized study, further assessed rezafungin versus caspofungin in treating candidemia and invasive candidiasis. The primary endpoints included day-14 global cure rates and 30-day all-cause mortality with a non-inferiority margin of 20%.

Results: The STRIVE trial showed overall cure rates of 60.5% (rezafungin 400 mg), 76.1% (rezafungin 400/200 mg), and 67.2% (caspofungin). Clinical cure rates were 69.7%, 80.4%, and 70.5%, respectively, while 30-day mortality rates were 15.8% (rezafungin 400 mg), 4.4% (rezafungin 400/200 mg), and 13.1% (caspofungin). The ReSTORE trial demonstrated day-14 global cure rates of 59% (rezafungin) versus 61% (caspofungin), and 30-day mortality rates of 24% versus 21%. Safety profiles were comparable, with serious adverse events occurring in 56% (rezafungin) and 53% (caspofungin) recipients.

Conclusion: Rezafungin demonstrated a favorable safety profile and non-inferiority to caspofungin in treating candidemia and invasive candidiasis. The once-weekly dosing regimen presents advantages for outpatient care. These findings support rezafungin as an alternative therapeutic option, though further research is required to assess its efficacy across diverse patient populations.

Keywords: Antifungal Agents; Candidemia; Caspofungin; Echinocandins

ORCID:
Karlo Petković: 0000-0003-1838-8480
Zdeslav Strika: 0000-0002-3079-0483
Robert Likić: 0000-0003-1413-4862

LR02

The Ethnic Puzzle of Lipoprotein(a): Is Cardiovascular Risk Universal?

Nevio Aradski[1], Klara Bardač[1], Renata Ivanac Janković[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Bjelovar General Hospital, Department of Internal Medicine, Bjelovar, Croatia

Introduction: Lipoprotein(a) [Lp(a)] is a plasma lipoprotein, and elevated levels have been identified as an independent risk factor for various cardiovascular diseases. Research shows that Lp(a) levels in the blood differ among ethnic groups and are primarily determined by the LPA gene. This review examines the current data on ethnic differences in Lp(a) levels, including clinical and scientific implications.

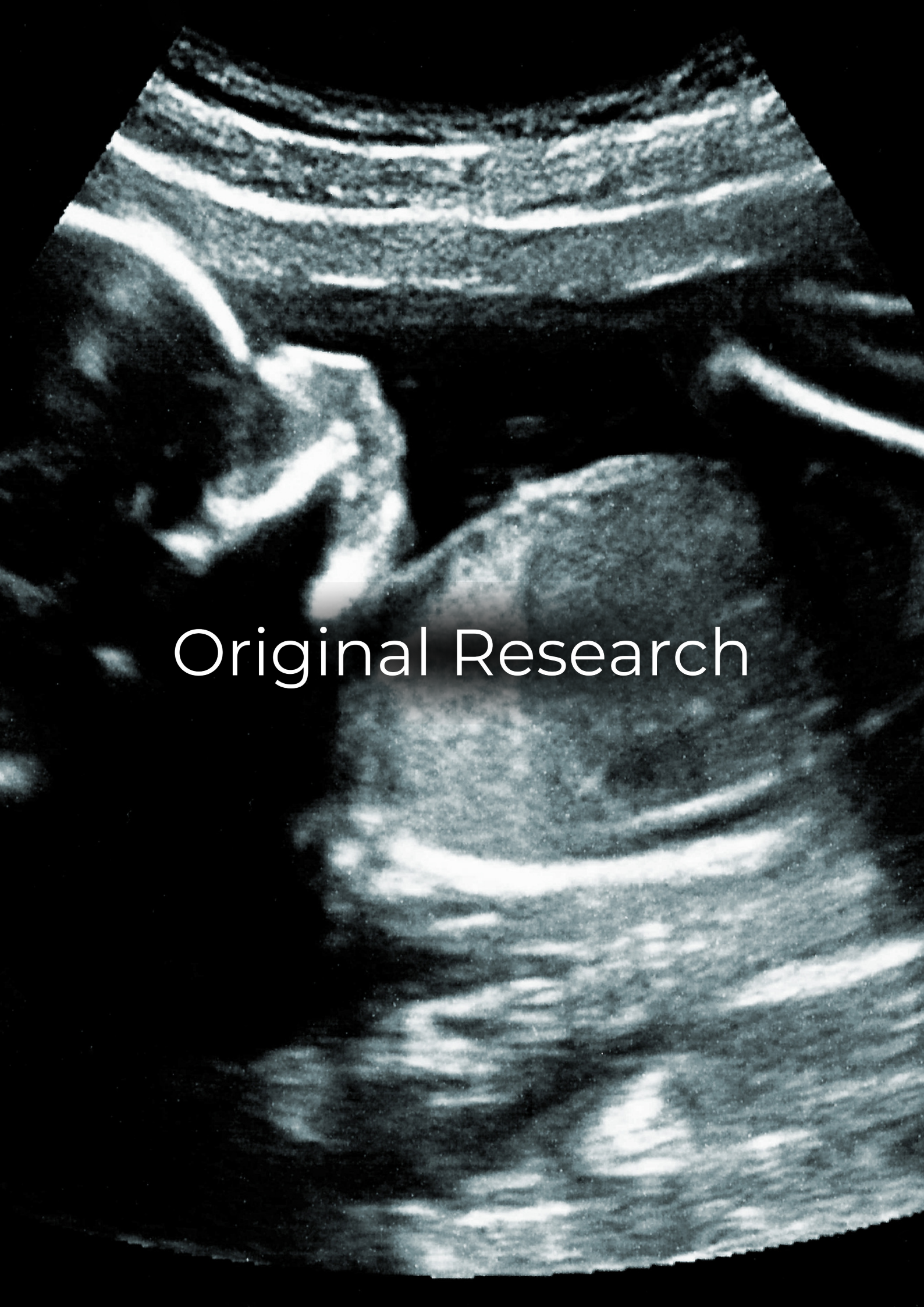
Materials and Methods: The PubMed database was searched for papers published after January 2015, using the following terms: "Lipoprotein(a)", "ethnicity", "race", and "ancestry". The search yielded 124 results, of which 28 papers were deemed suitable for inclusion in this review.

Results: Reviewed studies confirm significant Lp(a) level variations across ethnic and racial groups. The highest median levels were observed in Africans and African Americans, followed by South Asians and Europeans, including Americans of European descent. Latin Americans displayed a wider range of median levels, while East Asians had the lowest median levels. Although elevated Lp(a) levels were associated with cardiovascular risk across all groups, evidence suggests that the degree of cardiovascular risk at similar Lp(a) levels varies among ethnicities. These differences are especially apparent in the risk for specific types of cardiovascular diseases.

Conclusion: While current evidence highlights substantial variations in Lp(a) concentrations across ethnic groups, the relationship between these levels and cardiovascular disease risk remains complex and influenced by ethnicity. Thus, further research is essential for optimal medical care for different ethnic groups.

Keywords: Cardiovascular Diseases; Ethnic Groups; Lipids; Lipoprotein(a)

ORCID:
Nevio Aradski: 0009-0001-5554-8626
Klara Bardač: 0000-0002-9231-5805
Renata Ivanac Janković: 0000-0003-4949-3953



Original Research

OR01

Genetic Mutations in Hereditary Tumors of the Gastrointestinal System and Uterus

Maja Tomljanović[1], Kaya Tomašić[1], Korina Tumir[1], Snježana Ramić[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department for Tumors – Center for Malignant Diseases, Sestre milosrdnice University Hospital Center, Zagreb, Croatia

Introduction: According to 2021 data, around 4,000 people in Croatia suffer from gastrointestinal and uterine tumors. 5-10% attributable to hereditary syndromes, primarily Lynch syndrome (LS) and familial adenomatous polyposis (FAP). Colorectal cancer has one of the highest mortality rates in Croatia compared to other EU countries. This study examines the number of diagnosed hereditary gastrointestinal syndromes and associated mutations in the Genetic Oncology Counseling Unit from June 2022 to June 2024.

Materials and Methods: A total of 447 individuals were analyzed, of whom 20 were evaluated for hereditary gastrointestinal syndromes. All were previously diagnosed with gastrointestinal tumors or endometrial carcinoma. Genetic analysis used next-generation sequencing (NGS, Illumina platform), and mutation variants were classified as pathogenic, likely pathogenic, variants of uncertain significance (VUS), likely benign, and benign.

Results: Results analysis showed that 80% of participants (N=16) had mutations. The average age was 46 (25% male, 70% female, 5% unknown). Pathogenic and likely pathogenic mutations in the colon, rectum, and uterus included APC (N=2), TSC1 (N=1), MSH1 (N=1), MUTYH (N=1), MET (N=1), BRCA1 (N=3), BRCA2 (N=1), RAD51C (N=1), and MSH2 (N=1). VUS mutations in the colon, rectum, stomach, and uterus included RET (N=2), MSH6 (N=1), NF1 (N=1), APC (N=2), ATM (N=1), BRCA2 (N=1), NBN (N=1), DIS3L2 (N=1), FANCA (N=1), ERCC4 (N=1), XPC (N=1), and CDK4 (N=1).

Conclusion: The Genetic Oncology Counseling Unit identified 4% of the expected hereditary tumor cases. Hereditary tumors frequently occur at ages outside the national screening program range. Raising awareness of family history and testing criteria is essential for detecting hereditary tumors.

Keywords: Familial Adenomatous Polyposis; Gastrointestinal Neoplasms; Genetic Testing; Lynch Syndrome

ORCID:
Maja Tomljanović: 0009-0004-9351-1607
Kaya Tomašić: 0009-0006-7122-3086
Korina Tumir: 0009-0007-4798-8473
Snježana Ramić: 0000-0002-5916-8815

OR02

Long-Term Outcomes of Open vs. Mini-Open TightRope Fixation for Rockwood III AC Joint Dislocations

David Glavaš Weinberger[1], Sara Vulama[2], Dejan Blažević[1,3], Tomislav Ćuti[1], Dinko Vidović[1,2]

[1]Department of Sports Traumatology, Department of Traumatology, Sestre milosrdnice University Hospital Center, Zagreb, Croatia
[2]School of Medicine, University of Zagreb, Zagreb, Croatia
[3]School of Medicine, Catholic University of Croatia, Zagreb, Croatia

Introduction: Acromioclavicular (AC) joint dislocation is common among young athletes, often occurring from direct shoulder impacts in bikers, football players, and skiers. It presents clinically as clavicle elevation due to AC and coracoclavicular (CC) ligament rupture. The Rockwood classification guides treatment, with injuries Rockwood III and above requiring surgery. A standard surgical method is TightRope fixation, typically performed via a mini-open approach, where the coracoid tunnel is drilled without direct visualization. This study compares mini-open and open TightRope fixation for Rockwood III AC dislocations.

Materials and Methods: We retrospectively analyzed patients treated between 2015 and 2020, excluding those with prior fractures or surgeries on the affected arm. Clinical and patient-reported outcomes (PROs) were assessed using the Constant-Murley, DASH, and ASES scores.

Results: We included 39 patients (37 male, 2 female): 24 underwent mini-open and 15 open procedures. The median (minimum-maximum) DASH score was 0 (0–6.7) for mini-open vs. 0 (0–1.7) for open ($p<0.05$). No significant difference was found in ASES scores (mini-open: 100; 75–100 vs. open: 100; 98–100) or Constant-Murley scores (mini-open: 98; 89–100 vs. open: 99.5; 90–100). Surgical complications were higher in the mini-open group, including four CC calcifications, three button dislocations, and one suprascapular nerve injury. The open group had only one button dislocation.

Conclusion: The mini-open approach, though less invasive, had more complications. The open approach yielded superior long-term PROs and slightly better Constant-Murley scores. Further studies are needed to evaluate both techniques in both short and long-term outcomes.

Keywords: Acromioclavicular Joint; Joint dislocations; Ligaments; Retrospective Studies; Shoulder

ORCID:
David Glavaš Weinberger: 0000-0003-4671-7499

OR03

Short- and Long-Term Outcomes of Hospitalised People Living with HIV and CMV Disease in Croatia: a 15-Year Analysis (2009–2023)

Lucija Dragošević[1], Martina Vargović[2], Marija Santini[1,2], Josip Begovac[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]University Hospital for Infectious Diseases "Dr. Fran Mihaljević", Zagreb, Croatia

Introduction: Cytomegalovirus (CMV) is an opportunistic pathogen in people living with HIV (PLWH) that can cause localised or disseminated disease in advanced immunosuppression. We analysed the clinical features, treatment, and outcomes of CMV disease in PLWH treated at the University Hospital for Infectious Diseases, Zagreb from 2009–2023.

Materials and Methods: A retrospective cohort study was performed, and data were extracted from medical records, with assessments made at discharge, 30 days, 6 months, and 20 November 2024.

Results: Sixteen cases were identified. Most PLWH, 13 (81.3%), were male, median age was 46 years, and 13 (81.3%) were diagnosed with HIV in the past three months. The median CD4+ count was 9.5 cells/μL. Common coinfections included Pneumocystis jirovecii pneumonia and oropharyngeal candidiasis (7 cases each). The clinical presentations included CMV retinitis (9 patients), colitis (5), and encephalitis (4), with six patients (37.5%) having disseminated disease. Ganciclovir was the primary treatment; one patient required foscarnet and anti-CMV antibodies due to resistance. Antiretroviral therapy was initiated in all patients at a median of 8 days post-admission. The median hospitalisation duration was 40 days (IQR 34–146). Survival was 93.8% at discharge, 30 days, and 6 months, with 81.3% of patients alive as of 20 November 2024.

Conclusion: CMV disease is a rare but severe opportunistic infection in hospitalised PLWH that often involves coinfections and requires long-term treatment. It is found predominantly in PLWH who are newly diagnosed with HIV. CMV resistance is a concern. Proper antiviral therapy and continued care result in favourable survival.

Keywords: AIDS; Cytomegalovirus; HIV; Opportunistic Infections

ORCID:
Lucija Dragošević: 0009-0000-2298-9057
Martina Vargović: 0009-0001-9628-5682
Marija Santini: 0000-0002-8492-1418
Josip Begovac: 0000-0003-2641-4327

OR04

The Journey of Life, the Journey for Life: Assessing the Risk of End-Stage Renal Disease in ANCA-Associated Vasculitis

Tonka Delić[1], Matija Crnogorac[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Nephrology and Dialysis, Dubrava University Hospital, Zagreb, Croatia

Introduction: End-stage renal disease (ESRD) is a common complication of ANCA-associated vasculitis (AAV) that significantly impacts patients' quality of life. Understanding this can help predict the risk of ESRD.

Materials and Methods: Study included 106 AAV patients with renal involvement. We analyzed clinical, laboratory and pathohistological data as predictors of ESRD. Survival univariate analysis was performed using Kaplan-Meier method and log-rank (Mantel-Cox) test. Variables that had p<0,1 in univariate analysis were alongside age and gender included in multivariate Cox proportional hazard model.

Results: There were 106 patients with AAV, 61 females (55.6%) with median age of 61 (IQR 51-70) years. Of those 66 (61.1%) patients with microscopic polyangiitis (MPA), 20 (18.5%) with granulomatosis with polyangiitis (GPA), 20 (18.5%) with renal limited vasculitis (RLV) and 2(1,9%) with eosinophilic granulomatosis with polyangiitis (EGPA) which were, due to small number, excluded from the analysis. Median follow up time was 21 months (IQR 7-44 months), during which 26 (24.5%) patients reached ESRD. In univariate analysis serum creatinine (SCr), C-reactive protein (CRP), hemoglobin, plasmapheresis, need for acute dialysis, percentage of normal glomeruli and interstitial fibrosis and tubular atrophy (IFTA) >50% were significant predictors while in multivariate analysis only need for acute dialysis (p=<0.001; HR 4.67; CI 1.99-10.94) and IFTA >50% (p=0.02; HR 2.65; CI 1.15-6.08) remained significant predictors.

Conclusion: Timely diagnosis of AAV can result in lower IFTA. Since increased fibrosis correlates with greater chronicity, preventing IFTA can reduce the risk of ESRD, minimize complications and ensure better quality of life.

Keywords: ANCA; Autoimmune Disease; ESRD; Vasculitis

ORCID:
Tonka Delić: 0009-0008-7425-507X
Matija Crnogorac: 0000-0003-3489-261X


Case Reports

CR01

Giant Cystic Lymphatic Malformation in a Neonate: from Womb to Recovery

Marta Tučkar[1], Fran Mlikotić[1], Monika Ulamec[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Pathology and Cytology "Ljudevit Jurak", Sestre milosrdnice University Hospital Center, Zagreb, Croatia

Introduction: Lymphatic malformations (LMs), including cystic lymphatic malformations (CLMs), lymphangiectasis and lymphedema are benign localized or generalized vascular malformations caused by the maldevelopment of the lymphatic system. LMs cause serious complications like cellulitis, leading to sepsis. This case report showcases a neonate with CLM affecting most of their thorax and abdomen.

Case Report: In 2024, during a regular ultrasound checkup, a fetal subcutaneous tumor along the anterior and left thoracic and abdominal wall was detected in utero. The lesion was cystic in nature and filled with fluid. A postnatal MRI revealed a multilocular cystic subcutaneous tumor extending from the left axilla, along the thorax and abdomen, down to the pelvis. The tumor measured 13.5x9.5x3.9 cm, with thin septa. Located in the soft tissue, the tumor exhibited cystic morphology without infiltration. These findings were consistent with an LM. A biopsy for histological analysis was taken from the area containing small cysts. Histological examination revealed a formation that primarily corresponded to a CLM. Given the findings, the child was prescribed Everolimus, an mTOR kinase inhibitor and showed a significant positive response to the therapy.

Conclusion: This case highlights the importance of timely diagnosis, postnatal assessment, and management of fetal tumors, with early detection ensuring better management planning and outcomes. Everolimus, a minimally invasive alternative to sclerotherapy and surgery, showed a strong therapeutic response, emphasizing the need for a case-by-case approach to ensure the best outcome for each patient.

Keywords: Everolimus; Lymphangioma; Lymphatic Abnormalities; Pediatrics

ORCID:
Marta Tučkar: 0009-0004-2710-3031
Fran Mlikotić: 0009-0008-6621-6388
Monika Ulamec: 0000-0002-4843-8154

CR02

Against All Odds: Multidisciplinary Management of a Preterm Neonate with Neonatal Abstinence Syndrome and Respiratory Distress

Klara Labaš[1], Antonia Lovrenčić[1], Jasna Tumbri[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Sestre milosrdnice University Hospital Center, Zagreb, Croatia

Introduction: Prematurity remains a major cause of neonatal morbidity and mortality worldwide. Respiratory distress syndrome is a common complication requiring respiratory support. Neonatal abstinence syndrome (NAS) results from in utero opioid exposure, causing withdrawal symptoms. Effective management requires a multidisciplinary approach to address both respiratory and neurodevelopmental challenges.

Case Report: A female neonate, born at 31 weeks of gestation, weighing 1520g, was admitted to the Neonatal Intensive Care Unit due to prematurity. The mother had a history of substance use disorder and chronic hepatitis C. Upon admission, she showed signs of respiratory distress and was started on nasal CPAP. Due to worsening symptoms, she required intubation and surfactant therapy but was successfully extubated the same day. Oxygen support was gradually weaned over 13 days. NAS manifested on day 3, requiring phenobarbital therapy lasting 18 days. Episodes of apnea required methylxanthine therapy until day 44. At 35 days, the infant developed respiratory failure secondary to parainfluenza virus, requiring reintubation and mechanical ventilation, with subsequent full recovery. During hospitalization, she was treated for retinopathy of prematurity with ranibizumab and received immunoprophylaxis for hepatitis B and RSV. Nutritional support progressed from parenteral to enteral feeds, and she achieved full oral feeding before discharge. She was discharged at 59 days weighing 3150g, with appropriate neurodevelopmental progress, and stable vital signs. She was placed in foster care and scheduled for multidisciplinary follow-up, including ophthalmology, cardiology, and neurodevelopmental assessment.

Conclusion: This case highlights the challenges of managing preterm neonates with NAS and respiratory complications, emphasizing the importance of multidisciplinary care.

Keywords: Infant, Newborn; Intensive Care, Neonatal; Neonatal Abstinence Syndrome; Premature Birth; Respiratory Distress Syndrome, Newborn

ORCID:
Klara Labaš: 0009-0002-8305-2115
Antonia Lovrenčić: 0000-0002-5576-0360
Jasna Tumbri: 0009-0008-3069-6594

CR03

Rare Chromosomal Microdeletion Presented with Failure to Thrive, Dysmorphic Features and Developmental Delay

Klara Bardač[1], Nevio Aradski[1], Ljubica Odak[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Pediatric Surgery, Department of Surgery, University Hospital Centre Zagreb, Zagreb, Croatia
[3]Department of Medical and Laboratory Genetics, Endocrinology and Diabetology with Daily Care Unit, Children's Hospital Zagreb, Zagreb, Croatia

Introduction: Chromosomal disorders are common causes of developmental abnormalities in children, typically presenting with failure to thrive, mental and physical developmental delays, congenital anomalies, and dysmorphic features. We present a boy with a rare microdeletion at the long arm of chromosome 5.

Case Report: Born at 38 gestational weeks, after a pregnancy complicated by oligohydramnios and third-trimester intrauterine growth restriction, he weighed 2900 grams, measured 49 centimeters, and scored 10/10 on Apgar. Dysmorphic features included hypertelorism, epicanthus, hypotonia, and undescended testicles. During the postneonatal period, poor weight gain and delayed motor milestones were noticed. At 8.5 months of age, he was evaluated for failure to thrive with a weight of 6450 grams (<5th percentile), muscular hypotonia, and marked motor delay. A broad diagnostic workup included routine hematological, biochemical, hormonal, and metabolic tests, all of which were within normal limits. Brain MRI showed a thin corpus callosum and cardiac ultrasound found hemodynamically insignificant persistent ductus arteriosus. There were no limb, visceral, and sensory abnormalities. Finally, chromosomal microarray (CMA) analysis revealed de novo 8.6-Mb deletion at 5q11.2q12.3 region, previously reported in the literature in only 14 patients. Broad habilitation treatment was initiated alongside regular multidisciplinary evaluations.

Conclusion: Compared to other cases, which mostly involve severe congenital anomalies and developmental delays, our patient had a milder presentation of 5q11.2 deletion. Additional investigations of this chromosomal region are needed to elucidate the pathogenesis and clinical significance of its deletion. Therefore, lifelong multidisciplinary follow-up is necessary for these patients.

Keywords: Chromosome Disorders; Failure to Thrive; Genetic Testing; Microarray Analysis

ORCID:
Klara Bardač: 0000-0002-9231-5805
Nevio Aradski: 0009-0001-5554-8626
Ljubica Odak: 0000-0001-9023-5142

CR04

Chronic Granulomatous Disease in a Patient with Noonan Syndrome

Marta Krpan[1], Armand Chevrier[1], Jakov Kožić[1], Nevenka Cigrovski[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division for Pediatric Immunology, Department of Pediatrics, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Noonan syndrome is a genetic condition characterized by unusual facial features, short stature, heart defects, bleeding problems, skeletal malformations, and other symptoms. Chronic granulomatous disease (CGD) is a primary immunodeficiency making patients susceptible to bacterial and fungal infections. Both are rare genetic diseases that present a challenge to clinicians to diagnose and treat.

Case Report: We present a boy who was born with typical malformation stigma and pulmonary valve dysplasia with stenosis, which is why Noonan syndrome was suspected. In early age, dilatation of the stenotic valve was performed. At 14 months of age, he developed bilateral pneumonia and an expansive mediastinal mass. A biopsy was performed and revealed an inflammation of unknown etiology. Further diagnostic workup revealed a lack of oxidation burst in stimulated granulocytes, indicating CGD. The disease can be treated with hematopoietic stem cell transplantation, but our patient currently does not have a matching donor. The patient is now an eleven-year-old boy who is on permanent antimicrobial prophylaxis with co-trimoxazole and itraconazole, but despite this, he has frequent pneumonia. Recent genetic analysis revealed a mutation in RIT1 gene, confirming the diagnosis of Noonan syndrome.

Conclusion: Children with multiple diagnoses present themselves as complex patients and a challenge to clinicians. These patients need to be monitored carefully by a team of specialists to prevent worsening symptoms and enable a high quality of life. The education of parents and modification of lifestyle is also very important.

Keywords: Genetics; Noonan Syndrome; Pneumonia; Pediatrics

ORCID:
Marta Krpan: 0009-0002-7152-7793
Armand Chevrier: 0009-0004-0318-1182
Jakov Kožić: 0009-0002-3425-3148
Nevenka Cigrovski: 0009-0000-4620-5456

CR05

Treatment of Newborn Femur Fracture during Cesarean Section with Pavlik Harness Showing Great Healing Potential in Pediatric Patients

Ivo Žarak[1], Kristina Čimić[2], Mislav Čimić[3]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Gynaecology and Obstetrics, Merkur University Hospital, Zagreb, Croatia
[3]Division of Orthopedic Surgery, Department of Surgery, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Cesarean section is a relatively safe method of childbirth. However, complications may occur. One such example is a femur fracture of a newborn. Incidence is approximately 0.308 per 1,000 procedures. In this case report we present the orthopedic treatment of a femur fracture of a newborn using Pavlik harness, emphasizing the great ability of bone regeneration in newborns.

Case Report: Cesarean section was indicated for a woman (26) G2P2 because of breech presentation and suspected fetal macrosomia at 41 weeks of gestation. During the procedure, a diaphyseal femur fracture occurred. After completing the childbirth, the newborn was treated with a spica cast. After a short time, the cast started slipping distally and was no longer effective. On day 6 after the fracture, the newborn was fitted with the Pavlik harness. The movement of the legs was not completely restricted. After 30 days of use, the X-ray Image showed a reconnected femur diaphysis with proper bone healing. The Pavlik harness was then removed. Physical therapy was performed. On further follow-ups, 2 years after the incident the bone had no evidence of previously being fractured. There was no visible angulation and no leg length discrepancy.

Conclusion: This case shows the excellent healing potential of bones in pediatric patients even without the use of anatomical repositioning and absolute immobilization. Given their excellent biological potential, rapid fracture healing without permanent consequences is expected. It is evident that an infant's potential for bone healing is greater than in adult patients.

Keywords: Bone Regeneration; Femoral Fractures; Newborns; Orthopedic Procedures

ORCID:
Ivo Žarak: 0009-0008-2037-1083
Kristina Čimić: 0009-0001-6509-8358
Mislav Čimić: 0000-0002-6729-2154

CR06

“Clip and Drop” Technique with Laparostomy for Management of Necrotizing Enterocolitis: Evidence from a Case Report

Sara Ćepić[1], Marta Defar[1], Ivana Sabolić[2], Toni Matić[3], Vanja Ille[3]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Pediatric Surgery, Department of Surgery, University Hospital Centre Zagreb, Zagreb, Croatia
[3]Pediatric Intensive Care Unit, Department of Pediatrics, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Necrotizing enterocolitis (NEC) is a severe condition in infants requiring urgent surgical intervention. Perioperative mortality is high and current surgical procedures are variable and often associated with poor outcomes including short bowel syndrome. The “clip and drop” technique is a surgical approach that preserves intestinal length in cases of long length or multifocal NEC, whereas laparostomy enables decompression of mesenteric blood supply facilitating recovery of ischemic bowel.

Case Report: Male term newborn, with previous lumbosacral myelomeningocele repair, ten days after birth presented with hemodynamic instability and signs of acute abdomen. Abdominal X-ray showed signs of NEC with intestinal perforation necessitating urgent surgery. Median laparotomy revealed segmental ischemic changes of the entire small and large intestine with gangrene of the terminal ileum, appendix, and caecum. The gangrenous part was resected, with a “clip and drop” technique of oral (ileum) and aboral (ascending colon) intestine. The abdomen was left open (laparostomy) and covered with topical negative pressure dressing. Post-surgically, the child was hemodynamically stable. Second look surgery, after 72 hours, confirmed gangrenous segments of the ileum, ascending and transverse colon, and perforation of the sigmoid colon. Jejunum, sigmoid colon above and below the perforation site, and rectum fully recovered. The remaining gangrenous intestine was resected, the site of sigmoid perforation was resected with anastomosis of vital ends, and an end-jejunostomy was formed.

Conclusion: The “clip and drop” technique with laparostomy is a valuable procedure that facilitates recovery of hemodynamically unstable NEC patients and gives the possibility to salvage the intestine of uncertain viability.

Keywords: Enterocolitis; Infant; Jejunostomy; Short Bowel Syndrome

ORCID:
Sara Ćepić: 0009-0003-8912-8894
Marta Defar: 0009-0004-2050-9848
Ivana Sabolić: 0000-0003-4317-7626
Toni Matić: 0000-0003-0529-1719
Vanja Ille: 0009-0007-6289-2293

CR07

Sutureless Closure for Management of Gastroschisis: a Case Report

Marta Defar[1], Sara Ćepić[1], Nada Sindičić Dessardo[2], Iva Vukšić[2], Ivana Sabolić[3]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Neonatal Intensive Care Unit, Department of Pediatrics, University Hospital Centre Zagreb, Zagreb, Croatia
[3]Division of Pediatric Surgery, Department of Surgery, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Gastroschisis is a congenital anomaly of the anterior abdominal wall with a protrusion of uncovered abdominal contents. Traditionally, gastroschisis is managed by reducing the abdominal contents and surgically closing the abdominal wall defect. Herein, we describe a technique without surgical suturing that allows spontaneous abdominal wall closure with a cosmetically appealing scar and minimizes intraabdominal pressure after bowel reduction.

Case Report: A male newborn with gastroschisis was born from an uncontrolled pregnancy via vaginal delivery. Initially, standard management for gastroschisis was provided and the umbilical cord was clipped 25cm from the abdominal wall. On inspection, the abdominal wall defect was 3cm in diameter with a prolapse of part of the stomach, the entire small intestine, and a segment of the large intestine. The stomach was repositioned in the abdominal cavity while the protruding intestines were placed in a preformed silo bag allowing serial reduction of bowel content into the abdomen within four days. The umbilical cord, preserved by a Tegaderm dressing, was used to perform delayed closure of the abdominal wall defect on the fifth day at the patient's bedside. The abdominal wall defect epithelialized in two weeks.

Conclusion: Sutureless closure of gastroschisis by using the umbilical cord is a simple technique that reduces the risk of increased intraabdominal pressure and results in a more aesthetic scar appearance. In addition, the procedure can be performed under analgesia with or without sedation and without the need for general anesthesia for the newborn.

Keywords: Congenital Abnormalities; Gastroschisis; Intra-Abdominal Hypertension; Sutureless Surgical Procedures; Umbilical Cord

ORCID:
Marta Defar: 0009-0004-2050-9848
Sara Ćepić: 0009-0003-8912-8894
Nada Sindičić Dessardo: 0009-0007-0772-2099
Iva Vukšić: 0009-0003-9024-2176
Ivana Sabolić: 0000-0003-4317-7626

CR08

A Challenging Case of HLH/MAS: from Delayed Diagnosis to HSCT and Genetic Insights in a Fatal Outcome

Karolina Beg[1], Mario Šestan[1,2], Marija Jelušić[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Pediatrics, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Hemophagocytic lymphohistiocytosis (HLH) is a rare, life-threatening hyperinflammatory syndrome driven by overactive cytotoxic T cells, natural killer cells, and macrophages, leading to multiple organ failure.

Case Report: We present a complex case of HLH/macrophage activation syndrome (MAS) in a female patient. Her symptoms began in infancy, with seizures appearing at two months old. Hepatosplenomegaly, recurrent febrile episodes, chills, and elevated inflammatory markers followed every 2 weeks to 2 months. She did not undergo medical check-ups until age 11, when her condition deteriorated, leading to pancytopenia and growth retardation. The diagnosis of HLH/MAS was established, marked by continuous fevers, hypofibrinogenemia, hypertriglyceridemia, and hyperferritinemia. Bone marrow biopsy revealed hemophagocytes, and NK cell activity was significantly reduced. Initial treatment included systemic glucocorticoids, cyclosporine, and the HLH 2004 protocol. Rituximab was introduced for EBV infection. Despite temporary improvement, her condition worsened. Anakinra was initiated but discontinued due to a severe allergic reaction, leading to tocilizumab, which proved ineffective. Whole exome sequencing revealed heterozygous missense variant SOCS1T53A possibly linked to familial autoinflammatory syndrome with immunodeficiency and JAK2R122H, which may act in epistasis. Ruxolitinib was attempted but stopped due to fever recurrence. With no other pharmacological options, allogeneic hematopoietic stem cell transplantation from an HLA-matched unrelated donor was performed at age 13. Unfortunately, extensive intracranial bleeding on post-transplantation day 19 led to respiratory failure, progressive complications, and death.

Conclusion: The diverse clinical presentation of HLH/MAS complicates diagnosis. Given the poor prognosis of untreated patients, early diagnosis and timely therapy initiation are crucial.

Keywords: Cytokine Release Syndrome; Hematopoietic Stem Cell Transplantation; Lymphohistiocytosis, Hemophagocytic; Macrophage Activation Syndrome

ORCID:
Karolina Beg: 0009-0009-6670-9956
Mario Šestan: 0000-0003-1092-6491
Marija Jelušić: 0000-0002-1728-4260

CR09

Identification and Treatment of a Large Ventricular Septal Defect in an Infant with Down Syndrome

Margarita Tomić[1], Ema Vrdoljak[1], Iva Veršnik[1], Daniel Dilber[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Pediatric Cardiology, Department of Pediatrics, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Infants with Down syndrome typically have congenital heart problems, with ventricular septal defect (VSD) being one of the most common abnormalities seen. Significant left-to-right shunting brought on by large VSDs may eventually cause congestive heart failure, pulmonary overcirculation, and volume overload. Early diagnosis and treatment are crucial to prevent complications.

Case Report: Tachypnea, limited weight gain, and feeding problems were observed in an 11-week-old girl with Down syndrome. It appears that she had not thrived because her weight at presentation was well below the age-appropriate percentile. Examination revealed mild tachypnea and dyspnea, a loud second heart sound, and a 2/6 systolic murmur. The echocardiogram showed a 12 mm perimembranous VSD with left-to-right shunting, an enlarged pulmonary artery, and a minor mitral valve insufficiency. Biventricular hypertrophy and right axis deviation have been detected on electrocardiography (ECG). Diuretics (furosemide and spironolactone), and metildigoxin were given. Parents were instructed to give an infant nutritional support through frequent small feedings. The patient was scheduled to have cardiac catheterization and possibly surgery in the upcoming months to address the problem.

Conclusion: This case emphasizes how critical it is to recognize and address big VSDs in infants with Down syndrome as soon as possible. Close observation and nutritional support are crucial if there is a failure to thrive as a result of an increased cardiac workload. To prevent consequences like heart failure and pulmonary hypertension, timely surgical intervention and routine follow-up are necessary.

Keywords: Congenital Heart Defects; Down Syndrome; Heart Failure; Ventricular Septal Defect

ORCID:
Margarita Tomić: 0009-0000-8641-0761
Ema Vrdoljak: 0009-0002-5134-3495
Iva Veršnik: 0009-0005-0498-3678
Daniel Dilber: 0000-0002-2370-4794

CR10

Incurable Grade IV Ganglioneuroblastoma Treated with I-131-MIBG – a Case Report

Anja Milas[1], Anja Tea Golubić[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Nuclear Medicine and Radiation Protection, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Neuroblastoma is the most frequent cancer in infants and the most common solid tumor occurring outside of the central nervous system in all age groups. It is classified into low, medium, and high-risk groups. Despite its aggressiveness, advances in treatment through decades of clinical trials and research have improved outcomes.

Case Report: A 2.5-year-old boy was referred for neuroblastoma staging after a three-week fever of unknown cause (up to 39.6°C), mild respiratory symptoms, and left hip pain. Lab tests showed elevated vanillymandelic acid and neuron-specific enolase, and the sternal puncture showed infiltration of little blue cells characteristic of neuroblastoma. Thoracic MRI revealed a 9×8×7.4 cm posterior mediastinal mass. Diagnostic I-123-MIBG (meta-iodobenzylguanidine) of the whole body under anesthesia was performed, 20 hours after intravenous injection of a 100 MBq of I-123-MIBG. Pathological accumulation of the radiopharmaceutical was seen in the mediastinal tumor, bilateral neck lymph nodes, and bone marrow. He began COJEC (cisplatin, vincristine, carboplatin, etoposide, and cyclophosphamide) chemotherapy, and after eight cycles, underwent surgical excision of the mass. However, post-surgical MRI showed tumor regrowth, leading to I-131-MIBG therapy. Imaging 96 hours post-infusion of 3700 MBq I-131-MIBG confirmed a residual tumor in the spinal canal (Th4-Th6) and diffuse bone marrow infiltration. A three-month follow-up I-123-MIBG scan showed reduced spinal tumor activity and fewer bone marrow infiltrates.

Conclusion: MIBG is a key theranostic agent in neuroendocrine tumors, enabling both diagnosis and targeted therapy. I-123-MIBG localizes tumors, while I-131-MIBG delivers radiotherapy, allowing a personalized approach and better outcomes in high-risk neuroblastoma.

Keywords: Fever of Unknown Origin; Neuroblastoma; Radiopharmaceuticals; Theranostic Nanomedicine

ORCID:
Anja Milas: 0009-0004-6661-8345
Anja Tea Golubić: 0000-0002-1113-3840

CR11

Juvenile Dermatomyositis with Vasculopathy

Nora Vukoja-Trošić[1], Ema Vrdoljak[1], Marijan Frković[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Pediatrics, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Juvenile dermatomyositis (JDM) is a rare multisystemic inflammatory disease commonly affecting children aged 4–10 years. In addition to progressive proximal muscle weakness and skin changes, the diagnosis is based on laboratory evaluation and magnetic resonance imaging (MRI) findings. In severe cases, the disease can affect organs other than the muscles and skin.

Case Report: A 9-year-old boy initially sought medical attention at another medical centre due to gradually worsening proximal muscle weakness, which was accompanied by a fever and a rash. Based on the symptoms and increased creatine kinase and lactate dehydrogenase levels, he was diagnosed with JDM. He was initially treated with high-dose glucocorticoids (GK), but several days later, he developed acute respiratory insufficiency due to interstitial lung oedema combined with acute renal failure. The patient was urgently transferred to the paediatric intensive care unit in our centre. He required mechanical ventilation and haemodialysis for 40 days, despite ongoing treatment with GK therapy in combination with rituximab and intravenous immunoglobulins. During the slow recovery, he eventually developed symptomatic epilepsy due to frontal mesangial sclerosis as a complication of generalised vasculopathy. Five years on, his condition and associated complications are being effectively managed through complex ongoing treatment.

Conclusion: This case exemplifies a contemporary medical approach for a JDM patient with vasculopathy, encompassing not only advanced diagnostic and treatment methods but also complex non-medical care requirements, including timely communication between facilities, arranging transportation for a critically ill patient, and subsequent coordination among medical professionals, parents, school, and the community.

Keywords: Dermatomyositis; Extracorporeal Membrane Oxygenation; Immunosuppression Therapy; Vasculitis

ORCID:
Nora Vukoja-Trošić: 0009-0007-8747-7029
Ema Vrdoljak: 0009-0002-5134-3495
Marijan Frković: 0000-0002-1520-3375

CR12

Rapunzel Syndrome - an Enormous Gastric, Duodenal, and Jejunal Trichobezoar in a 10-Year-Old Boy with Short Bowel Syndrome

Iva Matičević[1], Saša Mađar[1], Irena Senečić-Čala[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Gastroenterology, Hepatology and Nutrition, Department of Pediatrics, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Trichobezoar is caused by the accumulation of swallowed hair mass, mostly in the stomach. A continuation from the stomach, as tail into the small intestine, is referred to as Rapunzel syndrome. It is a rare condition in children, usually occurring in female adolescents with psychiatric problems, but it is highly uncommon in boys. It can lead to abdominal pain, obstruction, and bowel perforation. Due to these severe outcomes, the importance of this entity in diagnosing intestinal obstruction in children is emphasized.

Case Report: A 10-year-old boy with short bowel syndrome and ileostomy, after multiple intestinal resections due to complications of gastroschisis, was admitted for planned intestinal anastomosis and ileostomy closure. He was malnourished with a distended abdomen. The mother reported poor appetite, food refusal, and occasional fluid vomiting for several months. At surgery, the stomach appeared enlarged and rigid. Therefore, a gastrotomy was performed. An extensive trichobezoar was found in the stomach, duodenum, and the initial part of the jejunum, which was surgically removed. The trichobezoar resulted from trichotillomania and trichophagia, and the boy explained it as a consequence of food cravings. Close follow-up included both intensive psychiatric and nutritional evaluation and treatment. It resulted in weight gain, catch-up growth, and good compliance with nutritional measures. Subsequently, there was no further need for psychiatric supervision.

Conclusion: Even though it is mostly considered a psychiatric disorder, trichotillomania and trichophagia could also result from nutritional deprivation. This case highlights the need for close multidisciplinary monitoring of children with a higher risk for nutritional imbalance.

Keywords: Bezoars; Ileostomy; Short Bowel Syndrome; Trichotillomania

ORCID:
Iva Matičević: 0009-0004-6357-3962
Saša Mađar: 0009-0003-7893-4372
Irena Senečić-Čala: 0000-0002-7464-6862

CR13

Severe Cardiovascular Manifestations Leading to Correct Diagnosis: Differentiating Between Loeys-Dietz and Marfan Syndrome

Anamarija Jagić[1], Jure Jakovljević[1], Lina Radončić[1], Sanda Huljev Frković[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Pediatrics, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Loeys-Dietz syndrome (LDS) is a rare genetic disorder that affects the connective tissue in the body. It is an autosomal dominant inherited condition, but 75% of the cases are de novo mutations. The main characteristics of the syndrome include enlargement of the aortic root, arterial tortuosity and aneurysms, hypertelorism, bifid uvula, skeletal deformities, translucent skin, and immune problems. Emergencies associated with LDS include aortic dissection, spontaneous pneumothorax, and organ ruptures.

Case Report: The patient is a 10-year-old girl who was born late-term following a normal pregnancy. Her mother, who had shown signs of LDS but was never diagnosed, died shortly after the birth due to aortal dissection. The patient had skeletal malformations (pectus carinatum, arachnodactyly, camptodactyly), hypertelorism, was hypotonic, and had breathing problems. After evaluation, dilatation of the aortic root (Z score 3.9), open arterial ductus, intracranial hemorrhage grade I, and tortuous intra- and extracranial arteries were diagnosed. Genetic testing confirmed LDS type II (TGFBR2 gene mutation). Antiplatelet and triple antihypertensive, as well as physical therapy, were prescribed. At the age of 9, aortic root replacement surgery was successfully performed. The patient is advised to avoid challenging static activities and is under outpatient monitoring.

Conclusion: In some clinical features, LDS overlaps with Marfan syndrome. Both syndromes present with skeletal abnormalities, aneurysm of the aortic root, and possible aortic dissection. On the other hand, ectopia lentis and dolichostenomelia were not found in LDS. Recognizing LDS when Marfan syndrome is suspected is crucial because of its more severe cardiovascular manifestations in the entire arterial tree.

Keywords: Aortic Dissection; Aortic Root Aneurysm; Genetic Diseases, Inborn; Loeys-Dietz Syndrome; Marfan Syndrome

ORCID:
Anamarija Jagić: 0009-0008-3521-1744
Jure Jakovljević: 0009-0003-1034-3402
Lina Radončić: 0009-0000-5026-3149
Sanda Huljev Frković: 0000-0003-1513-2965

CR14

Secondary Hemochromatosis due to Supplementation

Franciska Ivišić[1], Petra Horvat[1], Juraj Jug[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Health Center Zagreb West, Zagreb, Croatia

Introduction: Secondary hemochromatosis, also known as iron overload, is a condition in which excess iron accumulates in the body. It can be caused by excessive intake of iron-rich food and supplements, chronic blood transfusion, or disorders that affect red blood cells. Iron deposits in the liver, heart, and endocrine glands, and can lead to life-threatening conditions.

Case Report: A 13-year-old male previously healthy presented to his family doctor due to abnormal laboratory findings that showed elevated levels of iron in the blood and transferrin saturation above the normal range. In his family history, it stood out that his brother is heterozygous for the H63D mutation associated with hereditary hemochromatosis. Considering the laboratory findings and family history it was initially suspected on a genetic cause of hemochromatosis. However, that was later ruled out with genetic analysis. Further exploration revealed that the high level of iron in the blood of this patient was due to excessive consumption of iron supplements and food with increased amounts of iron. The condition was detected before the onset of any clinical signs and symptoms which enabled us to educate the patient on time about his nutrition and the risks associated with overconsuming iron.

Conclusion: Elevated serum iron and transferrin saturation should not be disregarded despite the absence of clinical presentation. Transferrin saturation reflects the portion of serum iron bound to transferrin and high levels may suggest iron overload and it requires examination. Treatment of hemochromatosis consists of phlebotomy or chelation therapy, along with careful monitoring of diet and lifestyle.

Keywords: Hemochromatosis; Iron; Phlebotomy; Transferrin

ORCID:
Franciska Ivišić: 0009-0000-0117-9135
Petra Horvat: 0009-0007-4632-208X
Juraj Jug: 0000-0002-3189-1518

CR15

Unrecognized Severe Aortic Coarctation in a Young Athlete: the Importance of Femoral Pulses Palpation

Nataša Hudej[1], Dražen Belina[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Cardiac Surgery, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Aortic coarctation is a congenital vascular malformation characterized by narrowing of the aorta, leading to hypertension and cardiovascular complications. Early diagnosis is crucial to prevent end-organ damage, but mild cases may remain asymptomatic until adolescence or adulthood.

Case Report: A 13-year-old male athlete with an unremarkable medical history presented for routine vaccination. His past medical history included two surgeries under general anesthesia: tonsillectomy and cranial trauma repair. He reported occasional exertional leg muscle cramps, evaluated by an orthopedic surgeon and managed with magnesium and massages. During the vaccination visit, his pediatrician detected arterial hypertension (170/110 mmHg) and referred him to a nephrologist, who ruled out renal causes. Subsequent cardiology assessment with echocardiography and computed tomography confirmed severe aortic arch hypoplasia and coarctation with tortuous collateral development and rib notching. Absent femoral pulses were detected only after a heart ultrasound exam. Given the critical narrowing, he was referred for surgical correction via resection and aortic arch reconstruction in deep hypothermia and selective cerebral perfusion. Postoperatively, his blood pressure normalized, and he recovered without complications. Long-term follow-up is planned to monitor potential persistence of hypertension. Notably, despite 8 years of frequent sport evaluations for his athletic career, no clinician had palpated his peripheral pulses, even in the presence of abnormal ECG findings suggestive of left ventricular concentric hypertrophy.

Conclusion: This case highlights the importance of routine blood pressure measurements and peripheral pulse palpation in pediatric patients, even in asymptomatic individuals. Despite repeated check-ups, the lack of simple, quick, and cost-effective pulse assessment delayed diagnosis.

Keywords: Aortic Coarctation; Cardiovascular Surgical Procedures; Hypertension; Physical Examination

ORCID:
Nataša Hudej: 0009-0003-0403-6457 Dražen Belina: 0000-0002-9830-1981

CR16

Preoperative Evaluation of a Patient with Aortic Regurgitation Unexpectedly Revealed Arrhythmogenic Right Ventricular Cardiomyopathy

Ana Čala[1], Ana Bilić-Pavlinović[1], Ivan Prepolec[2], Vedran Velagić[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Cardiovascular Diseases, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Arrhythmogenic right ventricular cardiomyopathy (ARVC) is a rare genetic disorder that primarily affects the right ventricle and is characterized by fibrofatty infiltration of the ventricular wall. This can lead to life-threatening arrhythmias and sudden cardiac death. Patients with ARVC may also have coexisting cardiac diseases, further complicating diagnosis and management.

Case Report: A 14-year-old patient was diagnosed with bicuspid aortic valve disease and aortic regurgitation (AR) following a routine physical examination. Despite remaining asymptomatic, the patient was regularly monitored. At the age of 31, during preoperative evaluation for aortic valve repair, cardiac MRI revealed severe AR and fibrosis of the anterior right ventricular wall. Further testing identified right ventricular dysfunction, prompting additional investigations. Since the patient did not initially meet the diagnostic criteria for ARVC, the diagnosis was confirmed only after genetic testing revealed a plakophilin 2 mutation. Given the heightened risk of arrhythmias, an implantable cardioverter-defibrillator was implanted. Surgery was ultimately not performed, as the patient remained asymptomatic and there was concern about potential right ventricular deterioration following the procedure.

Conclusion: This case highlights the coexistence of two cardiac conditions - AR and ARVC - and the complexities of managing such patients. Despite earlier cardiac abnormalities, ARVC was only diagnosed after genetic testing. The presence of severe AR in a patient with ARVC presents a significant challenge, as surgical intervention is often contraindicated due to the risk of right ventricular decompensation. Early detection through comprehensive cardiac assessment is essential for guiding appropriate management and preventing sudden cardiac death.

Keywords: Aortic Regurgitation; Arrhythmia; Arrhythmogenic Right Ventricular Cardiomyopathy; Right Ventricle

ORCID:
Ana Čala: 0009-0001-0606-5986
Ana Bilić-Pavlinović: 0009-0007-7881-9242
Ivan Prepolec: 0000-0001-5870-202X
Vedran Velagić: 0000-0001-5425-5840

CR17

Acute Mastoiditis Complicated by a Suspected Sigmoid Sinus Thrombosis: a Case Report

Mihovil Penavić[1], Ivan Vučković[2], Brankica Gregorić Butina[2], Alen Sekelj[2]

[1]Department of Emergency Medicine, University Hospital Center Zagreb, Zagreb, Croatia
[2]Department of Otorhinolaryngology, General Hospital Dr. Josip Benčević, Slavonski Brod, Croatia

Introduction: Sigmoid sinus thrombosis is a rare but serious intracranial complication of acute mastoiditis (AM). It is usually found in small children and treated surgically along with antibiotics. We present a case of a successfully treated 15-year-old boy with suspicion of such a complication of AM.

Case Report: A 15-year-old boy was admitted to the Otorhinolaryngology Department with a three-day history of pain behind his left ear. Upon inspection, swelling in the left mastoid region was detected, and the left ear canal was found filled with yellow secretion upon otoscopy. He was afebrile. An MSCT scan confirmed the diagnosis of AM and showed an 11 mm wide filling defect of the left sigmoid sinus, a finding suspicious of sigmoid sinus thrombosis. Surgery was performed the same day: a left cortical mastoidectomy and a myringotomy with implantation of a ventilation tube in the left tympanic cavity. The patient was postoperatively started on intravenous antibiotics and corticosteroids, along with subcutaneous enoxaparin. Recovery progressed well. Group A β-hemolytic streptococcus was identified from intraoperative swabs. An MRI performed five days later showed no signs of sigmoid sinus thrombosis. The patient was discharged after 13 days in good condition. His hearing fully recovered, and the ventilation tube was removed 6 months later.

Conclusion: Even though acute mastoiditis can result in severe intracranial complications, prompt surgical and antibiotic treatment can lead to complete recovery with no hearing loss. For that reason, it is vital to suspect and screen for intracranial complications in every patient presenting with acute mastoiditis.

Keywords: Anti-Bacterial Agents; Sinus Thrombosis, Intracranial; Mastoidectomy; Mastoiditis

ORCID:
Mihovil Penavić: 0000-0003-4455-9968
Ivan Vučković: 0009-0008-4696-1479
Brankica Gregorić Butina: 0000-0001-6054-0584
Alen Sekelj: 0009-0002-5824-8175

CR18

Childhood-Onset Polyarteritis Nodosa: a Rare Case of Systemic Vasculitis Presenting with Vascular Occlusions and Acute Abdominal Emergency

Mirela Kolak[1], Anamarija Kovačić[1], Mario Šestan[1,2], Marija Jelušić[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Pediatrics, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Childhood-onset Polyarteritis Nodosa (cPAN) is a rare systemic vasculitis characterized by necrotizing inflammation of medium and small arteries.

Case Report: A 16-year-old Caucasian female with no significant family history was repeatedly hospitalized in another institution for polymorphic symptoms, including nausea, severe abdominal pain, left lower leg pain, and transient fever. Initial laboratory findings, including elevated inflammatory markers, leukocyturia, erythrocyturia, and proteinuria, led to the conclusion that she had a urinary tract infection and the initiation of antibiotic treatment. Following discharge, she developed intermittent claudication with leg pain after walking approximately 300 meters. The pain worsened, resulting in discoloration of the second toe on her right foot. Further evaluation revealed absent pedal pulses and necrotic changes in the affected toe. MR angiography identified multiple occlusions in the femoral and popliteal arteries bilaterally. On the fourth day of hospitalization, she experienced acute severe abdominal pain with profuse vomiting. CT angiography revealed multiple aneurysmal dilations in the terminal branches of the marginal arteries, particularly in the cecum, descending colon, and duodenum. Based on clinical findings and diagnostic investigations, she met the EULAR/PRES/PRINTO classification criteria for cPAN. Treatment was initiated with pulse-dose methylprednisolone for three days, followed by six pulses of cyclophosphamide, then gradually tapered corticosteroids, maintenance therapy with mycophenolate mofetil, and antiplatelet therapy to manage systemic inflammation and thrombosis.

Conclusion: A comprehensive history, physical examination, and targeted laboratory investigations are crucial for diagnosing vasculitic disorders. This case underscores the importance of considering rare causes such as systemic vasculitis in acute abdominal emergencies.

Keywords: Angiography; Arteritis; Polyarteritis Nodosa; Vasculitis

ORCID:
Mirela Kolak: 0009-0005-7212-6344
Anamarija Kovačić: 0009-0005-5536-1190
Mario Šestan: 0000-0003-1092-6491
Marija Jelušić: 0000-0002-1728-4260

CR19

Diethylstilbestrol–Independent Clear Cell Type Adenocarcinoma of the Uterine Cervix in a 16-Year-Old Girl

Ivona Frljak[1], Petra Hodak[1], Goran Vujić[1,2], Marija Milković Periša[1,3]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Gynaecology and Obstetrics, University Hospital Centre Zagreb, Zagreb, Croatia
[3]Department of Pathology and Cytology, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Clear cell adenocarcinoma is a rare type of cervical tumor that is not related to human papillomavirus infection, and it usually affects women in their fifties. Still, if it occurs at a younger age, it is generally caused by in-utero exposure to diethylstilbestrol.

Case Report: A 16-year-old female presented with prolonged menstrual bleeding and the occurrence of spotting between menstruations. Magnetic resonance imaging (MRI) revealed a tumor formation in the upper third of the vagina. Multislice computed tomography revealed a post-contrast imbibed tumor process in the cervix, without regional lymph nodes lymphadenopathy. The medical council decided that, according to the patient's age, a hysterectomy would not be performed. Firstly, the patient underwent a biopsy. Then, a large loop excision of the transformation zone conization was performed, and the tumor tissue was completely removed. Histopathological analysis of the explanted tissue confirmed the presence of tubular formations of atypical epithelial cells with clear cytoplasm, leading to the diagnosis of clear cell adenocarcinoma. The patient received chemotherapy. Considering the patient's age at tumor onset, it was necessary to review her mother's medical history for the use of diethylstilbestrol during pregnancy, which excluded an etiological connection between the tumor and diethylstilbestrol. A follow-up MRI was normal, as was the Papanicolaou test. The patient continues to be monitored with regular gynecological check-ups.

Conclusion: This case emphasizes the importance of recognition of cervical cancer in young women but also warns about establishing a balance between achieving optimal treatment outcomes and preserving the reproductive capacity of a young patient.

Keywords: Adenocarcinoma, Clear Cell; Conization; Diethylstilbestrol; Hysterectomy

ORCID:
Ivona Frljak: 0009-0005-5728-9401
Petra Hodak: 0009-0007-2755-6737
Goran Vujić: 0000-0001-8666-8674
Marija Milković Periša: 0000-0002-9530-9208

CR20

Infective Endocarditis in a Teenager with Marfan Syndrome and Mitral Annular Disjunction

Niko Jukić[1], Iva Predovan[1], Kristina Krželj[2], Hrvoje Gašparović[2], Željko Đurić[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Cardiac Surgery, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Mitral annular disjunction (MAD) is an abnormal displacement of the mitral valve leaflet onto the left atrial wall. This condition is frequently seen in individuals with Marfan syndrome. Patients with MAD and other valvular defects have an increased risk of infective endocarditis. However, surgical treatment of MAD associated with endocarditis is particularly challenging. In the following case, we bring our experience.

Case Report: The patient was a 16-year-old with Marfan syndrome who was reportedly healthy until the age of 7. At that time, she presented with severe scoliosis and vision disturbances as well as mitral valve prolapse with regurgitation, mild aortic root dilation, and aortic regurgitation, which have been monitored annually. The patient's acute issues began with a high-grade fever and abdominal pain, accompanied by elevated inflammatory markers. Cardiac ultrasound revealed endocarditic vegetation on the posterior mitral valve leaflet, calcifications of the mitral annulus, and previously unidentified MAD measuring 14 mm. The patient underwent emergent cardiac surgery. Annular calcification and endocardial vegetation were removed, the mitral annulus was reconstructed, and the mitral valve was completely repaired. The postoperative course was uneventful.

Conclusion: Although often overlooked, MAD is a significant finding due to its association with endocarditis and its potential to cause heart rhythm irregularities. Although surgically challenging, addressing this abnormality through timely repair is essential to reduce the risk of endocarditis and sudden cardiac death and improve long-term outcomes in patients with Marfan syndrome.

Keywords: Endocarditis; Marfan Syndrome; Mitral Valve Insufficiency; Mitral Valve Prolapse

ORCID:
Niko Jukić: 0009-0003-4074-3191
Iva Predovan: 0009-0000-1023-0684
Kristina Krželj: 0000-0003-2269-3138
Hrvoje Gašparović: 0000-0002-2492-3702
Željko Đurić: 0000-0001-9448-8286

CR21

Stereotactic Radiosurgery as a Salvage Therapy for Cushing's Disease after Failed Transsphenoidal Surgery

Paula Čizmić[1], Leo Košuta[1], Tina Dušek[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Endocrinology, Department of Internal Medicine, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Cushing's disease is caused by an adrenocorticotropic hormone (ACTH)- secreting pituitary adenoma, leading to chronic hypercortisolism and its associated complications. Transsphenoidal surgery (TSS) is the first-line treatment, achieving remission in most patients. However, in cases where surgery is unsuccessful, therapeutic decisions become complex. Available options include repeat TSS, stereotactic radiosurgery (SRS), bilateral adrenalectomy or medical therapy. This case highlights the role of SRS in achieving disease control after failed surgical intervention.

Case Report: A 16-year-old male presented with classic signs of hypercortisolism and was diagnosed with Cushing's disease due to a corticotropinoma located in the cavernous sinus. Initial treatment with TSS failed to achieve biochemical remission and a second TSS was also unsuccessful. Given the persistence of hypercortisolism, treatment options included bilateral adrenalectomy, which would induce permanent adrenal insufficiency or SRS as targeted approach. The patient underwent Gamma Knife SRS, but due to the delayed onset of its effect, treatment with steroidogenesis inhibitors was initiated to control cortisol levels. Two years post-treatment, biochemical remission was achieved, with normalization of ACTH and cortisol levels. Additionally, follow-up imaging showed a reduction in the size of the residual tumor.

Conclusion: Determining the optimal management strategy for refractory CD remains a challenge, particularly after failed surgery. This case underscores the potential of SRS as a practical and effective alternative to adrenalectomy, providing long-term disease control while preserving endogenous adrenal function. Early consideration of SRS may be beneficial in selected cases, reducing the need for lifelong adrenal replacement therapy.

Keywords: Adrenal Insufficiency; Adrenocorticotropic Hormone; Cavernous Sinus; Radiosurgery; Stereotactic Radiosurgery

ORCID:
Paula Čizmić: 0009-0002-9429-3352
Leo Košuta: 0009-0007-2836-0154
Tina Dušek: 0000-0002-1266-3501

CR22

Emotional Struggles and the Complex Treatment of a Teenager with Anorexia Nervosa

Dina Jović[1], Romana Jurić[2], Jelena Ević[1]

[1]Specialist Practise of Family Medicine Dr. Jelena Ević , PhD, MD, Specialist in Family Medicine, Zagreb, Croatia
[2]Department of Emergency Medicine, Zabok General Hospital and the Croatian Veterans Hospital, Zabok, Croatia

Introduction: Anorexia nervosa is a life-threatening psychiatric disorder with the highest mortality rate among psychiatric disorders. Adolescent females are most commonly affected. Beyond malnutrition and physical complications, affected individuals often experience severe emotional distress, including anxiety, depression, and self-harming behaviors, leading to 18 times higher suicide risk.

Case Report: A 17-year-old female patient was diagnosed with anorexia nervosa at 14, with her condition worsening over time. Initially, her symptoms were accompanied by anxiety and depression. Despite various pharmacological and psychotherapeutic treatment attempts, her anorexic behaviors persisted. Socially, she had few friends at school but struggled with severe isolation outside of it. At 15, her mental health further deteriorated, leading to self-harm through cutting which prompted hospitalization. Body mass index (BMI) was dangerously low at 14.5 kg/m^2, and she had amenorrhea. Olanzapine 5 mg and escitalopram 10 mg were prescribed alongside polymeric nutritional supplements. Though initially adherent to medications, she later stopped taking them. After multiple hospitalizations, her treatment plan was revised to include both individual and group psychotherapy. The importance of adherence to therapy was emphasized. Nutritional therapy with polymeric supplements has remained a key component of her recovery, and she continues to take them daily. Despite ongoing mood fluctuations and emotional instability, the BMI has risen to 17.5 kg/m^2 and her period returned, reflecting slow progress.

Conclusion: Anorexia nervosa in this adolescent patient highlights the difficulties of treatment when symptoms persist and motivation for recovery fluctuates. The condition requires complex, often life-long management, involving both nutritional support and psychiatric care to support recovery.

Keywords: Anorexia Nervosa; Anxiety Disorders; Body Mass Index; Depression; Malnutrition; Psychotherapy

ORCID:
Dina Jović: 0009-0006-5748-4204
Romana Jurić: 0009-0002-7718-8956
Jelena Ević: 0009-0004-8116-9787

CR23

Hemorrhagic Shock Caused by Rupture of Hepatocellular Carcinoma Metastasis

Lucija Mandić[1], Marija Palčok[1], Anita Božičević Vadlja[2]

[1]Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
[2]Department of Emergency Medicine, University Hospital Centre Osijek, Osijek, Croatia

Introduction: Rupture of hepatocellular carcinoma is a rare condition, the incidence of which has been increasing in recent years. The main symptom is abdominal pain, and in about a third of cases shock and death occur. Risk factors are a tumor >5 cm, hypertension, cirrhosis, and vascular thrombosis.

Case Report: The patient has been treated since the age of 18 for a liver lesion. In 2022 he was diagnosed with hepatocellular carcinoma and atypical liver resection and cholecystectomy were performed in March of 2023. In November, the patient was admitted to the Emergency department in KBC Osijek, slowed down and disoriented. He lost consciousness and vomited several times, had low blood pressure, and complained of stabbing pain in right costal arch area. Abdominal CT showed ascites and unclear changes on the dorsal side of the liver with extravasation and a hematoma in pelvis. The patient underwent urgent bilateral subcostal relaparotomy with adhesiolysis, liver tamponade and abdominal lavage, and was transferred to the Intensive care unit (ICU). The morning after, he woke up in a severe general condition, so volume resuscitation and intubation were undertaken. In the evening, revision surgery was performed. After that, the patient was stable and after a few weeks discharged from the hospital.

Conclusion: Rupture of hepatocellular carcinoma metastasis is a sporadic condition with poor prognosis due to life-threatening complications. In patients with known hepatocellular carcinoma, if unfavorable signs appear, one should immediately suspect a possible rupture and treat the patient.

Keywords: Ascites; Carcinoma, Hepatocellular; Laparotomy; Shock, Hemorrhagic

CR24

The First Cadaveric Bone Transplant in North Macedonia in a 19-year-old Patient with Ewing Sarcoma of the Femur

Dushko Dvojakovski[1], Teodora Todorova[1,2], Milan Samardziski[1,2]

[1]Faculty of Medicine, University of Ss. Cyril & Methodius in Skopje, Skopje, Republic of North Macedonia
[2] University Clinic for Orthopedic Diseases, Skopje, Republic of North Macedonia

Introduction: Ewing sarcoma, a highly malignant bone and soft tissue tumor, primarily affects adolescents and young adults. The current standard of care encompasses local treatment and multiple chemotherapy cycles, which have significant morbidity and low cure rates for patients with metastatic or recurrent disease.

Case Report: A 19-year-old patient presented at the outpatient clinic with a localized swelling in the area of the right thigh. Clinical examination revealed the presence of a large solid tumor mass, without skin changes and intact vascular status. Diagnostic investigations by protocol were made, and biopsy was performed revealing the presence of a Ewing sarcoma of the right femur. Staging with CT of thorax, abdomen and pelvis revealed presence of multiple lung and thoracic spine lesions highly suspected for secondary deposits. After Tumor Board discussion, neoadjuvant chemotherapy was initiated followed by surgical resection of the primary tumor and reconstruction of the bone defect using an allogenic bone graft and CRC. Treatment continued with adjuvant chemotherapy and full-weight bearing was allowed 2 months after the surgery.

Conclusion: Allogenic grafts, under certain conditions, are an appropriate method for the reconstruction of bone defects following limb-salvage surgery for orthopedic malignancies. This approach provides several advantages, including abundant supply of graft material, no donor-site morbidity as seen with autografts, anatomical alignment, simple surgical technique, relatively low cost and doesn't require much support from the bone bank.

Keywords: Bone Transplantation; Cadaver; Ewing Sarcoma; Limb Salvage

ORCID:
Dushko Dvojakovski: 0009-0005-3480-6760
Teodora Todorova: 0009-0005-3728-9682
Milan Samardziski: 0000-0002-9876-226X

CR25

Decades of Disease: a Case of 30 Years of Systemic Lupus Erythematosus

Borna Gabrijel Fijember[1], Lucija Gojčeta[1], Marija Bakula[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Clinical Immunology and Rheumatology, Department of Internal Medicine, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Systemic lupus erythematosus (SLE) is a chronic autoimmune disease that can affect any organ or tissue. Since SLE is a lifelong disease, different symptoms accumulate over time. Given its heterogeneous nature, it is sometimes referred to as the great imitator. We present a case of longstanding SLE affecting vital organs for more than three decades, requiring a tailored, multidisciplinary approach.

Case Report: The patient was diagnosed with SLE in 1992, at 21 years of age. She presented with symptoms of affection of the central nervous system; acute psychosis, and polyneuropathy. Due to serious presentation, she was treated with pulsatile doses of glucocorticoids and cyclophosphamide. Because of the persistent activity of the disease, the patient continued to take cyclophosphamide for 5 years orally and went into remission. In 2002 the patient relapsed and was diagnosed with membranous glomerulonephritis with proteinuria of 2 g/24 hours, requiring escalation of immunosuppressive therapy. Due to immunosuppressive therapy, the patient entered early menopause and developed osteopenia. In 2018 the patient developed Raynaud's syndrome and polymyositis with elevated creatine kinase levels (2700 U/L) and general muscle weakness. Polymyositis was confirmed by detecting Ro-52 and PM-scl antibodies and was treated with rituximab. Despite therapy, proteinuria and muscle weakness persist, and the patient will be closely monitored in the future.

Conclusion: SLE is a lifelong disease that progresses through time. Damage accrual in SLE is due to disease activity and immunosuppressive therapy. Therefore, careful patient monitoring and tailored therapy adjustments are essential for optimal management and improved outcomes.

Keywords: Central Nervous System; Glomerulonephritis, Membranous; Lupus Erythematosus, Systemic; Polymyositis

ORCID:
Borna Gabrijel Fijember: 0009-0000-5668-9271
Lucija Gojčeta: 0009-0006-0887-0862
Marija Bakula: 0000-0002-0176-362X

CR26

Diagnostic Challenge: from Suspected Lower Respiratory Tract Infection to Acute Pyelonephritis in a Young Adult

Mirjam Majstorović[1], Nikolina Kovač[1], Martina Pavletić[2]

[1]Faculty of Medicine, University of Rijeka, Rijeka, Croatia
[2]Emergency Department, Clinical Hospital Center Rijeka, Rijeka, Croatia

Introduction: Acute pyelonephritis is one of the most common kidney infections, and it occurs as a complication of a bacterial urinary tract infection. Typical symptoms include fever, chills, back pain, and dysuria. A positive clinical examination includes positive costovertebral angle tenderness.

Case Report: A 21-year-old female patient presented to the Emergency Department with a fever of 39.7°C that started yesterday, accompanied by chills and rigor. She has had a dry cough for the past 10 days without hemoptysis. Physical examination reveals typical vital signs with clear breath sounds on auscultation. Laboratory findings show leukocytosis (29.7 x 10^9), and urinalysis shows a slightly positive leukocyte esterase and cloudy urine. The patient was prescribed amoxicillin 875 mg and clavulanic acid 125 mg, one tablet twice daily for 7 days, with a final diagnosis of an unspecified acute lower respiratory tract infection. One day later, the patient presented to an infectious disease specialist with newly developed lower back pain and vomiting that started the previous day. Clinical examination reveals positive left costovertebral angle tenderness. Abdominal ultrasound shows "a small hypoechoic area in the lower pole of the right kidney suggestive of acute pyelonephritis." In addition to the existing therapy, the patient was started on intravenous gentamicin 240 mg, once daily in 500 mL of normal saline.

Conclusion: Initial signs of pyelonephritis may manifest with non-renal symptoms. When considering a differential diagnosis for fever and cough, attention should be given to urinalysis findings, and acute pyelonephritis should be considered.

Keywords: Cough; Fever; Leukocytosis; Pyelonephritis

ORCID:
Mirjam Majstorović: 0009-0007-4197-5719
Nikolina Kovač: 0000-0002-5100-2423
Martina Pavletić: 0000-0002-3478-1437

CR27

Unveiling Tuberculosis: a Case of Misleading Negative Results

Tea Smokrović[1], Sara Rupčić[1], Nika Radičević[1], Marija Gomerčić Palčić[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Pulmonology, Department of Internal Medicine, Sestre milosrdnice University Hospital Center, Zagreb, Croatia

Introduction: Tuberculosis (TB) is a severe, chronic infectious disease primarily affecting the lungs but capable of involving other organs. Due to its broad range of clinical manifestations, diagnosis is often delayed and complicated, especially in the early stages.

Case Report: A 23-year-old female from Nepal presented to the emergency department with symptoms of shortness of breath, productive cough, abdominal pain, nausea, and vomiting over the past month. She reported chest tightness before coughing and a sensation of a 'lump in her throat' that could not be cleared. Physical examination revealed bilateral pleural effusions and ascites. Laboratory results showed eosinophilia and elevated inflammatory markers, which spontaneously normalized after 2300 mL of lymphocytic pleural effusion was drained. Microbiological assessment was negative for Mycobacterium tuberculosis on two occasions in both pleural effusion and ascites. Other possible pathogens and autoimmune diseases were excluded. The Quantiferon test was positive. A CT scan of the chest, abdomen, and pelvis revealed enlarged lymph nodes in the neck, mediastinum, right axilla, and possibly retroperitoneal and mesenteric regions. A lymph node aspiration revealed necrotic material and granulomatous inflammation, but was also negative for TB. Following an infectious disease consultation, second urine testing finally confirmed the presence of Mycobacterium tuberculosis.

Conclusion: Diagnosing tuberculosis can be challenging, particularly in cases with negative laboratory results despite presenting symptoms. In these situations, a multidisciplinary approach involving various specialists is crucial for optimal patient outcomes. This case underscores the importance of continued monitoring when tuberculosis is suspected, even in the presence of negative results.

Keywords: Ascites; Eosinophilia; Pleural Effusion; Tuberculosis

ORCID:
Tea Smokrović: 0009-0003-0212-5982
Sara Rupčić: 0009-0005-3500-7944
Nika Radičević: 0009-0005-2826-1661
Marija Gomerčić Palčić: 0000-0002-6836-4447

CR28

Foot Architecture as an Injury Determinant: a Case Report of a Bilateral Jones Fracture

Borna Katić[1], Matija Filipin[1], Vjeran Tomljenović[1], Ivan Dobrić[1,2]

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

Introduction: The fifth metatarsal base fractures are among the most common foot fractures. They are predisposed to poor healing due to the limited blood supply to the specific areas of the fifth metatarsal base. We describe the Jones fracture at the proximal metaphyseal-diaphyseal junction of the fifth metatarsal bone.

Case Report: A 24-year-old healthy female sustained a bilateral Jones fracture within 4 months. The patient is a non-athlete; the right fracture occurred while walking barefoot, while the left one occurred during a walk in flats. We have compared the patient's foot and ankle architecture with previous studies that marked increased risks of a Jones fracture. Significant findings were bilateral mild metatarsus adductus, with the fifth metatarsal angle twice the average for fractured patients. Plantar loading measurements did not show any convincing reason for higher fracture risk. The patient denied any previous symptoms, even with the left foot overloaded by crutch-assisted walking after the first fracture. Although we detected vitamin D deficiency, there is insufficient evidence to mark this metabolic problem as a risk factor. Firstly, she underwent intramedullary cancellous screw fixation. Surgeons performed plating in the second surgery due to iatrogenic fragmentation of the proximal fragment. Both surgeries followed a successful postoperative recovery.

Conclusion: This case showed a patient with no risk factors for a Jones fracture who suffered a bilateral injury within a few months. Due to possible unclear risks, including foot and ankle deformities, this fracture type should be considered for every patient with unilateral or bilateral foot pain.

Keywords: Ankle Joint; Foot Deformities; Fracture, Bone; Metatarsal Bones

ORCID:
Borna Katić: 0009-0002-6159-8395
Matija Filipin: 0009-0004-9756-4538
Vjeran Tomljenović: 0009-0001-9487-1450
Ivan Dobrić: 0000-0003-4830-3097

CR29

HELLP Syndrome in a Primigravida: the Importance of Early Recognition and Action

Ivana Maletić[1], Klara Anja Bojanović[1], Ivana Maurac Pašalić[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Gynaecology and Obstetrics, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: HELLP syndrome is a severe and potentially life-threatening pregnancy complication, often considered a variant of preeclampsia. It is characterized by hemolysis, elevated liver enzymes, and low platelets. While closely linked to preeclampsia, some studies suggest distinct underlying causes. HELLP syndrome affects 0.2–0.6% of pregnancies and occurs in 4–12% of women with preeclampsia. It typically develops between 32 and 34 weeks of gestation, with 30% of cases occurring postpartum. Early onset before 27 weeks increases the risk of severe disease and fetal growth restriction.

Case Report: A 24-year-old primigravida at 33 weeks of gestation presented for a routine prenatal visit with severely elevated blood pressure (185/110 mmHg), despite previous normal readings. She was admitted, and a preeclampsia workup confirmed HELLP syndrome based on elevated liver enzymes, thrombocytopenia, and hemolysis. Management included high-dose antihypertensive therapy (Methyldopa, Ebrantil) and magnesium sulfate for seizure prophylaxis. Continuous fetal monitoring via CTG detected fetal bradycardia (95 bpm) with moderate variability, leading to a prenatal diagnosis of birth asphyxia and concerns about fetal compromise. Due to rapid maternal and fetal deterioration, an emergency cesarean section was performed at 33 weeks and 6 days. A female neonate (2550 g) was delivered with Apgar scores of 6 and 7. Postoperatively, the mother stabilized with continued antihypertensive therapy, and the neonate required monitoring but adapted well. Both were discharged in stable condition.

Conclusion: This case underscores the importance of early recognition and timely intervention in HELLP syndrome. Rapid disease progression necessitates close monitoring, aggressive management, and multidisciplinary collaboration to optimize maternal and fetal outcomes.

Keywords: Asphyxia Neonatorum; Cesarean Section; HELLP Syndrome; Pre-Eclampsia

ORCID:
Ivana Maletić: 0009-0004-8503-0360
Klara Anja Bojanović: 0009-0008-1452-9139
Ivana Maurac Pašalić: 0000-0001-9688-6528

CR30

Recurrent Syncope in a Young Patient: a Diagnostic Puzzle with Paroxysmal Arrhythmia in a Structurally Normal Heart

Ana Bilić-Pavlinović[1], Ana Čala[1], Ivan Prepolec[1,2], Vedran Velagić[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Cardiovascular diseases, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Syncope is a sudden, brief loss of consciousness (T-LOC) due to cerebral hypoperfusion, characterized by rapid onset and spontaneous recovery. It affects 30-40% of the population, but in individuals under 40, cardiac causes are rare (<1%). Various conditions, from harmless to life-threatening, can trigger syncope, making it essential to distinguish arrhythmias, structural heart disease, and other etiologies accurately.

Case Report: A 28-year-old male patient presented with recurrent syncope and paroxysmal atrial fibrillation (AF), leading to two hospitalizations. Echocardiography revealed no structural abnormalities or ventricular rhythm disturbances. Cryoablation of the pulmonary veins was performed successfully, and the patient was discharged on propafenone, dabigatran, and pantoprazole. One week later, he experienced a cardiac arrest. His father administered initial cardiopulmonary resuscitation (CPR); the initial rhythm was ventricular fibrillation (VF). The patient was successfully defibrillated by the emergency team, with full recovery. He was admitted to the hospital, and CT coronary angiography showed no significant structural abnormalities. Electrophysiological study and VT provocation were negative, including ajmaline testing, which ruled out Brugada syndrome. An implantable cardioverter defibrillator (ICD) was implanted for secondary prevention of sudden cardiac death. Genetic testing and magnetic resonance imaging (MRI) were scheduled. The patient was advised to refrain from driving, with a follow-up planned in three months.

Conclusion: This case highlights the difficulty of diagnosing uncommon syncope causes in young patients without structural heart abnormalities. Further genetic and imaging studies are crucial to uncover potential underlying causes. ICD implantation was warranted to prevent recurrent arrhythmia and SCD while awaiting results.

Keywords: Ablation Techniques; Atrial Fibrillation; Defibrillators, Implantable; Sudden Cardiac Death; Syncope

ORCID:
Ana Bilić-Pavlinović: 0009-0007-7881-9242
Ana Čala: 0009-0001-0606-5986
Ivan Prepolec: 0000-0001-5870-202X
Vedran Velagić: 0000-0001-5425-5840

CR31

Eruptive Xanthomatosis as an Indicator of Severe Hypertriglyceridemia

Leo Košuta[1], Paula Čizmić[1], Nika Filipović Mioč[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Dermatovenereology, Sestre milosrdnice University Hospital Center, Zagreb, Croatia

Introduction: Eruptive xanthomas are localized lipid deposits in the dermis, serving as an important early sign of severe hypertriglyceridemia. Clinically, they present as multiple erythematous-yellow, dome-shaped papules, typically found on the extensor surfaces of extremities, buttocks, and hands. Eruptive xanthomas are associated with both primary and secondary dyslipidemias, commonly linked to poorly controlled diabetes, cholestatic liver disease, or certain medications such as isotretinoin, estrogens, and cyclosporine.

Case Report: A 30-year-old male was referred to our clinic due to a sudden eruption of multiple, densely disseminated erythematous-yellowish papules on his back, abdomen, upper and lower extremities. Dermoscopy revealed large yellowish globules on a homogenous erythematous background with fine arborizing vessels. The lesions, which appeared on previously unaffected skin, were asymptomatic and had persisted for two months. The patient was otherwise healthy, with no prior significant medical history or medication use. Histopathological examination of a skin biopsy confirmed the diagnosis of eruptive xanthomatosis. Further laboratory evaluation revealed severe hypertriglyceridemia (50 times above physiological levels), uncontrolled diabetes, and evidence of kidney and liver dysfunction. Oral therapy with atorvastatin and rosuvastatin was initiated, and the patient was referred to a metabolic disease specialist for further assessment and combined hyperlipidemia treatment.

Conclusion: This case highlights the critical role of dermatologists in the early detection of metabolic diseases. The cutaneous eruption in our patient prompted further investigation, leading to the diagnosis of severe lipid dysregulation. Recognizing dermatological manifestations of metabolic disorders is essential for timely diagnosis and treatment. Early intervention likely prevented a young man from serious health consequences.

Keywords: Dermoscopy; Xanthomatosis; Hypertriglyceridemia; Rosuvastatin; Dyslipidemias

ORCID:
Leo Košuta: 0009-0007-2836-0154
Paula Čizmić: 0009-0002-9429-3352
Nika Filipović Mioč: 0000-0001-8229-9373

CR32

Hidden in Plain Sight: Unraveling the Case of Pregnancy of an Unknown Location

Matea Klaić[1], Danijela Kegljević[1], Marija Kantolić[1], Gordana Planinić-Radoš[2], Željko Duić[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Gynaecology and Obstetrics, Merkur University Hospital, Zagreb, Croatia

Introduction: Pregnancy of an unknown location is a brain-teasing diagnosis characterized by a positive pregnancy test but no signs of an intrauterine or extrauterine pregnancy. As discussed in this case, its initial manifestation can be acute abdominal pain.

Case Report: A 30-year-old woman with a regular menstrual cycle and a history of abortion and childbirth presented with diffuse abdominal tenderness and guarding. Laboratory results showed low red blood cells, hematocrit, and hemoglobin, alongside elevated neutrophils, CRP, and beta-human chorionic gonadotropin, indicating pregnancy. A transvaginal ultrasound revealed free abdominal fluid and an empty cavum, leading to a diagnosis of acute abdomen with suspected hematoperitoneum. Laparoscopic surgery identified a hemorrhagic corpus luteum on the left ovary as the source of the bleeding, with no evidence of ectopic pregnancy. Post-operative beta-human chorionic gonadotropin levels continued to rise irregularly, and since the endometrium was thickened (11 mm), a dilation and vacuum aspiration was performed. Given the continued rise in beta-human chorionic gonadotropin and the lack of signs of an intrauterine or ectopic pregnancy, the diagnosis was pregnancy of an unknown location. The patient received two doses of methotrexate, with beta-human chorionic gonadotropin levels gradually declining. Once her symptoms resolved, she was discharged and received follow-up care for future fertility planning.

Conclusion: This case emphasizes how pregnancy of an unknown location remains a challenging clinical scenario that requires careful diagnostic evaluation. Combining surgical and medical treatments is key to achieving an optimal outcome.

Keywords: Abdominal Pain; Corpus Luteum; Methotrexate; Pregnancy

ORCID:
Matea Klaić: 0009-0001-0729-7885
Danijela Kegljević: 0009-0009-0933-297X
Marija Kantolić: 0009-0007-5292-7544
Gordana Planinić-Radoš: 0000-0002-4890-5621
Željko Duić: 0009-0001-4041-3008

CR33

Partial Resection of the Left Fourth Rib due to a Costal Tumor: a Case Report

Nina Beluhan[1], Petra Benc[1], Tomislav Bečejac[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Lung Surgery, Department of Thoracic Surgery; University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Osteochondromas are common benign tumors that develop during childhood or adolescence. Costal presentations of these tumors are rare and usually asymptomatic but can be associated with heart and lung injuries. They also represent a significant differential diagnosis problem.

Case Report: The patient, a 30-year-old man, presented with pain in the left hemithorax, which increased with movement and while lying on his left side, occasional dyspnea and significant weight loss. MSCT showed a bony protrusion of the left fourth rib inwardly measuring 15mm, leaning onto the ventrolateral edge of the left ventricle of the heart, with soft tissue surrounding its tip. Differentials included congenital anomalies, osteosarcoma and osteochondroma. PET-CT showed a discrete accumulation of FDG within the protrusion itself (SUVmax 1,9) but not within the aforementioned soft tissue, and no other pathological findings. Surgical treatment and pathohistological analysis were indicated due to the unknown etiology of the tumor and the discomfort it caused the patient, along with the possibility of serious heart and lung injuries in case of trauma. Two months after the initial examination, the patient underwent a partial resection of the left fourth rib. Pathohistological analysis was consistent with the diagnosis of osteochondroma. The soft tissue was likely fatty tissue that proliferated due to local friction, protecting the heart from potential damage. At 1-month follow-up, the patient was asymptomatic and in good health.

Conclusion: Although osteochondromas are usually associated with asymptomatic presentations, costal presentations with inward protrusions could lead to serious complications and are, therefore, an indication for surgical resection.

Keywords: Differential Diagnosis; Dyspnea; Osteochondroma; Ribs

ORCID:
Nina Beluhan: 0009-0002-6109-6758
Petra Benc: 0009-0004-9521-7380
Tomislav Bečejac: 0000-0001-8603-8314

CR34

Successful Improvement of Life Quality and Expectancy in Patients with Chronic Thromboembolic Pulmonary Hypertension (CTEPH) Caused by Antiphospholipid Syndrome

Iva Grebenar[1], Mateja Janković Makek[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department for Lung Diseases "Jordanovac", University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Antiphospholipid syndrome is an autoimmune disorder characterized by recurrent thrombosis. In rare cases, it leads to chronic thromboembolic pulmonary hypertension (CTEPH), a form of persistent pulmonary hypertension caused by unresolved thromboembolisms in the pulmonary arteries. If left untreated or inadequately treated, CTEPH causes right-sided heart failure or cor pulmonale. Conservative and surgical therapies offer varying degrees of success.

Case Report: A 31-year-old woman was diagnosed with antiphospholipid syndrome following a case of placental thrombosis in a pregnancy that ended with a stillbirth. Over the next nine years, and despite anticoagulant therapy, she experienced multiple thrombotic events, including two episodes of pulmonary embolism. Persistent dyspnea and fatigue indicated a need for a pulmonological evaluation, which revealed severe pulmonary hypertension with echosonographic and biochemical evidence of decompensated right-sided heart failure (NT-proBNP 3853 pg/mL). Despite four years of pharmacological treatment with riociguat and treprostinil, her symptoms persisted. As surgical treatment was unavailable in Croatia, she sought care in Germany, where she underwent four treatments of balloon pulmonary angioplasty and one thromboendarterectomy. Following these interventions, her symptoms improved significantly, with only mild residual pulmonary hypertension and a significant reduction in NT-proBNP (381 pg/mL).

Conclusion: Surgical treatment offers superior outcomes compared to pharmacological therapy in patients with CTEPH and can provide complete symptom resolution if done promptly. However, this patient's case demonstrates improvement even when the procedure was performed almost a decade after the initial CTEPH diagnosis. Given its effectiveness, improving the thoracic surgery practice in Croatia is essential to ensure patients have access to this critical intervention.

Keywords: Antiphospholipid Syndrome; Hypertension, Pulmonary; Pulmonary Heart Disease; Thoracic Surgery

ORCID:
Iva Grebenar: 0009-0001-4976-7128
Mateja Janković Makek: 0000-0002-0171-764X

CR35

Cardiac Arrest Caused by MAD and how to Diagnose It: Role of Cardiac MRI

Jana Tarnik[1], Maja Špoljarić[1], Helena Jerkić[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Intensive Cardiology Care, Department of Cardiovascular Diseases, Sestre milosrdnice University Hospital Center, Zagreb, Croatia

Introduction: Mitral annulus disjunction is a structural heart abnormality which includes abnormal insertion of the posterior mitral leaflet into the myocardium of the left atrium instead of being inserted to a mitral annulus. It has been associated with earlier mitral valve degeneration and higher risk of sudden cardiac arrest and death.

Case Report: We present the case of a 32-year-old woman who was admitted to the ER with cardiac arrest. Before the arrest, the patient was under surveillance for mitral valve prolapse, she was receiving chronic beta-blocker therapy and gave birth two months prior to the arrest. An ECG showed VF so the patient was defibrillated and successfully converted to a stable sinus rhythm. Urgent coronary angiography and brain CT were normal, but echocardiography showed cardiomyopathy with globally reduced contractions, reduced LVEF (15-20%), mitral regurgitation, and prolapse of the anterior mitral leaflet. A heart MRI revealed prolapse of the anterior and posterior mitral leaflets, with the insertion point of the posterolateral annulus approximately 6 mm from the LV myocardium, and an LVEF of 30%, confirming “MAD.” During her ICU stay, her heart function has significantly improved (LVEF 45-50%), she regained consciousness, had an ICD implanted and was discharged soon after.

Conclusion: This case shows the importance of both early intervention and cardiovascular imaging in proper assessment and management of patients with MAD since it’s the condition with high risk of sudden cardiac death. Complications of MAD can be easily avoided if the condition is diagnosed properly with MRI and treated before severe complications occur.

Keywords: Heart Arrest; Magnetic Resonance Spectroscopy; Mitral Valve; Mitral Valve Insufficiency

ORCID:
Jana Tarnik: 0009-0007-0025-4181
Maja Špoljarić: 0009-0005-5714-5176
Helena Jerkić: 0000-0002-1650-4735

CR36

Cesarean Scar Pregnancy: a New Challenge in Obstetrics

Anton Pulić[1], Erin Puch[1], Tena Šplajt[2], Dragan Belci[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Gynaecology and Obstetrics, Pula General Hospital, Pula, Croatia

Introduction: The number of pregnancies ending in cesarean delivery is continuously increasing. This is accompanied by various other pathologies that we have rarely encountered before. One of them is cesarean scar pregnancy (CSP), a rare but potentially life-threatening form of ectopic pregnancy, where the gestational sac is implanted in the fibrous tissue of a previous cesarean scar. The aim of this case report is to highlight the potential pathology associated with cesarean delivery.

Case Report: We present the case of a 32-year-old woman, with a history of one prior cesarean section, who came for an obstetric evaluation at six weeks of gestation because of vaginal bleeding. Transvaginal ultrasound revealed an abnormally located gestational sac embedded within the myometrium of the cesarean scar and partly infiltrating the parametrium close to the bladder. Color Doppler imaging demonstrated increased vascularity surrounding the implantation site, raising concerns about the risk of abnormal placental invasion. The patient received systemic methotrexate therapy aiming to induce trophoblastic regression. Serial follow-up ultrasounds showed partial regression of trophoblastic tissue and laboratory tests confirmed the complete resolution of β-hCG from an initial value of 40.000 IU/L. The patient later sought a second opinion at a tertiary care center regarding the possible surgical removal of the residual trophoblastic tissue.

Conclusion: CSP represents an obstetric challenge, and early diagnosis and appropriate management are crucial to preventing adverse outcomes. This case report highlights the importance of awareness of the consequences we will increasingly encounter in the future, which may be associated with the cesarean section.

Keywords: Cesarean Section; Gestational Sac; Methotrexate; Pregnancy

ORCID:
Anton Pulić: 0009-0006-7675-8549
Tena Šplajt: 0009-0005-5619-5286
Dragan Belci: 0000-0002-0017-2895

CR37

Intrahepatic Cholestasis of Pregnancy in a Patient with a Preexisting Liver Lesion

Katarina Krvavica[1], Gordan Zlopaša[1,2], Anna Mrzljak[1,3,4], Iva Košuta[4,5]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division for Perinatal Medicine, Department of Gynaecology and Obstetrics, University Hospital Centre Zagreb, Zagreb, Croatia
[3]Division of Gastroenterology and Hepatology, Department of Internal Medicine, University Hospital Centre Zagreb, Zagreb, Croatia
[4]Liver Transplant Center, University Hospital Centre Zagreb, Zagreb, Croatia
[5]Division of Intensive Care Medicine, Department of Internal Medicine, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Intrahepatic cholestasis of pregnancy (ICP) is the most common liver disease in pregnant women. It occurs late in pregnancy and carries an increased risk of fetal distress, demise and preterm birth. We discuss a young patient with ICP who was previously monitored for preexisting liver lesion, raising questions about a possible association.

Case Report: A 32-year-old patient, 33 weeks pregnant, was admitted due to elevated bile acids (22.4 mmol/L), altered liver function tests, and generalized pruritus over the last two days. Since 2012 she had been under hepatology follow-up for intermittently elevated liver enzymes, which excluded viral, immunological, and metabolic causes. Her FibroScan and abdominal ultrasound were normal. Upon admission, she was treated with ursodeoxycholic acid (UDCA), dexamethasone for fetal lung maturation and magnesium sulfate ($MgSO_4$) for neuroprotection. Further rise in liver enzymes (Aspartate aminotransferase: 510 U/L, Alanine aminotransferase: 1138 U/L, Alkaline phosphatase: 339 U/L, Gamma-glutamyl transferase: 65 U/L), prompted a cesarean section. The postoperative course was uneventful, and she was discharged in good condition. After delivery, UDCA was discontinued, with near-complete normalization of liver enzymes and resolution of pruritus.

Conclusion: The clinical presentation strongly supports an ICP diagnosis, confirmed by symptoms resolution after delivery. However, the marked increase in liver enzymes is not entirely characteristic of ICP, prompting further evaluation once postpartum recovery is complete. Collaboration between hepatologists and gynecologists contributed to a favorable outcome for both mother and child.

Keywords: Bile Acids and Salts; Cholestasis; Pregnancy; Pruritus

ORCID:
Katarina Krvavica: 0009-0004-4662-2312
Gordan Zlopaša: 0009-0004-6068-7681
Anna Mrzljak: 0000-0001-6270-2305
Iva Košuta: 0000-0002-1342-8722

CR38

Substance Abuse and Gambling Disorder as a Consequence of Generational Trauma: a Case Report

Luka Ravlić[1], Ema Novak[1], Karlo Tkalec[2], Iva Ravlić[3], Ana Mašić Prpić[4]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Vukovar-Srijem County Department of Emergency Medicine, Vinkovci, Croatia
[3]Brod-Posavina County Department of Emergency Medicine, Slavonski Brod, Croatia
[4]Health centre Zagreb - Centar, Zagreb, Croatia

Introduction: Addictive disorders are complex, chronic conditions often beginning in childhood or adolescence, with the potential to affect multiple generations. Parental addiction can have a lasting impact on a child's development, as seen in this case of intergenerational substance abuse and gambling disorder.

Case Report: A 33-year-old man with a history of substance abuse and gambling addiction began treatment at a day hospital program. He works at a fast-food restaurant and lives with his wife and one-year-old son. Although he initially participated in a psychotherapy group and agreed to urine drug tests, he failed to abstain from substances and eventually dropped out. He shared that his father also struggled with alcohol and gambling addiction, which affected their relationship. The patient began alcohol use in high school and later experimented with multiple substances, including heroin which he was addicted to. His gambling addiction has been ongoing for 15 years and has resulted in significant financial loss. He has undergone several hospitalizations for addiction treatment but often abandons care. He admitted to abusing Skudexa for back pain, combining it with alcohol. Psychiatric testing revealed high intelligence, latent aggression, and narcissistic traits. His wife, who suffers from postpartum depression, reported manipulation and abuse by him, along with gambling and drug use.

Conclusion: The patient's addiction issues appear to stem from childhood experiences, compounded by narcissistic traits and impulsivity, which have hindered treatment success. His condition poses a risk for his son, highlighting the need for effective intervention to prevent generational transmission of these behaviors.

Keywords: Aggression; Gambling; Heroin; Psychotherapy

ORCID:
Luka Ravlić: 0009-0004-3902-6221
Ema Novak: 0000-0002-4300-2888
Karlo Tkalec: 0000-0003-2811-8716
Iva Ravlić: 0000-0002-7708-448X
Ana Mašić Prpić: 0000-0002-9888-2472

CR39

Pregnant Woman with History of Gastroschisis – Management and Outcome

Matija Filipin[1], Emma Bosanac[1], Gordan Zlopaša[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division for Perinatal Medicine, Department of Gynaecology and Obstetrics, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Gastroschisis is a congenital anomaly characterized by herniation of abdominal contents through a defect in the anterior abdominal wall. It is necessary to do surgical treatment right after birth to prevent early complications. Later complications can manifest as a result of scar tissue formation, which can make future parturition especially challenging.

Case Report: A 35-year-old expectant mother with a history of gastroschisis was referred in early pregnancy to an obstetrician for pregnancy management. The pregnant woman had seven operations on the abdominal wall in early childhood with extensive scar tissue formation as a consequence. The patient was discussed at the medical board regarding the preferred mode of delivery, and it was concluded that vaginal delivery is a better option. The abdominal surgeon stated that cesarean section as an alternative is possible because there were no accretions at the place of the planned incision. At 39 weeks of pregnancy, the patient was admitted to the hospital due to a rupture of the amniotic sac. The parturition progressed smoothly and ended with the birth of a live and healthy male newborn.

Conclusion: Gastroschisis repair can cause scarring tissue in the abdominal cavity which can result in decreased possibility of giving vaginal birth and higher complications when a cesarean section is done. Pregnant women with gastroschisis must be monitored by a specialist in fetal medicine, given the lack of experience with such pregnancies. In the future, it is essential to establish specific guidelines on the management of pregnancy in women with a history of gastroschisis.

Keywords: Cesarean Section; Gastroschisis; Parturition; Pregnancy

ORCID:
Matija Filipin: 0009-0004-9756-4538
Emma Bosanac: 0009-0000-6913-2085
Gordan Zlopaša: 0009-0004-6068-7681

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From One to Three: Monozygotic Trichorionic-Triamniotic Pregnancy After SET in IVF

Nina Alebić[1], Nika Baldani[1], Miro Šimun Alebić[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Alea fertility - Gynecology and Reproductive Medicine Clinic, Zagreb, Croatia

Introduction: Trichorionic-triamniotic (TRI-TRI) pregnancy is a type of pregnancy in which each triplet has its own placenta and amniotic sac. In triplet pregnancies, the triplets can be of monozygotic, dizygotic, or trizygotic types. Monozygotic triplet pregnancy very rarely occurs in assisted reproductive technology (ART) treatment, and TRI-TRI type is extremely rare but it is still higher than in natural conception.

Case Report: A 36-year-old uniparous woman presented to the infertility clinic to achieve pregnancy. Three years ago she was diagnosed with low ovarian reserve, and underwent an IVF cycle with GnRH antagonists, resulting in a live birth. To achieve another pregnancy, ovarian stimulation was performed using a short antagonist protocol, resulting in the retrieval of three oocytes. Three days after fertilization by insemination, a single cleavage-stage embryo was transferred to the uterus. Two weeks after, beta-HCG was 1506 mIU/ml, rising to 5717 mIU/ml. Transvaginal sonography on day 35 of the cycle reveals 3 gestational sacs (8,6 and 4 mm), with two displaying fetal heart activity by the following week. Non-invasive prenatal testing at 8+6 weeks of gestation revealed male identical twins with low risk for all conditions tested. The pregnancy has progressed into the third trimester without complications.

Conclusion: This case demonstrates the rarity of a TRI-TRI pregnancy following single embryo transfer (SET) during assisted reproductive technology. Although the developmental mechanisms of monozygotic triplets are unknown, clinicians should be aware of the possibility of multiple pregnancies under SET.

Keywords: Pregnancy, Triplet; Reproductive Techniques, Assisted; Single Embryo Transfer; Twins, Monozygotic

ORCID:
Nina Alebić: 0009-0006-2026-024X
Nika Baldani: 0000-0002-8412-3598
Miro Šimun Alebić: 0000-0002-3358-5055

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The Journey of Life: Overcoming Medical Challenges to Motherhood

Nika Baldani[1], Nina Alebić[1], Marko Gavrančić[1], Lana Škrgatić[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division for Reproductive Medicine and Gynaecological Endocrinology, Department of Gynaecology and Obstetrics, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Advancements in oncofertility allow cancer survivors to achieve biological parenthood through techniques like oocyte or ovarian tissue cryopreservation. Alternative pathways remain viable for those unable to preserve reproductive material. This case highlights a patient who overcame medical barriers to achieve motherhood.

Case Report: A 36-year-old patient, previously treated for acute lymphoblastic leukemia, has been in remission while undergoing long-term immunosuppressive therapy. Following treatment, she developed premature menopause and has been on hormone replacement therapy. In 2019, she sought medical assistance to achieve pregnancy, achievable only through in vitro fertilization using donor oocytes. Although oocyte donation is legally permitted in Croatia, donor availability remains limited due to regulations allowing children to access donor identity at the age of 18. Consequently, the entire procedure was conducted in collaboration with an international clinic. Through the donor program, oocytes were fertilized with her husband's sperm, resulting in six cryopreserved blastocysts. Endometrial preparation was performed in Zagreb. Despite initial frozen embryo transfers (FET) resulting in early miscarriages, the patient achieved pregnancy on the fourth attempt, delivering a baby via cesarean section in 2021. In early 2024, another FET attempt failed. However, with the final remaining embryo, she conceived again and gave birth to a healthy baby in early 2025.

Conclusion: This case underscores the importance of integrating oncofertility considerations into cancer treatment, including the early preservation of reproductive material. While fertility preservation offers optimal outcomes, donor oocyte programs provide hope for those without such options. The patient's journey, filled with setbacks and triumphs, reflects The Journey of Life.

Keywords: Embryo Transfer; Fertilization in Vitro; Fertility Preservation; Oocyte Donation; Reproductive Techniques, Assisted

ORCID:
Nika Baldani: 0000-0002-8412-3598
Nina Alebić: 0009-0006-2026-024X
Marko Gavrančić: 0000-0002-5262-956X
Lana Škrgatić: 0000-0002-6416-3736

Intraocular Foreign Body Revealed after Magnetic Resonance Imaging - a Case Report

Ivan Đuran[1], Mirko Vilibić[1], Iva Bešlić[1,2], Sanja Masnec[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Ophthalmology, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Intraocular foreign bodies (IOFB) can remain in the eye after penetrating injuries, potentially leading to vision deterioration by damaging ocular structures. They remain undetected for years, especially if they are non-metallic. Treatment of patients with IOFB involves removing the foreign body and reconstructing ocular structures. We present a case in which an IOFB became apparent after exposure to magnetic resonance imaging (MRI).

Case Report: A 37-year-old male presented to the emergency department with reduced vision in his right eye. The symptoms began that morning, approximately 30 minutes after undergoing an emergency MRI of the spine, due to vertebral fractures following a syncopal episode. Medical history from 20 years prior revealed right eye hyphema without evidence of a foreign body, despite the patient reporting that a metal fragment from a hammer had struck his right eye. Since then, he has experienced no subjective visual disturbances. Following the MRI, slit lamp examination revealed complete corneal edema and a small foreign body located at the iridocorneal angle at the 9 o'clock position, which had been displaced by the magnetic field, resulting in corneal decompensation. Ultrasonic biomicroscopy further confirmed the presence of the IOFB. The patient underwent surgery, during which the foreign body was successfully removed. Four days postoperatively, a satisfactory recovery was noted.

Conclusion: This case emphasizes the need to obtain a detailed and structured medical history, along with conducting a thorough examination, to prevent complications and potential vision loss.

Keywords: Eye Foreign Bodies; Magnetic Resonance Imaging; Medical History Taking; Vision Disorders

ORCID:
Ivan Đuran: 0009-0007-4266-826X
Mirko Vilibić: 0009-0002-7451-2917
Iva Bešlić: 0009-0004-0526-8070
Sanja Masnec: 0000-0003-1472-0511

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Thiopental Concentration Monitoring as an Additional Tool for Brain Death Determination

Ana Lovrić[1], Lucija Lisak[1], Luka Linarić[1], Vasilije Stambolija[1,2], Mila Lovrić[1,3,4]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Anesthesiology and ICU, University Hospital Centre Zagreb, Zagreb, Croatia
[3]Department of Laboratory Diagnostics, University Hospital Center Zagreb, Zagreb, Croatia
[4]Faculty of Pharmacy and Biochemistry, University of Zagreb, Zagreb, Croatia

Introduction: Thiopental sodium is an intravenous barbiturate anesthetic used to lower high intracranial pressure. Centrally acting drugs prevent certainty in brain death diagnosis. Therefore, therapeutic monitoring of thiopental levels has been recommended as an additional tool for brain death determination.

Case Report: A 38-year-old female presented with a severe headache, sudden loss of consciousness and epileptic seizures. Initial CT neuroimaging revealed a ruptured intracranial aneurysm of the left medial cerebral artery with subarachnoid hemorrhage and brain edema. Emergent neurosurgical intervention was required, during which the patient was intubated and placed under general anesthesia using thiopental, fentanyl and rocuronium. Neuroprotective measures, including hyperventilation, osmotherapy and thiopental infusion were implemented. Postoperatively, the patient was admitted to the neuroanesthesia ICU, sedated and on mechanical ventilation. Follow-up CT imaging showed extensive brain edema and ischemia, with fixed dilated pupils on clinical examination. Sedation was discontinued, and thiopental blood concentrations were monitored to establish when the criteria for brain death confirmation were met. Plasma samples were collected over three days, with thiopental concentrations measured by HPLC-DAD. The highest measured thiopental level was 2.0 µg/ml, declining to 0,7 µg/ml within 24 hours. By day 3, the concentration decreased to 0,3 µg/ml, with subsequent measurements below the method's sensitivity limit, enabling further brain death testing and confirmation.

Conclusion: Therapeutic monitoring of thiopental concentration is crucial for patients receiving high doses or prolonged infusions, especially when assessing brain death after discontinuing barbiturate sedation/anesthesia. Currently, there is no established consensus regarding the optimal timing for brain stem reflex assessment after discontinuing thiopental administration.

Keywords: Brain Death; Chromatography; Subarachnoid Hemorrhage; Thiopental

ORCID:
Ana Lovrić: 0009-0007-9139-0129
Lucija Lisak: 0009-0009-8591-9561
Luka Linarić: 0009-0005-4418-044X
Vasilije Stambolija: 0009-0004-6279-5045
Mila Lovrić: 0000-0002-2086-643X

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Managing NK/T Cell Lymphoma: Case Report

Saša Mađar[1], Iva Matičević[1], Aleksandra Martinko[1], Vesna Pečevski[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Diagnostic and Interventional Radiology, Dubrava University Hospital, Zagreb, Croatia

Introduction: Extranodal "Natural Killer" (NK)/T cell lymphoma is a rare and aggressive type of non-Hodgkin lymphoma. It primarily originates from NK cells and is associated with the Epstein-Barr virus (EBV). Early-stage treatment involves radiotherapy, while advanced cases require non-anthracyclines-L-asparaginase-based regimens.

Case Report: A 39-year-old patient visited his family physician due to a fever and fatigue that had lasted for five days. Laboratory blood analysis showed mildly elevated neutrophils and CRP but decreased lymphocytes. Over the following weeks, he repeatedly visited the emergency department with dry cough, chest pain, and night sweats, leading to a pneumonia diagnosis with pleural effusion, treated with Cefpodoxime. After another visit, an MSCT angiography was performed, revealing lung infiltrates and lymphadenopathy, leading to hospitalization. A subsequent MSCT scan showed generalized lymphadenopathy, pleural effusion, pericardial thickening, ascites, peritoneal deposits, and suspected adrenal gland and orbital infiltration. A scalp tumor excision confirmed a diagnosis of extranodal NK/T cell lymphoma, with an immeasurably high EBV copy number. The patient was treated with methylprednisolone, meropenem, linezolid, and voriconazole. A central venous catheter (CVC) was placed, and therapy was initiated according to the mSMILE protocol. After the first cycle, the patient developed respiratory insufficiency and was transferred to the intensive care unit (ICU). He also experienced febrile neutropenia during the agranulocytosis period. However, he recovered, and subsequent treatment cycles proceeded without complications.

Conclusion: This case report aims to emphasize the importance of timely and accurate laboratory and radiological diagnostics in patients with unusual symptoms of malignant disease.

Keywords: Killer Cells, Natural; Leukocytes; Lymphoma, Non-Hodgkin; Positron Emission Tomography Computed Tomography

ORCID:
Saša Mađar,: 0009-0003-7893-4372
Iva Matičević: 0009-0004-6357-3962
Aleksandra Martinko: 0009-0001-9204-7185
Vesna Pečevski: 0000-0001-6624-9093

CR45

Motherhood after Second Chance: Pregnancy in a Heart Transplant Recipient

Lucija Grbić[1], Dubravka Šipuš[2], Daniel Lovrić[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Intensive Cardiology Care, Arrhythmia, and Transplantation Cardiology, Department of Cardiovascular Diseases, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Pregnancy in heart transplant (HTx) recipients carries significant risks, including pre-eclampsia, low birth weight, premature birth, infections, and rejection. Due to these risks, pregnancies should be carefully planned with follow-up by a multidisciplinary team, including an obstetrician, anesthesiologist, and transplant cardiologist. We present a case of a high-risk pregnancy in an HTx recipient with minimal complications.

Case Report: A 39-year-old female with a history of dilated cardiomyopathy and a proven mutation in the desmoplakin gene was admitted following an out-of-hospital cardiac arrest. Due to the progression of heart failure, she underwent urgent heart transplantation. The early post-transplant period was uneventful; echocardiography showed preserved graft function and no rejection episodes. Two years after HTx, the patient and the multidisciplinary team began planning the pregnancy. Changes to her immunosuppressive regimen included discontinuation of mycophenolate and maintaining tacrolimus levels within the upper therapeutic range. During early pregnancy, the patient was mildly anemic, which was managed with intravenous ferric carboxymaltose supplementation. Echocardiography showed preserved graft function throughout the pregnancy, and NT-proBNP levels were slightly elevated. At 36 weeks, she was admitted due to worsening kidney function, with high tacrolimus levels. At 36+4 weeks, a healthy male baby was delivered via cesarean section. Postpartum, her kidney function recovered, and mycophenolate was restarted. The patient did not experience any rejection episodes postpartum.

Conclusion: Pregnancy in HTx recipients is high risk due to increased complications. However, as this case report highlights, successful pregnancy chances improve significantly with close medical follow-up.

Keywords: Echocardiography; Immunosuppression Therapy; Pregnancy; Transplantation

ORCID:
Lucija Grbić: 0009-0009-0013-9858
Dubravka Šipuš: 0000-0002-5631-0353
Daniel Lovrić: 0000-0002-5052-6559

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Timely Heart Transplant Evaluation: a Young Patient with Dilated Cardiomyopathy

Jan Čavar[1], Mislav Cikoš[1], Ivo Darko Gabrić[2,3]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Cardiomyopathies, Heart Failure, and Valvular Heart Diseases, Department of Cardiovascular Diseases, Sestre Milosrdnice University Hospital Center, Zagreb, Croatia
[3]School of Medicine, Catholic University of Croatia, Zagreb, Croatia

Introduction: In 2023, forty-eight heart transplants were performed in the Republic of Croatia, all in Zagreb. We aim to highlight the importance of timely referral of all patients who meet the criteria for transplant treatment.

Case Report: We present the case of a 39-year-old patient who was diagnosed with dilated cardiomyopathy at the young age of 26. The patient had been hospitalized multiple times through the emergency department due to the worsening of his heart failure, with a left ventricular ejection fraction (LVEF) of 17%. Upon consulting with his family physician he decided to undergo a heart transplant evaluation. Following this, he was urgently admitted to the cardiomyopathy department in September 2024, with a weight of 107 kilograms, shortness of breath on mild exertion, persistent dry cough, and swollen legs. A full medical evaluation was performed as part of the heart transplant workup. He was started on continuous dobutamine and milrinone infusions, along with parenteral diuretics, while optimizing his existing heart failure therapy. The patient's LVEF improved to 25%, and there was significant relief from congestive heart failure symptoms, including a weight loss of 26 kilograms. He was placed on the urgent national transplant list and subsequently underwent a successful heart transplantation. Upon the latest follow-up, the patient reported good health, with no evidence of transplant rejection.

Conclusion: This case emphasizes the pivotal role of family physicians in managing advanced heart failure and the importance of promptly referring such patients to clinical centers that specialize in heart transplantation.

Keywords: Cardiomyopathy, Dilated; Cardiotonic Agents; Family Practice; Heart Failure; Heart Transplantation

ORCID:
Jan Čavar: 0009-0009-7008-5381
Mislav Cikoš: 0009-0009-0522-2474
Ivo Darko Gabrić: 0000-0003-4719-4634

CR47

Upper Limb Ischemia of Unclear Origin: the Importance of Comprehensive Vascular Assessment

Stipe Slišković[1], Klara Profeta[1], Nikola Kos[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Cardiovascular Diseases, Sestre milosrdnice University Hospital Centre, Zagreb, Croatia

Introduction: Upper extremity embolism occurs when embolic material obstructs arterial flow, causing ischemia. While cardiac sources are common, non-cardiac causes such as arterial aneurysms should not be overlooked. Surgical embolectomy remains the primary treatment to restore perfusion, while anticoagulation and other measures help prevent recurrence.

Case Report: A 39-year-old male patient was hospitalized with right palm and forearm pain during exercise. He had noticed right-hand coldness a week earlier. CT angiography revealed brachial artery (BA) thromboembolism at its bifurcation, requiring urgent Fogarty embolectomy. Given the embolism of unknown origin, further vascular evaluation was performed. Transesophageal echocardiography detected a patent foramen ovale (PFO) with right-to-left shunting during Valsalva maneuver. Extended thrombophilia workup suggested possible antiphospholipid syndrome (APS), with positive IgG anticardiolipin antibodies, leading to warfarin therapy. During the evaluation, warfarin was temporarily replaced with heparin, and after APS was ruled out, acetylsalicylic acid was introduced. Although paradoxical embolism was not confirmed, the patient was reconsidered for PFO closure after APS was ruled out. However, shortly after discontinuing warfarin, he experienced a recurrent thromboembolism at the distal brachial artery. Alongside BA occlusion, 3D CT reconstruction revealed a significant subclavian artery (SA) aneurysm, which demonstrated progressive enlargement. BA embolectomy was repeated, followed by surgical resection of the right SA aneurysm with graft reconstruction.

Conclusion: This case underscores the importance of comprehensive diagnostics and vigilant follow-up. While initial evaluation focused on PFO and APS, the true cause—a progressing SA aneurysm—was identified later. This highlights the need for a broad diagnostic approach and precise clinical decision-making.

Keywords: Antiphospholipid Syndrome; Foramen Ovale, Patent; Subclavian Artery; Thrombosis

ORCID:
Nikola Kos: 0000-0001-8829-2543

CR48

Transient Ischaemic Attacks Associated with Eagle Syndrome – Case Report

Anđela Dujmović[1], Hannah Gašparević[1], Branko Malojčić[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Neurology, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Eagle syndrome is a rare condition caused by an elongated styloid process or a calcified stylohyoid ligament. The vascular type results in carotid artery compression, leading to symptoms such as headache, dizziness, and potentially transient ischaemic attacks (TIA) or strokes due to carotid artery dissection.

Case Report: A 40-year-old patient presented with recurrent weakness in the left limbs upon waking. In March 2023, the patient experienced an episode of left-sided body weakness, impaired articulation, anomic aphasia, and amnesia for the event. Another similar episode occurred a few months later. During the diagnostic evaluation, computed tomography angiography revealed elongated styloid processes compressing the carotid arteries. Brain magnetic resonance imaging and color Doppler flow imaging of the carotid and vertebral arteries were unremarkable. Given the patient's history of two episodes of deep vein thrombosis associated with inherited thrombophilia and a minor patent foramen ovale (PFO), paradoxical embolisms were suspected. Additionally, the patient reported severe migraines with visual auras, which can better explain stereotype TIAs. The turning point was the discovery that the patient slept on his stomach with his head turned to the right, prompting a transcranial Doppler (TCD) examination in a similar position. TCD revealed a significant drop in blood flow velocities, and the patient underwent surgical removal of the right styloid bone. He has been symptom-free for a year now.

Conclusion: This case emphasizes the importance of targeted history-taking for accurate diagnosis and highlights TCD's role in identifying intermittent and positional cerebral hypoperfusion.

Keywords: Carotid Arteries; Foramen Ovale, Patent; Ischemic Attack, Transient; Migraine Disorders

ORCID:
Anđela Dujmović: 0009-0000-8440-8422
Hannah Gašparević: 0009-0008-7373-7288
Branko Malojčić: 0000-0002-4983-8301

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Vaping Associated Lung Injury and Myocarditis

Lucija Lisak[1], Ana Lovrić[1], Luka Linarić[1], Dubravka Šipuš[2], Daniel Lovrić[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Cardiovascular Diseases, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: The use of vaping and e-cigarettes among young people is increasing daily. These devices contain numerous toxic and harmful substances, including nicotine, formaldehyde, and heavy metals. Inhalation of these compounds can lead to severe lung injury, known as e-cigarette or vaping-associated lung injury (EVALI), and may also have damaging effects on the cardiovascular system.

Case Report: A previously healthy 40-year-old female presented with acute dyspnea and respiratory insufficiency. Heteroanamnesis revealed a history of e-cigarette use. CT pulmonary angiography ruled out pulmonary embolism but showed diffuse ground-glass infiltrates, indicative of acute respiratory distress syndrome (ARDS). Laboratory tests revealed elevated levels of NT-proBNP (14,443 ng/L), Troponin I (4,336.0 ng/L), neutrophils (88.7%), and CRP (93.9 mg/L). Upon admission, echocardiography demonstrated normal left ventricular ejection fraction. However, the patient subsequently developed progressive respiratory insufficiency and left ventricular dysfunction, leading to cardiogenic shock. She was intubated, mechanically ventilated, and placed on VA-ECMO and Impella support due to shock refractory to vasoactive drugs (norepinephrine, dobutamine, vasopressin). She was treated with glucocorticoids, intravenous immunoglobulins, and empirical antibiotic therapy (ceftriaxone, azithromycin). All microbiological samples were negative, leading to the hypothesis that ARDS and cardiogenic shock were related to vaping. Four days after admission, the patient was successfully weaned off VA-ECMO and Impella support.

Conclusion: This case suggests that exposure to toxic aerosols through vaping contributed to EVALI, which, in turn, led to myocarditis and cardiogenic shock. It emphasizes the importance of raising awareness about the dangers of e-cigarettes and vaping through education and proactive measures to prevent such devastating health consequences.

Keywords: Extracorporeal Membrane Oxygenation; Lung Injury; Myocarditis; Shock, Cardiogenic

ORCID:
Lucija Lisak: 0009-0009-8591-9561
Ana Lovrić: 0009-0007-9139-0129
Luka Linarić: 0009-0005-4418-044X
Dubravka Šipuš: 0000-0002-5631-0353
Daniel Lovrić: 0000-0002-5052-6559

CR50

Massive Hypertensive Pontine Hemorrhage in a 41-Year-Old Patient with Hypertensive Crisis

Marija Palčok[1], Lucija Mandić[1], Anita Božičević Vadlja[2]

[1]Faculty of Medicine Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia
[2]Department of Emergency Medicine; University Hospital Centre Osijek, Osijek, Croatia

Introduction: It is known that hypertension is a cause of intracerebral hemorrhage, which is a rare and life-threatening neurological emergency, often associated with poor outcomes despite rapid medical intervention. It is typically triggered by hypertensive crises, causing sudden, severe neurological symptoms. Pontine hemorrhage, one of the most severe forms, has a poor prognosis due to the difficulty of surgical intervention and controlling hemorrhage progression.

Case Report: A 41-year-old male was presented to the Emergency Department Osijek in a nonconscious state. According to witnesses, the patient had experienced a sudden, severe stabbing headache before losing consciousness. Upon examination, his blood pressure was 220/180 mmHg, for which urapidil was administered. The patient was breathing spontaneously but inadequately, requiring intubation. Clinical findings included vomiting, miosis, unreactive pupils to light, and bilaterally positive Babinski reflexes. A computed tomography (CT) scan of the head revealed a massive hematoma in the pons extending towards the mesencephalon and the fourth ventricle. Neurosurgical consultation concluded that surgical intervention was not a viable option. On the second day of hospitalization, he became hyperpyretic for which broad-spectrum antibiotics were administered, and hemorrhaging expanded. By the third day, he became hypotensive, and his neurological status worsened to a deep comatose state. The patient ultimately succumbed to his condition later that day.

Conclusion: This case highlights the severe consequences of hypertensive pontine hemorrhage and limited treatment options as the condition progresses. Despite advances in acute management, optimal therapy and surgery remain undetermined. Early recognition and hypertension control are crucial in preventing such events.

Keywords: Hematoma; Hypertensive Crisis; Intracranial Hemorrhages; Pons

CR51

Transplants and Trials: a Case of Focal Segmental Glomerulosclerosis Causing Multiple Transplant Failures with an Allergic Reaction to Polysulfone Dialyzer

Lucija Gojčeta[1], Barbara Horvat[1], Živka Dika[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Nephrology, Arterial Hypertension, Dialysis and Transplantation, Department of Internal Medicine, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Focal segmental glomerulosclerosis (FSGS) is a kidney disease with an incidence of 7 cases per million, characterized by progressive glomerular scarring. The recurrence rate of FSGS after the first kidney transplant is 14–60% and can reach up to 80% after subsequent transplants.

Case Report: A 42-year-old male presented with a three-day history of dull pain in the lower left abdominal quadrant, with no complaints of fever or nausea. According to his medical history, he had been on hemodialysis (HD) for three years before his first cadaveric kidney transplant in 2004. The underlying kidney disease was confirmed to be FSGS by renal biopsy. After experiencing acute graft rejection in May 2008, he was put back on chronic HD and underwent graftectomy four months later. He received a second kidney transplant in 2012 but has been back on HD since 2022. Upon admission, his microbiological findings were sterile, his C-reactive protein level was 164 mg/L, and he was started on parenteral meropenem. Multi-slice computed tomography of the abdomen and pelvis revealed a chronically altered transplant with hydronephrosis and stones up to 5 mm, along with enlarged iliac lymph nodes. A graftectomy was performed, after which he developed generalized erythrodermia, an allergic reaction to antimicrobial therapy and polysulfone dialyzer. The patient is still on HD but with a special dialysis filter.

Conclusion: This case highlights the patient's challenging journey with recurrent FSGS and multiple transplants. It emphasizes continuous monitoring and managing HD patient complications to prevent severe allergic reactions.

Keywords: Glomerulosclerosis, Focal Segmental; Graft Rejection; Kidney Transplantation; Renal Dialysis

ORCID:
Lucija Gojčeta: 0009-0006-0887-0862
Barbara Horvat: 0009-0005-1229-3845
Živka Dika: 0000-0001-5668-4788

CR52

Ruptured Cerebral Dermoid Cyst of the Frontal Lobe with all Its Known Complications

Korina Tumir[1], Petra Nimac Kozina[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Neurology, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: A dermoid cyst is typically benign, but its rupture can lead to serious complications. We present a 43-year-old male patient with a ruptured frontal lobe dermoid cyst and a whole series of complications.

Case Report: The patient presented to the emergency department with hallucinations and disorganized thoughts. CT and MRI of the brain revealed a ruptured cerebral dermoid cyst in the right frontal lobe. A craniotomy was performed to reduce the tumor (PHD: ruptured dermoid cyst), during which he experienced a generalized tonic-clonic seizure. He developed worsening mental status and hallucinations on Levetiracetam, and severe hyponatremia on Lamotrigine. A few days later, he returned with generalized weakness and fever. A lumbar puncture was performed, and an infectious disease specialist recommended transfer to the infectious disease clinic. After 15 days, an extensive workup excluded an infectious etiology, and the patient was referred back to the neurology clinic for an autoimmune workup. MRI findings were fully comparable to the changes seen after a prior intraventricular rupture of an epidermoid cyst. EEG showed focal changes in the right frontotemporal regions with frequent clusters of polymorphic delta waves, predominantly anteriorly. After two weeks of gradually worsening mental state, a new MRI scan revealed hydrocephalus, vasogenic edema in the right temporoparietal region, and residual dermoid tumor. A neurosurgeon placed an external ventricular drain and maximally reduced the remaining tumor. The patient is now under psychiatric supervision due to a psychoorganic syndrome.

Conclusion: This case emphasizes the need for thorough and multidisciplinary management of a dermoid cyst rupture.

Keywords: Dermoid Cyst; Hydrocephalus; Mental Disorders; Neurosurgery

ORCID:
Korina Tumir: 0009-0007-4798-8473 Petra Nimac Kozina: 0009-0002-5220-3021

CR53

A Multimodal Approach in Treatment of Metastatic Paraganglioma with SDHB Mutation

Iva Predovan[1], Anja Ritz[1], Lea Radočaj[1], Ivana Kraljević[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Endocrinology, Department of Internal Medicine, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Paraganglioma is a rare neuroendocrine tumor, usually arising from sympathetic ganglia, often secreting catecholamines. Many remain asymptomatic and are incidentally discovered during radiological exams for unrelated medical reasons.

Case Report: In February 2016, a 44-year-old man presented with bloating and early satiety, which had developed 6 months prior. Abdominal Multislice Computed Tomography (MSCT) revealed a 13.6x10 cm tumor at the mesentery root, partially located in the retroperitoneum between the aorta and inferior vena cava. Pathohistological analysis confirmed a diagnosis of paraganglioma, positive for synaptophysin, chromogranin A, and CD56. Positron Emission Tomography - Computed Tomography (PET-CT) showed metastases in the Th1 vertebra, right parieto-occipital region, left humerus, hyoid bone, and left iliac bone. Following 14 cycles of chemotherapy (CVD), there was slight tumor reduction. In 2017, the patient underwent excision of the retroperitoneal tumor, splenectomy, appendectomy, left nephrectomy and adrenalectomy. Whole-body scintigraphy with I-131 metaiodobenzylguanidine (MIBG) revealed pathological accumulation in the head and pelvic regions, leading to radiotherapy with I-131 MIBG at 100 mCi. Due to skeletal metastases, the patient was treated with zoledronic acid. The disease has remained stable, and the patient is under regular monitoring. Genetic testing during follow-up identified the SDHB mutation, linked to a higher risk of aggressive progression, but no other family members carried the mutation.

Conclusion: A multimodal treatment approach enabled long-term disease stabilization despite malignancy, dissemination, and the SDHB mutation. Genetic testing was vital for monitoring the patient and assessing family risks, highlighting the importance of individualized, multidisciplinary treatment.

Keywords: Adrenalectomy; Genetic Testing; Paraganglioma; Succinate Dehydrogenase

ORCID:
Iva Predovan: 0009-0000-1023-0684
Anja Ritz: 0009-0008-5809-3349
Lea Radočaj: 0009-0002-8459-7918
Ivana Kraljević: 0000-0002-4379-2250

CR54

Achieving Resectability in Metastatic Colorectal Cancer through Triplet Chemotherapy and Bevacizumab: a Case Report

Lovro Grgurić[1], Valentin Horvatić[1], Stella Balenović[1], Juraj Prejac[2,3]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Oncology and Radiotherapy, University Hospital Centre Zagreb, Zagreb, Croatia
[3]School of Dental Medicine, University of Zagreb, Zagreb, Croatia

Introduction: Treatment options for colorectal cancer include surgery, chemotherapy, and immunotherapy. Bevacizumab is a humanized monoclonal antibody. FOLFOXIRI is a triplet chemotherapy regimen used to treat advanced colorectal cancer. It combines three cytotoxic drugs: 5-fluorouracil, oxaliplatin, and irinotecan. It is usually reserved for inducing early tumor shrinkage for potentially resectable cancer.

Case Report: A 47-year-old male patient presented with bloating and stool dysregulation in 2020. Diagnostic tests revealed a primary tumor in the transverse colon and metastases in the liver with invasion of the right hepatic vein, right portal vein, portal vein confluence, and compression of the inferior cava vein in the region of the VII. liver segment. A colonoscopy with a histopathological analysis was performed and adenocarcinoma was confirmed. FOLFOXIRI protocol with bevacizumab was started for metastatic colorectal cancer treatment. After eight cycles of therapy, regression of the disease was accomplished. The patient was presented to a multidisciplinary team and it was decided to remove the tumor surgically. Right hemicolectomy and ALPPS (Associating Liver Partition and Portal vein Ligation for Staged hepatectomy) were performed. After 4 months, a postoperative control computed tomography scan showed no signs of active malignant disease, and the patient continued active surveillance. There is no sign of the disease recurrence to this day.

Conclusion: This case shows that aggressive immunotherapy combined with biological agents has a vital role in treating metastatic colorectal cancer and should always be considered. The combination of chemotherapy protocol and bevacizumab improved the patient's condition and made surgical therapy possible.

Keywords: Antineoplastic Agents; Colorectal Neoplasms; Immunotherapy; Neoadjuvant Therapy

ORCID:
Lovro Grgurić: 0009-0004-1041-0668
Valentin Horvatić: 0009-0002-8974-805X
Stella Balenović: 0009-0004-4293-9419
Juraj Prejac: 0000-0003-1981-9369

CR55

Cardiomyopathy in Adrenal Insufficiency

Anita Marta Sanader[1], Ana Romac[1], Tamara Murselović[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Anesthesiology and ICU, University Hospital "Sveti Duh", Zagreb, Croatia

Introduction: Addison's disease is an endocrinological disorder characterized by deficient glucocorticoid and mineralocorticoid secretion, often due to autoimmune destruction. Cardiovascular symptoms include hypotension due to fluid loss, syncope, and arrhythmias resulting from electrolyte imbalances. Rarely, Addisonian crisis has been linked to cardiomyopathy, typically resolved with glucocorticoid therapy.

Case Report: A 47-year-old female was hospitalized for infected leg ulcers and treated with meropenem. She later developed a disturbed level of consciousness and was transferred to intensive care, intubated, and sedated. The patient's history includes diabetes, hypertension, obesity, and two spine surgeries. Because of chronic back pain, she had been using corticosteroids for a long time. Physical examination revealed signs of corticosteroid overuse, such as abnormal pigmentation and stretch marks across the abdominal wall and thighs. The biochemical panel showed hyponatremia, hyperkalemia, acidosis, and elevated creatinine. ECG showed ST elevation in V1-V2, attributed to hyperkalemia, which normalized after correction. She was started on hydrocortisone intravenously and continuous renal replacement therapy. Echocardiography revealed left ventricle hypokinesia with 20% systolic function, elevated troponin, and ECG changes which all were suggestive of stress-induced cardiomyopathy secondary to Addisonian crisis. With clinical improvement, hydrocortisone was transitioned to oral therapy. Subsequent echocardiography demonstrated improvement with an ejection fraction of 60% and well-preserved contractility.

Conclusion: This case highlights an uncommon presentation of stress-induced cardiomyopathy due to adrenal insufficiency, emphasizing the importance of timely glucocorticoid therapy. This topic continues to intrigue and challenge the medical community, further research is needed to understand its pathophysiology and optimize treatment strategies.

Keywords: Addison Disease; Cardiomyopathies; Hydrocortisone; Hyperkalemia

ORCID:
Anita Marta Sanader: 0009-0002-9476-3051
Ana Romac: 0009-0000-8989-6138
Tamara Murselović: 0009-0003-6354-3731

CR56

Combined Neurosurgical and Maxillofacial Approach in the Resection and Reconstruction of an Atypical Frontal Meningioma with Bone Invasion

Iva Veršnik[1], Eva Vamberger[1], Margarita Tomić[1], Igor Čvrljević[2], Marina Raguž[3]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Plastic and Reconstructive Head and Neck Surgery, Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia
[3] Department of Neurosurgery, Dubrava University Hospital, Zagreb, Croatia

Introduction: Meningiomas are the most common primary intracranial tumors, with atypical variants exhibiting increased proliferative potential and recurrence risk. Skull invasion presents additional challenges, necessitating a multidisciplinary approach for optimal management. This case report describes a 47-year-old female patient with a progressively enlarging right frontal mass, diagnosed as an atypical meningioma with bone invasion. A combined neurosurgical and maxillofacial approach was employed for radical resection and reconstruction.

Case Report: Preoperative MRI revealed an extra-axial tumor infiltrating the right frontal bone. A bicoronal incision and bifrontal osteoplastic craniotomy were performed. Intraoperative pathology confirmed an atypical meningioma (WHO G2). En bloc tumor excision, including the dura, was achieved, followed by hemostasis with thrombin-based agents. The dural defect was repaired using a periosteal graft. Bone reconstruction was performed using a titanium mesh secured with self-tapping screws, covered by a vascularized periosteal flap. The maxillofacial team contributed an A-T skin flap reconstruction for optimal soft tissue coverage. The postoperative course was uneventful, with no new neurological deficits. Early postoperative MRI showed satisfactory resection, and histopathological analysis confirmed the diagnosis. The patient was discharged in stable condition with planned oncological follow-up.

Conclusion: This case underscores the importance of a multidisciplinary surgical strategy for skull-invasive meningiomas. Combining neurosurgical and maxillofacial expertise facilitated complete tumor removal and effective reconstruction, optimizing both functional and aesthetic outcomes. Such collaborative approaches enhance surgical success and patient recovery, reinforcing their role in managing complex skull base tumors.

Keywords: Bone; Craniotomy; Hemostasis; Meningioma

ORCID:
Iva Veršnik: 0009-0005-0498-3678
Eva Vamberger: 0009-0007-1880-3695
Margarita Tomić: 0009-0000-8641-0761
Igor Čvrljević: 0000-0003-1927-9163
Marina Raguž: 0000-0001-9203-7254

CR57

Acute Ischaemic Stroke after Chemotherapy in a Patient with Testicular Cancer

Korina Pervan[1], Tin Trobić[1], Jasmina Marić Brozić[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Oncology and Nuclear Medicine, Sestre milosrdnice University Hospital Center, Zagreb, Croatia

Introduction: Testicular germ cell tumors are the most common tumors in younger men. Inguinal orchiectomy is the primary treatment for all of these tumors, while adjuvant chemotherapy is recommended for high-risk stage I and more advanced tumors due to their high chemosensitivity.

Case Report: A 48-year-old man was diagnosed with cancer in his right testicle. The CT (computed tomography) scan revealed a few pathologically enlarged lymph nodes along the right external iliac blood vessels. The right inguinal orchiectomy was performed in December 2023, and the pathological examination showed T3 seminoma with lymphovascular invasion. In January 2024, the patient was presented to the multidisciplinary team that decided on adjuvant chemotherapy consisting of three cycles of the bleomycin-etoposide-cisplatin (BEP) regimen. Ten days after the first cycle of chemotherapy, the patient developed a complete right-sided hemiparesis and disorientation, leading to hospitalization and a diagnosis of acute ischemic stroke. As other etiology has not been established, the chemotherapy was discontinued due to its potential vascular toxicity. After the patient recovered, the decision was made to proceed only with 3D conformal radiotherapy. One year after the completion of the therapy, the control CT scan still showed no sign of the tumor and the patient fully recovered.

Conclusion: The frequency of cerebrovascular accidents following chemotherapy including cisplatin and bleomycin cannot yet be estimated. However, it is critical to recognize them as they can lead to significant comorbidities across all age groups, including the younger population without vascular risk factors where they are particularly unexpected.

Keywords: Chemotherapy; Ischemic Stroke; Radiotherapy; Testicular Cancer

ORCID:
Korina Pervan: 0009-0002-1927-1698
Tin Trobić: 0009-0003-7376-4300
Jasmina Marić Brozić: 0000-0002-5978-5960

CR58

Life-Threatening Complication Following Liposuction - a Case Report

Jakov Santini[1], Miriam Šoletić[1], Juraj Strgar[1], Marko Sever[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Abdominal Surgery; University Hospital "Sveti Duh", Zagreb, Croatia

Introduction: Liposuction is the most common procedure in plastic surgery and is growing in popularity among male patients. It's a low-risk procedure that provides predictable results. Adverse effects may include swelling, slight bleeding and contour irregularities. However, serious complications such as life-threatening bowel injury are rare.

Case Report: A 48-year-old patient was admitted to the emergency department with cellulitis of the abdominal wall, following liposuction in a private clinic. He complained of redness of the abdominal wall, fever and vomiting. The abdomen was non-tender and peristalsis was audible. Purulent secretion was observed at the entry site of the liposuction cannula. Laboratory analysis showed that the patient had a pronounced inflammatory reaction with high leukocytosis, neutrophilia and very high CRP and procalcitonin. Coagulopathy and signs of liver damage were also present. Microbiological findings of the wound swab showed the presence of Escherichia coli. An MSCT scan confirmed the presence of a significant abscess accumulation throughout the lower part of the abdominal wall, attributed to the adhesion of the ileum to the abdominal wall. As a result, urgent median laparotomy was performed, abscesses were evacuated and perforation was treated with stitches. After lavage, the fascia was closed, but the skin was left open. Following antibiotic treatment and the resolution of the infection, a portion of the wound was stitched, while the remaining area healed through secondary intention.

Conclusion: This case highlights the significance of postoperative monitoring and underscores that procedures wrongfully considered to be risk-free can, in fact, pose life-threatening dangers if done without due diligence.

Keywords: Cellulitis; Escherichia coli; Fever; Laparotomy; Procalcitonin

ORCID:
Jakov Santini: 0009-0003-1376-0957
Miriam Šoletić: 0009-0008-6908-5002
Juraj Strgar: 0009-0000-5877-922X
Marko Sever: 0000-0002-2599-6014

CR59

Managing Treatment-Induced Cardiotoxicity in a Patient with HER2-Positive Metastatic Breast Cancer (mBC): a Case Report

Nika Ćurković[1], Tajana Silovski[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Oncology and Radiotherapy, University Hospital Center Zagreb, Zagreb, Croatia

Introduction: Breast cancer (BC) with human epidermal growth factor receptor 2 (HER2) overexpression is an aggressive disease. Anti-HER2 therapies like trastuzumab are available and have improved the outcomes of HER2-positive BC. However, these therapies are cardiotoxic and can lead to typically reversible heart failure.

Case Report: A 48-year-old patient was diagnosed with early estrogen receptor (ER) and progesterone receptor (PR) positive, HER2-negative BC with positive axillary lymph nodes. Initially, surgery was performed, followed by adjuvant anthracycline-based chemotherapy, radiotherapy, and antihormonal therapy for five years. Six years after diagnosis, metastatic disease occurred. A biopsy confirmed a change in disease biology, revealing ER and PR negative, HER2-positive disease. Standard first-line trastuzumab-based treatment of HER2-positive metastatic (m) BC was effective for two years. Subsequently, three episodes of heart failure occurred, characterized by a decrease in left ventricular ejection fraction (LVEF) and complete recovery. An additional biopsy of neck lymph nodes revealed modest ER and PR positivity. After disease progression, treatment was continued with multiple lines of therapy, including chemotherapy, anti-HER2, and antihormonal agents over eleven years with few episodes of reversible decreases in LVEF. Since the last disease progression, the patient has been on the new antibody-drug conjugate trastuzumab-deruxtecan for almost three years, with only one episode of heart failure that recovered completely, and the same treatment continued at a reduced dose.

Conclusion: This case emphasizes the challenges of managing HER2-positive mBC. Despite treatment-related heart failure, cardiotoxic therapy can be used in patients with incurable disease with close monitoring, dose adjustments, and a multidisciplinary approach.

Keywords: Breast Neoplasms; Cardiotoxins; Heart Failure; Trastuzumab

ORCID:
Nika Ćurković: 0009-0003-1727-2416
Tajana Silovski: 0000-0002-4699-5432

CR60

A Case of Rosai-Dorfman Disease: Diagnosis and Treatment of Generalized Lymphadenopathy with Corticosteroids

Helena Lovrić[1], Inga Mandac Smoljanović[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Hematology, Department of Internal Medicine, Merkur University Hospital, Zagreb, Croatia

Introduction: Rosai-Dorfman disease (RDD) is a rare, benign histiocytic disorder characterized by painless lymphadenopathy. It can present with systemic symptoms and generalized lymph node involvement, often resembling more aggressive conditions.

Case Report: We present a case of a 50-year-old male with a one-year history of bilateral axillary lymphadenopathy. He reported unintentional weight loss of 15-20 kg, persistent night sweats for four months, and a resolved periodontal issue but denied fever. His medical history was unremarkable, with a 30-year smoking history and weekend alcohol use. Physical examination showed enlarged cervical, axillary, and inguinal lymph nodes, the largest measuring 10 cm in the left axilla. Hepatosplenomegaly was also noted, and cardiopulmonary examination was normal. Ultrasound additionally confirmed enlarged cervical and bilateral inguinal lymph nodes. Fine-needle aspiration of the left axillary lymph node initially suggested histiocytic sarcoma. However, histopathological analysis confirmed Rosai-Dorfman disease, showing emperipolesis and histiocytes positive for S100, CD68, and CD45. MSCT imaging revealed generalized lymphadenopathy, including mediastinal and intra-abdominal nodes. The patient was put on oral corticosteroids (prednisone 20 mg/day) with a gradual dose reduction over one month alongside pantoprazole for gastrointestinal protection. Early improvement was noted, including weight stabilization and reduced night sweats. Follow-up was planned to monitor treatment response.

Conclusion: Following extensive diagnostic evaluation, the patient was diagnosed with Rosai-Dorfman disease with dominant generalized lymphadenopathy. Treatment with oral corticosteroids (prednisone) was initiated, and clinical improvement was shown. Ongoing follow-up and further imaging are planned to monitor disease progression and response to treatment.

Keywords: Adrenal Cortex Hormones; Histiocytosis; Histiocytosis, Sinus; Lymphadenopathy

ORCID:
Helena Lovrić: 0009-0008-7335-3647 Inga Mandac Smoljanović: 0000-0001-5234-9464

CR61

From Liver to Mind: a 50-Year-Old's Journey with Hepatic Encephalopathy

Katarina Bistrović[1], Iva Šimunović[1], Jelena Soldo[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Health Centre Zagreb - Center, Zagreb, Croatia

Introduction: Liver cirrhosis, the final stage of liver fibrosis leading to loss of hepatic function, is often caused by alcoholic liver disease. One of its serious complications is hepatic encephalopathy, marked by confusion, disorientation, and cognitive impairment due to the liver's inability to remove toxins. This case highlights the complexity of alcoholism management and demonstrates how support improves treatment adherence and outcomes.

Case Report: In autumn 2024, a 50-year-old patient with a decade-long history of alcoholism presented with slurred speech, difficulty walking, and intermittent loss of consciousness. Due to clinical findings of jaundice, hypotension, suspected ascites, reduced oxygenation, and severe immobility, he was admitted to the emergency department. Tests showed advanced liver dysfunction including hyperbilirubinemia and blood clotting dysfunction, as well as hyperammonaemia. Imaging studies proved the severity of his condition- computerized tomography showed epidural hematoma, pleural effusion, and liver cirrhosis, while endoscopy revealed complications such as varices and portal gastropathy. Multidisciplinary treatment, consisting of liver dysfunction management, abstinence, infection prevention as well as psychiatric care, was followed by evaluation for a liver transplant. Support from his friend, sister, and psychiatric services were pivotal in achieving months of sobriety, helping him re-establish contact with his estranged children, which further motivated him to remain disciplined.

Conclusion: This case highlights the complexity of alcoholism recovery, the importance of abstinence, and their profound impacts on the lives of both the patient and those surrounding him. Although the patient was diagnosed with multiple complications, his social support had great transformative power and gave him a chance for healing.

Keywords: Alcohol Abstinence; Hepatic Encephalopathy; Liver Cirrhosis, Alcoholic; Social Support

ORCID:
Katarina Bistrović: 0009-0002-8409-4210
Iva Šimunović: 0009-0009-4518-7650
Jelena Soldo: 0009-0006-7805-7762

CR62

The Key Role of Genome Sequencing and its Importance in the Modern Treatment of Breast Cancer: a Case Report

Borna Kelović[1], Branimir Kelović[1], Nera Šarić[2], Paula Podolski[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Oncology, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Breast cancer is the most common type of cancer in women and most of them are sporadic. In the development of breast and ovarian cancer pathogenic variants of BRCA1/2 genes represent the strongest risk factors.

Case Report: We present 50 y/o female patient with locally invasive cancer in the right breast. The MR scan showed a 4,1x 2,8 cm tumour, infiltration of the overlying skin, with metastases in right axilla lymph nodes. After biopsy confirmation, neoadjuvant chemotherapy in the form of anthracycline and paclitaxel was applied due to tumour size and local invasion. In her medical history, she had FIGO IVA ovarian carcinoma with bilateral pleural effusion and diaphragm carcinosis that was confirmed on pathologic verification as carcinosarcoma. Following diagnosis, the ovarian tumour and metastases were excised completely and afterwards adjuvant chemotherapy consisting of paclitaxel and carboplatin was applied. During the neoadjuvant treatment, the patient's genome sequencing showed that she is heterozygous for BRCA2. Because of this finding, the patient underwent bilateral mastectomy with right axillary dissection. Dissected tissue was verified as hormone-positive, HER2-negative tumour Luminal B type with partial response to adjuvant therapy (Residual cancer burden II). Due to partial tumour response, the patient was treated with adjuvant radiotherapy, hormonal therapy (Letrozole) and abemaciclib. The patient is currently under follow-up and in good condition without any symptoms.

Conclusion: This case emphasises the importance of timely detection of BRCA1/2 mutation in patients with positive family or personal medical history. Such patients must have adequate follow-up that allows early carcinoma detection and treatment.

Keywords: Breast Neoplasms; Carcinosarcoma; Mastectomy, Radical; Antineoplastic Hormonal Agents

ORCID:
Borna Kelović: 0009-0009-9036-6578
Branimir Kelović: 0009-0008-3216-1470
Nera Šarić: 0009-0007-2904-1470
Paula Podolski: 0000-0002-9922-1086

CR63

Managing Pyoderma Gangrenosum in a Patient with Rheumatoid Arthritis: a Case Report on Treatment Outcomes

Tin Trtanj[1], Vito Topolnjak[1], Roko Tutavac[1], Marina Ikić Matijašević[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Clinical Unit of Clinical Immunology, Rheumatology and Pulmonology, Department of Internal Medicine; University Hospital "Sveti Duh", Zagreb, Croatia

Introduction: Rheumatoid arthritis (RA) is characterized by chronic, symmetric inflammatory arthritis, potentially involving all tissues and organs, including the skin. RA-related skin diseases include, among others, pyoderma gangrenosum (PG), a rare inflammatory neutrophilic dermatosis clinically characterized by painful, rapidly evolving cutaneous ulcers.

Case Report: A 51-year-old male patient diagnosed with RA had been receiving a low dose of prednisone alongside full doses of methotrexate and sulfasalazine. Six years after his last examination, he was hospitalized due to large, inflamed leg ulcers and active joint inflammation. The patient was diagnosed with highly active, mutilating arthritis with skin involvement, characterized by multiple rheumatoid nodules and PG, which was confirmed by a biopsy of the leg ulcer. Based on previous case reports and the patient's RA diagnosis, therapy was initiated with prednisone (0.5 mg/kg) and infliximab, an anti-TNF-α antibody. This treatment resulted in satisfactory control of the joint disease but did not affect the PG. Consequently, the treatment plan was adjusted, and rituximab (anti-CD20 antibody) and intravenous immunoglobulins were administered without significant improvement. Finally, azathioprine was tried, but it also failed to alleviate the skin condition. In parallel, the patient's leg ulcers were managed by the surgeon, but the patient did not dress the wounds regularly.

Conclusion: Despite multiple lines of immunosuppressive and immunomodulatory therapies, our patient did not respond to treatment for his PG. This highlights the need for a better understanding of the underlying mechanisms of PG, which could help in developing more effective treatment options in the future.

Keywords: Arthritis, Rheumatoid; Biological Therapy; Infliximab; Pyoderma Gangrenosum; Skin Ulcer

ORCID:
Tin Trtanj: 0009-0008-0050-9794
Vito Topolnjak: 0009-0006-4093-4897
Roko Tutavac: 0009-0006-4207-0738
Marina Ikić Matijašević: 0000-0003-1511-0336

CR64

Chronic Pericardial Effusion as a Rare Complication of CREST Syndrome

Barbara Guštin[1], Ivana Horvat[1], Maja Turčin[1], Marija Bakula[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Clinical Immunology and Rheumatology, Department of Internal Medicine, University Hospital Center Zagreb, Zagreb, Croatia

Introduction: CREST syndrome, an autoimmune disease, is a limited form of systemic sclerosis. It is characterized by calcinosis, Raynaud's phenomenon, esophageal dysfunction, sclerodactyly, and telangiectasia. Unlike the systemic form, it rarely affects the heart. This case report presents chronic pericardial effusion (PE) as a rare and atypical manifestation of CREST syndrome.

Case Report: A 52-year-old male patient has been suffering from CREST syndrome with chronic PE for 15 years. The patient is treated with permanent immunosuppressive therapy. During regular cardiology follow-ups over the past 5 years, a 5-centimeter PE has been described, without significant hemodynamic changes. Due to worsening dyspnea during the last year, the patient was admitted to cardiology. Pericardiocentesis was performed and 4200 milliliters of clear effusion was evacuated within a few days. Analysis of PE excluded infection, inflammation, and malignancy. Following the procedure, the patient felt well at first, but symptoms returned within a month. Ultrasound confirmed the recurrence of extensive PE, measuring 6 centimeters in circumference. Considering the recurrence and chronicity of PE despite immunosuppressive therapy, the fenestration of the pericardium, a permanent opening to drain the effusion, was performed.

Conclusion: PE can occur due to infections, autoimmune diseases, trauma, and malignancies. There is no established treatment for CREST-related pericarditis, and its severity does not correlate with the activity of the disease. This case of chronic PE in CREST, present for more than 15 years, highlights that chronic disease is not a limiting factor to having a normal, fulfilling life if it is well managed.

Keywords: CREST Syndrome; Immunosuppression Therapy; Pericardial Effusion; Pericardiocentesis

ORCID:
Barbara Guštin: 0009-0007-8143-8678
Ivana Horvat: 0009-0003-3919-6960
Maja Turčin: 0009-0000-3352-0123
Marija Bakula: 0000-0002-0176-362X

CR65

Challenges in the Diagnostic Process: a Case Report of Celiac Disease in a Patient with Seronegative Rheumatoid Arthritis

Sara Bedeniković[1], Helena Biloš[1], Ivančica Topličan[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Practice of General Medicine Ivančica Topličan, MD, Zagreb, Croatia

Introduction: Celiac disease, or gluten enteropathy, is an immune-mediated condition affecting the lower digestive system, triggered by gluten. It poses a major diagnostic challenge for healthcare providers. This paper aims to emphasize the importance of targeted diagnostics in celiac disease treatment.

Case Report: A 53-year-old female patient visits the rheumatology clinic for a regular check-up, suspected of having seronegative rheumatoid arthritis due to pain in the proximal interphalangeal joints, hand joint swelling, and tingling in the palms. Ibuprofen and Medrol were prescribed, but she discontinued them after 2 months due to digestive problems including bloating, irregular stools, abdominal pain, and blood in the stool. She underwent an extensive laboratory workup: a complete blood count, sedimentation rate, rheumatism factor, IgG, IgA, IgM antibodies, esophagogastroduodenoscopy, colonoscopy, fecal calprotectin, iron, UIBC, TIBC, and CT colonography. Abnormal results included hypercholesterolemia and decreased total proteins. EGD revealed chronic gastritis, and biopsy showed a borderline increase in intraepithelial lymphocytes. After following a gluten-free diet for 1.5 months, the patient experienced significant clinical improvement. However, symptoms worsened when she resumed a regular diet. The patient is a smoker (20 cigarettes/day) and has a family history of celiac disease. Based on these findings, the working diagnosis is celiac disease, and she has been referred for further testing of HLA DQ2 and DQ8 to confirm the final diagnosis.

Conclusion: Diagnosing celiac disease often involves a wide range of tests, placing burdens on patients, healthcare systems, and staff. Developing a more focused testing approach would improve diagnostic efficiency and reduce resource strain.

Keywords: Celiac Disease; Colonoscopy; Flatulence; Glutens

ORCID:
Sara Bedeniković: 0009-0002-3685-7615
Helena Biloš: 0009-0001-1214-0196
Ivančica Topličan: 0000-0003-0155-0840

CR66

Chimeric Lateral Circumflex Femoral Artery Perforator Flap (LCFAP) in Reconstruction of Complex Midfacial Defect: a Case Report

Petra Jelenić[1], Darko Solter[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Otorhinolaryngology - Head and Neck Surgery, Sestre milosrdnice University Hospital, Zagreb, Croatia

Introduction: The Lateral Circumflex Femoral Artery Perforator (LCFAP) flap, with its chimeric modification based on a single vascular pedicle, provides a reliable source of soft tissue that conforms to the complex 3D midfacial anatomy, offering versatility and spatial displacement of tissue components.

Case Report: A 53-year-old female patient presented with T4aN1M0 squamous cell carcinoma of the right nasal cavity. CT revealed an advanced nasal tumor infiltrating the right orbit, medial rectus muscle, nasal bones, and dorsal skin, with a single metastatic lymph node in level IIA confirmed by fine needle aspiration (FNA). A wide surgical excision of the tumor with suprastructure maxillectomy, orbital exenteration, and resection of the nasal bones and dorsal skin was performed, resulting in a class V midfacial defect (Brown 2010). An ipsilateral selective neck dissection (levels II-V) was carried out. The defect was reconstructed subsequently with a chimeric lateral circumflex femoral artery perforator flap (ALT - m. vastus lateralis). The muscular portion of the vastus lateralis was used for facial recontouring and volume restoration, while the fasciocutaneous ALT was applied for orbital resurfacing. The healing was uneventful, and the patient was discharged from the hospital 14 days after surgery. She underwent adjuvant chemoradiotherapy and has remained disease-free for 5 years after the procedure.

Conclusion: The LCFAP flap provides an excellent source of soft tissue for the restoration of midfacial volume and cutaneous resurfacing. It enables the synchronous transfer of multiple components and their 3D rendering with minimal donor site morbidity, making it an invaluable tool in complex facial reconstructions.

Keywords: Carcinoma, Squamous Cell; Femoral Artery; Neck Dissection; Orbital Neoplasms; Perforator Flap

ORCID:
Petra Jelenić: 0009-0002-6939-8734 Darko Solter: 0009-0003-9626-7278

CR67

Cumulative Hepatotoxic Effect of Methotrexate and Silymarin in Patients with Gilbert's Syndrome

Paulo Tolić[1], Anamaria Yago[1], Miroslav Mayer[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Clinical Immunology and Rheumatology, Department of Internal Medicine, University Hospital Center Zagreb, Zagreb, Croatia

Introduction: Gilbert's syndrome is a common genetic disorder of bilirubin metabolism caused by a mutation in the UGT1A1 gene, resulting in mild to moderate unconjugated hyperbilirubinemia. Methotrexate is an antimetabolite used in the treatment of inflammatory diseases, including rheumatoid arthritis and psoriasis. Silymarin, a flavonoid complex derived from Silybum marianum, has been utilized for centuries in various formulations for the management of hepatic, renal, splenic, and biliary disorders.

Case Report: A 53-year-old female patient presented with elevated aminotransferase levels (AST 54 U/L, ALT 106 U/L) without accompanying fever or jaundice. A gastroenterological evaluation was performed. Abdominal ultrasound revealed multiple mildly hyperechoic structures within the liver parenchyma, with no other detectable abdominal pathology. The patient had a history of rheumatoid arthritis and was undergoing long-term treatment with methotrexate (10 mg weekly). Three weeks prior to routine follow-up and laboratory testing, she initiated silymarin supplementation. Genetic analysis confirmed a UGT1A1 gene mutation, consistent with Gilbert disease. Discontinuation of methotrexate resulted in a significant reduction in aminotransferase levels, whereas concurrent use of methotrexate and silymarin led to a recurrent elevation. Given its role as a UGT1A1 inhibitor, discontinuation of silymarin was recommended.

Conclusion: The concomitant use of methotrexate and silymarin in patients with Gilbert disease may result in cumulative hepatotoxicity, necessitating close monitoring and consideration of alternative therapeutic approaches.

Keywords: Arthritis, Rheumatoid; Gilbert Disease; Methotrexate; Silymarin

ORCID:
Paulo Tolić: 0009-0004-6746-9505
Anamaria Yago: 0009-0001-3383-201X
Miroslav Mayer: 0000-0001-9951-6610

CR68

Extending Life Expectancy in Pancreatic Adenocarcinoma: a Multimodal Approach

Dorothea Petrinec[1], Matea Mustedanagić[1], Vesna Bišof[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Oncology and Radiotherapy, University Hospital Center Zagreb, Zagreb, Croatia

Introduction: Pancreatic cancer is the seventh most common cancer among women in Croatia, with an incidence of 3% in both men and women. Due to the difficulties in diagnosing pancreatic cancer and its progressive nature, over 90% of patients die within two years of diagnosis.

Case Report: A 53-year-old female patient diagnosed with pancreatic cancer underwent subtotal pancreatectomy with splenectomy, omentectomy, and lymphadenectomy to treat the malignancy. Pathohistological analysis confirmed adenocarcinoma staged as pT3N1M1, while genetic testing identified a BRCA2 mutation. Initial radiology reports showed metastases in the liver. The patient received nab-paclitaxel and gemcitabine as treatment options. After three cycles of chemotherapy, the disease progressed, prompting the administration of FOLFOX protocol, which stabilized the disease. Talazoparib was then introduced as maintenance therapy. Two years after diagnosis, the FOLFOX protocol was re-administered due to further malignancy progression, resulting in additional stabilization. While undergoing chemotherapy, the patient underwent several stereotactic radiosurgeries for liver and lung metastases. After further progression caused by a break in therapy, chemotherapy following CAPOX protocol was initiated. Following one cycle of CAPOX, the patient presented with ileus and underwent surgery. After recovery, a radiological reassessment revealed vertebral metastases, leading to administration of palliative radiotherapy. Three and a half years after diagnosis, nearly twice the average survival rate, the patient opted for symptomatic therapy only.

Conclusion: Pancreatic cancer is an aggressive malignancy that requires prompt intervention. With a thorough multidisciplinary and individualized approach, life expectancy can be significantly extended, as demonstrated in our patient.

Keywords: Adenocarcinoma; Drug Therapy; Pancreas; Radiotherapy

ORCID:
Dorothea Petrinec: 0009-0004-6631-3277
Matea Mustedanagić: 0009-0000-2034-9822
Vesna Bišof: 0000-0002-2826-9664

CR69

Hypertensive Patient with Profound Hypokalemia: a Case Report

Paula Polenus[1], Rea Raić[1], Sandra Karanović Štambuk[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Nephrology, Arterial Hypertension, Dialysis and Transplantation, Department of Internal Medicine, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Primary aldosteronism (PA) is a common cause of secondary arterial hypertension, resulting from excessive aldosterone secretion due to adrenal cortex hyperplasia or an aldosterone-producing adenoma. PA typically lacks pronounced symptoms aside from hypertension and hypokalemia in ~50% of cases.

Case Report: A 53-year-old man was referred for evaluation and management of long-standing, uncontrolled arterial hypertension (190/120 mmHg) with headache and palpitations as main symptoms. Routine tests revealed hypokalemia <3 mmol/L, partly attributed to diuretic use. Potassium supplements (Kalinor) were added and mineralocorticoid receptor antagonists (MRAs) therapy was attempted. The patient discontinued both spironolactone and later eplerenone due to side effects, namely gynecomastia and erectile dysfunction. Despite consuming four Kalinor tablets and 1 kg of bananas daily, causing gastrointestinal issues, hypokalemia of 3.1 mmol/L persisted. He had hypertensive retinopathy and left ventricular hypertrophy. A positive screening test for PA and a saline loading test confirmed the diagnosis. A CT scan revealed a 13-mm adenoma on the left adrenal gland. Adrenal vein sampling confirmed aldosterone hypersecretion from the left gland without cortisol co-secretion. A left adrenalectomy was performed. Postoperatively, serum potassium normalized and hypertension was managed with a three-drug regimen.

Conclusion: Patient presented with a typical yet unrecognized course of PA, which is frequently underdiagnosed, and common MRA side effects. PA screening is recommended in patients with resistant hypertension and in those with hypertension and hypokalemia, regardless of diuretic use. MRAs often cause side effects, especially in men. Surgical intervention for unilateral disease is optimal strategy, resolving hypokalemia, improving hypertension control and reducing cardiovascular risks.

Keywords: Adrenocortical Adenoma; Hyperaldosteronism; Hypertension; Hypokalemia

ORCID:
Paula Polenus: 0009-0003-3515-9476
Rea Raić: 0009-0004-7686-4080
Sandra Karanović Štambuk: 0000-0003-2696-5305

CR70

A Rare Case of Common Variable Immunodeficiency (CVID) with Ocular Myositis and Evans Syndrome Complicated by Non-Hodgkin Lymphoma

Maša Mitrović[1], Mara Močibob[1], Marina Ikić Matijašević[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Clinical Unit of Clinical Immunology, Rheumatology and Pulmonology, Department of Internal Medicine; University Hospital "Sveti Duh", Zagreb, Croatia

Introduction: Common variable immunodeficiency (CVID) is a group of immunodeficiency syndromes characterized by hypogammaglobulinemia, B-cell defects, and recurrent bacterial infections. It can also be associated with Evans Syndrome, a rare autoimmune hemolytic anemia (AIHA) with thrombocytopenia and neutropenia. Orbital myositis is a rare, non-infectious, non-specific inflammatory disorder affecting one or more extraocular eye muscles, with no identifiable local or systemic causes.

Case Report: A 54-year-old male patient was admitted to the hospital due to anemia, thrombocytopenia, a non-healing leg skin ulcer for nine years, and proptosis and diplopia of unknown origin. Comprehensive laboratory testing revealed severe hemolytic anemia, thrombocytopenia, hypogammaglobulinemia (in IgA, IgM, and IgG classes), and C3 and C4 complement deficiency. These findings led to the diagnosis of CVID and Evans syndrome. Further ophthalmologic examination, along with an orbital CT scan, confirmed severe exophthalmic orbital myositis. The patient was treated with intravenous immunoglobulins (IVIG) and a high dose of prednisone (1 mg/kg), which resulted in the complete resolution of hematologic disorders, healing of the skin ulcer, and resolution of orbital myositis. Three years later, the patient developed night sweats, neck lymphadenopathy, and splenomegaly. Pathohistological evaluation revealed non-Hodgkin lymphoma, which was subsequently treated with rituximab and bendamustine, in combination with monthly IVIG therapy.

Conclusion: To the best of our knowledge, this is the first reported case of a patient with both CVID and orbital myositis, who was successfully treated with both glucocorticoids and IVIG. Additionally, patients with CVID must be regularly monitored due to the potential development of new autoimmune and hematological diseases.

Keywords: Common Variable Immunodeficiency; Intravenous Immunoglobulins; Non-Hodgkin Lymphoma; Orbital Myositis

ORCID:
Maša Mitrović: 0009-0000-4393-6325
Mara Močibob: 0009-0007-3936-2286
Marina Ikić Matijašević: 0000-0003-1511-0336

CR71

A Rare Case of Pleomorphic Adenoma with Acute Eye Luxation

Miriam Šoletić[1], Jakov Santini[1], Juraj Strgar[1], Jelena Juri Mandić[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Ophthalmology, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Pleomorphic adenoma (PA) is the most common benign epithelial neoplasm of the lacrimal gland. It presents as a well-defined, slow-growing mass and is considered an orbital space-occupying lesion. However, approximately 10% will undergo malignant alteration.

Case Report: A 56-year-old female patient presented to the emergency department with complete luxation of the right eye. The patient's medical history indicated at least two decades of unilateral blindness, still, the primary motivations for seeking medical assistance were the inability to close the eyelids and associated discomfort. Upon examination, a total eye luxation with congestive changes of surrounding tissues was observed. Medical history revealed that the patient had not undergone a medical check-up since the 80s, when she was diagnosed with an orbital tumor. A computerized tomography revealed an expansive mass completely occupying the right orbit measuring 5.5 x 4 cm. This mass caused pressure on the orbital structures, thus displacing the eye anteromedially and infiltrating the optic nerve. The only possible treatment was total orbital exenteration. The pathohistological report defined the neoplasm as a pleomorphic adenoma. Two months following the surgical procedure, the patient experienced no complications, and the creation of an orbital epithesis was advised.

Conclusion: This case emphasizes the need for timely treatment when PA is suspected. The longer the duration of PA, the higher the incidence of malignant alteration along with compressive effects leading to blindness. Timely treatment of PA does not require orbital exenteration, a highly mutilating procedure. Instead, it can be substituted with eye-sparing surgery, which offers an excellent prognosis.

Keywords: Adenoma, Pleomorphic; Blindness; Neoplasms; Orbit

ORCID:
Miriam Šoletić: 0009-0008-6908-5002
Jakov Santini: 0009-0003-1376-0957
Juraj Strgar: 0009-0000-5877-922X
Jelena Juri Mandić: 0000-0003-0211-7491

CR72

Case Report: High-Risk Pregnancy in a 56-Year-Old Primigravida with Multiple Complications

Ella Srzić[1], Petrana Beljan Džubur[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division for Perinatal Medicine, Department of Gynaecology and Obstetrics - Petrova Hospital, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: High-risk pregnancies are associated with increased maternal and fetal complications, particularly in cases involving advanced maternal age and assisted reproductive technologies (ART). Conditions such as gestational diabetes mellitus (GDM), preeclampsia, and intrauterine growth restriction (IUGR) further elevate the risk of adverse outcomes, necessitating careful monitoring and timely intervention.

Case Report: This case presents a 56-year-old primigravida, conceived via IVF/ET with a donated oocyte. Experiencing her first pregnancy at an advanced age, she was admitted for high-risk pregnancy monitoring at 29+2 weeks due to GDM and preeclampsia. The patient was under close medical supervision due to increased risk of maternal and fetal complications associated with her age and ART. Throughout her pregnancy, she required strict glycemic control and blood pressure monitoring. At 34+2 weeks of gestation, ultrasound confirmed IUGR and breech presentation. Given the combination of maternal age, IVF conception, IUGR, breech presentation, and preeclampsia, an emergency cesarean section was indicated. The procedure was performed successfully and a male neonate was delivered prematurely at 2,600 grams and 48 cm.

Conclusion: This case underscores the complexities and heightened risks of pregnancy in women of advanced maternal age, particularly those conceived via IVF. Maternal comorbidities, IUGR, and abnormal presentation necessitated an emergency cesarean section to ensure maternal and fetal well-being. Premature birth remains a key concern in high-risk pregnancies, reinforcing the importance of comprehensive prenatal care and monitoring. The patient's advanced age was a critical factor in pregnancy-related complications, demonstrating the necessity for individualized, multidisciplinary care in similar cases.

Keywords: Comorbidity; High-Risk Pregnancy; Perinatal Care; Premature Birth

ORCID:
Petrana Beljan Džubur: 0000-0001-6024-6705

CR73

A Silent Anatomical Anomaly Unveiled: Late-Onset Choledochal Cyst Disguising as Choledocholithiasis

Petra Kolundžić[1], Paula Đozić[1], Petra Forić[1], Neven Ljubičić[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Gastroenterology and Hepatology, Department of Internal Medicine, Sestre milosrdnice University Hospital Center, Zagreb, Croatia

Introduction: Choledochal cysts are rare cystic dilatations of the intrahepatic and/or extrahepatic bile ducts. Symptoms, including the typical triad of jaundice, abdominal pain, and abdominal mass, mostly appear in early childhood. However, due to advances in diagnostics, this condition is increasingly diagnosed in older individuals as well. The pooled prevalence is 1:100,000-150,000, with a higher incidence in Asian populations and a female-to-male ratio of 8:1.

Case Report: A 57-year-old female presented to the emergency department with right upper quadrant pain and fever. Her medical history was notable for a cholecystectomy performed 20 years prior. An abdominal ultrasound was subsequently performed for further evaluation. The imaging revealed right-sided nephrolithiasis, and the patient was managed with antibiotic therapy. A month later a follow-up ultrasound revealed a dilated common bile duct with suspicious small bile stones. She was referred for an endoscopic ultrasound which detected a 12 mm dilation of the common bile duct with several bile stones measuring approximately 5 mm in diameter. At that time, her laboratory results showed a mild cholestatic pattern with an elevated bilirubin level of 27.6 (reference range: 3-20) μmol/L. An endoscopic retrograde cholangiopancreatography (ERCP) was performed for therapeutic removal of bile stones; however, during the procedure, a Todani type I choledochal cyst was identified as the underlying pathology. The cyst was then managed surgically with complete excision.

Conclusion: ERCP is the gold standard for diagnosing choledochal cysts. Accurate diagnosis is crucial to prevent common complications, including bile stones in over 50% of cases and cholangiocarcinoma in 10-30% of cases.

Keywords: Cholecystectomy; Cholestasis; Common Bile Duct; Endoscopic Retrograde Cholangiopancreatography

ORCID:
Petra Kolundžić: 0009-0006-8297-6606
Paula Đozić: 0009-0000-3664-7947
Petra Forić: 0009-0004-8509-548X
Neven Ljubičić: 0000-0002-5207-4357

CR74

Next-Generation Sequencing as a Method for Diagnosing Aceruloplasminemia: First Croatian Adult Case

Dora Domijan[1], Anamarija Bronzan[1], Zdravko Mitrović[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Hematology, Department of Internal Medicine, Dubrava University Hospital, Zagreb, Croatia

Introduction: Aceruloplasminemia is a very rare autosomal recessive disorder caused by mutations in the ceruloplasmin (CP) gene. Ceruloplasmin is a copper-containing protein encoded by the CP gene. Severe cases in childhood are characterized by iron accumulation in visceral organs due to the complete absence of ceruloplasmin ferroxidase activity. Less severe clinical manifestations include microcytic anemia, retinal degeneration, diabetes, movement disorders, and cognitive impairment. Diagnosis relies on low serum ceruloplasmin, iron overload, and genetic testing. Next-Generation Sequencing (NGS) is a high-throughput method that allows the detection of rare mutations in disease-associated genes with high sensitivity.

Case Report: A 58-year-old female patient presented with mild microcytic anemia accompanied by low transferrin saturation. She was followed for a decade and was initially treated with oral iron. However, high ferritin levels were discordant. Elevated liver enzymes prompted further work up that showed significantly decreased circulating ceruloplasmin and iron accumulation in the liver biopsy. Finally, aceruloplasminemia was diagnosed by NGS. Interestingly, her ceruloplasmin ferroxidase activity was normal because of a novel mutation in the CP gene. She has osteoarthritis and macular atrophy, yet without brain iron accumulation or neurological symptoms. Currently, the patient regularly undergoes therapeutic phlebotomies to reduce ferritin.

Conclusion: The presented patient has a mild form of aceruloplasminemia that was eventually confirmed by NGS. Due to preserved ceruloplasmin ferroxidase activity, iron accumulation was present in the liver only. To our knowledge, this is the first adult patient diagnosed with aceruloplasminemia. Early recognition and management are crucial to prevent iron accumulation and organ damage.

Keywords: Ceruloplasmin; Ferritin; Iron-Deficiency Anemia; Next-Generation Sequencing

ORCID:
Dora Domijan: 0009-0007-7251-9927
Anamarija Bronzan: 0009-0004-3389-0094
Zdravko Mitrović: 0000-0002-9896-1234

CR75

Paradoxical Worsening of Diabetic Retinopathy after Rapid Improvement in Systemic Glucose Control: a Case Report

Mirko Vilibić[1], Ivan Đuran[1], Ana Pavić[2], Božena Bradarić[3], Tomislav Bulum[1,3]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Health Centre Zagreb West, Zagreb, Croatia
[3]Vuk Vrhovac University Clinic for Diabetes, Endocrinology and Metabolic Diseases, Merkur University Hospital, Zagreb, Croatia

Introduction: Diabetic retinopathy (DR) is a well-known microvascular complication of diabetes and represents the leading cause of vision loss in both working-age and elderly populations.

Case Report: A 58-year-old male patient with a 25-year history of type 2 diabetes was hospitalized due to chronically unregulated glycemia. His medical history is also significant for Hashimoto's disease, hyperlipidemia, and hypertension, as well as coronary artery disease with prior stent placement. Despite chronically unregulated type 2 diabetes, with hemoglobin A1c around 9%, he was in the incipient stages of chronic diabetic complications, including early nonproliferative DR, microalbuminuria with preserved renal function, and an intermediate level of diabetic neuropathy. With the support of his family, the patient finally decided to change his lifestyle and increase physical activity. Through physical activity alone, without significant changes to his diabetes therapy, he managed to achieve optimal glucoregulation, lowering his hemoglobin A1c to 5.8%. Paradoxically, this significant improvement in glycemic control led to a rapid worsening of DR, resulting in the development of proliferative DR and diabetic macular edema with substantial vision deterioration. He received multiple treatments, including laser photocoagulation and anti-vascular endothelial growth factor (anti-VEGF) therapy, at a specialized clinic. However, the rapid improvement in glucoregulation did not negatively affect his renal function or diabetic neuropathy.

Conclusion: Clinicians should be aware that a rapid improvement in systemic glucose control can lead to worsening of mild-to-moderate DR. Patients with DR and poor glycemic control should have more frequent ophthalmological monitoring if systemic glucose levels improve rapidly.

Keywords: Diabetes Mellitus; Diabetic Retinopathy; Glycated Hemoglobin; Glycemic Control

ORCID:
Mirko Vilibić: 0009-0002-7451-2917
Ivan Đuran: 0009-0007-4266-826X
Ana Pavić: 0009-0008-5678-8278
Božena Bradarić: 0009-0005-2656-7683
Tomislav Bulum: 0000-0003-4808-2968

CR76

Pulmonary Vein Isolation as a Novel Method of Treating Patients with Atrial Fibrillation-Induced Tachycardiomyopathy and Heart Failure

Marin Talajić[1], Ivan Raguž[2], Sandro Brusich[3]

[1]Faculty of Medicine, University of Rijeka, Rijeka, Croatia
[2]School of Medicine, University of Zagreb, Zagreb, Croatia
[3]University Hospital Centre Rijeka, Rijeka, Croatia

Introduction: Atrial fibrillation is the most common heart rhythm disorder among the adult population. It can lead to rapid ventricular response and deterioration of heart function, which is reversible upon restoration and maintenance of sinus rhythm. Pulmonary vein isolation is a novel method of treating atrial fibrillation, using high energy to create tiny scars in the region of the ostium of the pulmonary veins, resulting in a disruption of abnormal electrical signals and preventing them from reaching the rest of the heart.

Case Report: We report the case of a 60-year-old male who presented to the Emergency Department with a five-day history of dyspnea accompanied by palpitations. Physical examination revealed signs of cardiac decompensation; auscultatory basal pulmonary crepitations, swollen legs with an ECG finding of atrial fibrillation with rapid ventricular response. Cardioversion was attempted with medication therapy and shock delivery but without success. He was later hospitalized and recommended for an electrophysiological examination of the heart and catheter ablation of the arrhythmia. After its completion, a normal sinus rhythm was established. The patient was discharged home without any subjective complaints, cardially compensated.

Conclusion: The reported case highlights the importance of early intervention by returning the heart to normal sinus rhythm which has led to gradual recovery of damaged cardiac function and heart failure symptoms where the isolation of the pulmonary veins has become the leading and most successful method due to modern technological advances in medicine. This enables people with atrial fibrillation to live a quality and normal life with long-term survival and vitality.

Keywords: Arrhythmia; Atrial Fibrillation; Catheter Ablation; Dyspnea; Heart Failure

ORCID:
Marin Talajić: 0009-0004-4641-8637
Ivan Raguž: 0009-0006-9224-6869
Sandro Brusich: 0000-0001-7394-6698

CR77

Avoiding Heart Transplantation: a Four-Step Approach

Ivan Benčić[1], Karlo Bukvić[1], Matias Trbušić[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Cardiovascular Diseases, Sestre milosrdnice University Hospital Center, Zagreb, Croatia

Introduction: Chronic aortic regurgitation (AR) is characterized by persistent left ventricular (LV) volume overload, dilatation, and heart failure (HF) signs and symptoms development. Left ventricular end-diastolic diameter (LVEDD) > 70 mm, left ventricular end-systolic diameter (LVESD) > 55 mm, and left ventricular ejection fraction (LVEF) 30-35% indicate severe LV dysfunction, potentially leading to advanced HF when aortic valve replacement (AVR) may be too late to provide LV recovery, making a heart transplantation a possible final option.

Case Report: A 61-year-old male was urgently admitted with acute decompensated HF exacerbated by atrial fibrillation (AF) with a fast ventricular response. Echocardiography showed severe AR, LV dilation (LVEDD = 68 mm), and significantly reduced LVEF (30%). A decision had to be made between two treatment options: heart transplantation or AVR with electrophysiological intervention, due to a left bundle branch block and prolonged QRS (0,19 s). AVR was performed without acute complications. However, the patient was readmitted after one month due to persistent HF caused by extremely low LVEF (25%) A cardiac resynchronization therapy device was implanted, but the result was unsatisfactory partly due to low ventricular response caused by rapid AF. The last step included AV node ablation and system upgrade with left bundle branch–optimized resynchronization therapy, leading, along with optimal medical therapy, to LVEF improvement of up to 55% and clinical improvement to NYHA stage I/II.

Conclusion: This case highlights the role of strategic medical interventions to prevent heart transplantation and lifelong immunosuppressive therapy, enhancing cardiac performance and the patient's quality of life.

Keywords: Aortic Valve Insufficiency; Cardiac Resynchronization Therapy; Heart Failure; Heart Transplantation

ORCID:
Ivan Benčić: 0009-0005-9680-9764
Karlo Bukvić: 0009-0006-0002-3423
Matias Trbušić: 0000-0001-9428-454X

CR78

Double Laminectomy: a Case Report

Karla Tenžera[1], Lucija Črnjević[2], Maja Milinković[1]

[1]Family Medicine Practice Maja Milinković, MD, Bestovje, Sveta Nedelja, Croatia
[2]Faculty of Medicine, University of Rijeka, Rijeka, Croatia

Introduction: A laminectomy is a surgical procedure to alleviate pressure on the spinal cord and nerves by removing part of a vertebra, called the lamina. It is performed to treat conditions such as spinal stenosis, herniated discs, or spinal tumors, particularly in patients experiencing neck, shoulder, or back pain, as well as extremity numbness.

Case Report: In December 2022, a sixty-one-year-old man presented to his family medicine doctor with tingling and pain in his legs, leading to a referral for further evaluation. EMNG of the lower extremities and an MRI of the lumbosacral spine revealed a broad-based L2-L3 disc protrusion causing narrowing of the lateral recesses and relative stenosis. In January 2023, he underwent bilateral decompressive interlaminar laminectomy at L2-L3. The postoperative recovery progressed without complications and he was referred for inpatient rehabilitation for one month. However, by May 2023, he continued to experience gait and balance difficulties. An MRI of the entire spine was ordered, revealing an intraspinal expansive lesion at the TH2 level. He underwent TH2 laminectomy, and a tissue sample sent for histopathological analysis confirmed a CNS-WHO grade I meningioma, which was completely excised. Afterward, the patient underwent further rehabilitation, and his condition improved, enabling him to walk independently.

Conclusion: Diagnosing neurological symptoms remains a complex challenge. The intraspinal meningioma was identified only after continued gait issues, emphasizing the importance of full-spine imaging and re-evaluation. Timely surgery and rehabilitation were key to recovery underscoring the value of early diagnosis and multidisciplinary care for better outcomes.

Keywords: Laminectomy; Malignant Meningeal Neoplasms; Protruded Disc; Spinal Stenosis

ORCID:
Karla Tenžera: 0009-0005-2018-8834
Lucija Črnjević: 0009-0000-7612-8949
Maja Milinković: 0009-0005-2345-3517

CR79

Pharmacotherapy-Resistant Rapidly Progressive Intra- and Extracranial Atherosclerosis: a Diagnostic and Treatment Challenge

Klara Anja Bojanović[1], Helena Šandro[1], Ivana Maletić[1], Katarina Starčević[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Neurology and Cerebrovascular Diseases, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: A transient ischemic attack (TIA) is a temporary neurological deficit caused by focal cerebral ischemia without infarction, presenting with negative symptoms such as loss of function. Limb-shaking TIAs are a rare exception, characterized by involuntary movements often mistaken for focal motor seizures.

Case Report: A 61-year-old male patient presented multiple times to the emergency department with acute cerebrovascular incidents. Initially, these incidents manifested as transient paresis of the right arm, followed by left-sided faciobrachial paresis, along with daily episodes of limb-shaking TIA accompanied by hand tremors. Eventually, he developed left arm paresis and left-hand plegia. Initial radiologic findings revealed atherosclerotic changes with 50% stenosis of the right internal carotid artery (ICA) and multiple stenoses in both middle cerebral arteries (MCAs). Clopidogrel, aspirin, and statins were prescribed. However, within just two months, stenosis in the right MCA progressed drastically, reaching over 80%. Despite optimal pharmacotherapy, recurrent TIAs and tremors raised suspicion for Moyamoya disease, a rare condition involving progressive vessel narrowing and collateral formation, and epilepsy. These suspicions were ultimately excluded following trials of systemic corticosteroids and gabapentin. Due to the drug-resistant nature of the atherosclerosis, endovascular intervention and stenting of symptomatic stenoses were performed, an approach rarely undertaken so early. However, the patient continued experiencing sensory disturbances, and follow-up imaging revealed restenosis of the right ICA.

Conclusion: This case highlights challenges of rapidly progressive, drug-resistant atherosclerosis, leading to recurrent cerebrovascular events despite optimal treatment. Restenosis after stenting underscores the need for personalized approaches and alternative revascularization strategies to improve outcomes in aggressive cases.

Keywords: Carotid Artery Diseases; Carotid Stenosis; Cerebrovascular Disorders; Endovascular Procedures; Intracranial Atherosclerosis; Ischemic Attack, Transient

ORCID:
Klara Anja Bojanović: 0009-0008-1452-9139
Helena Šandro: 0009-0004-5012-9758
Ivana Maletić: 0009-0004-8503-0360
Katarina Starčević: 0000-0003-1561-4112

CR80

Symptoms of Post-Infectious Encephalitis Lead to the Diagnosis of a Rare Erdheim-Chester Disease

Kaya Tomašić[1], Luka Crnošija[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Neurology, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Influenza A virus is known to cause respiratory manifestations, but it can also lead to neurological complications ranging from mild symptoms like headache and dizziness to severe conditions such as encephalitis and acute necrotizing encephalopathy. Erdheim-Chester disease (ECD) is a rare non-Langerhans cell histiocytosis marked by foamy histiocyte infiltration and multisystem involvement, often linked to MAPK pathway mutations, particularly BRAF V600E.

Case Report: We present a 62-year-old male who contracted Influenza A and later presented with fatigue, speech and motor impairment, truncal ataxia, hallucinations, and urinary incontinence. The patient was treated with oseltamivir, leading to a complete recovery. The first MRI showed nonspecific T2/FLAIR hyperintensities, with a follow-up scan revealing progressive hippocampal changes and suspected infiltrative lesions. He was hospitalized for further evaluation, leading to a presumed post-infectious etiology. Treatment with IVIG resulted in neurological improvement, with further progress after an additional cycle of IVIG. A follow-up MRI still showed nonspecific hyperintensities, dural thickening adjacent to the cerebral hemispheres, and bilateral infraorbital involvement. A biopsy of the dura mater was performed, but the patient developed post-procedural complications, including a subdural hematoma, leading to altered consciousness from which he subsequently recovered. Histopathology confirmed BRAF-positive Erdheim-Chester disease, affecting the bones, brain, lungs, and blood vessels. He was started on vemurafenib, a BRAF inhibitor, which led to clinical improvement.

Conclusion: This case emphasizes the need for alternative diagnoses when neurological symptoms persist or worsen after a viral infection. It highlights the importance of a long-term follow-up and a broad differential diagnosis in atypical neurological presentations.

Keywords: Erdheim-Chester Disease; Immunoglobulins, Intravenous; Postinfectious Encephalomyelitis; Protein Kinase Inhibitors

ORCID:
Kaya Tomašić: 0009-0006-7122-3086 Luka Crnošija: 0000-0002-5245-1300

CR81

Ileal Perforation into the Abdominal Wall in Crohn's Disease at the Site of an Appendectomy Scar - a Case Report

Emili Dragaš[1], Branko Bogdanić[1,2]

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

Introduction: Crohn's disease, an inflammatory bowel disease, can present with a perforating phenotype by the Montreal classification, with fistulas and abscesses. Isolated ileal perforation to the anterior abdominal wall at the site of an appendectomy scar is an extremely rare manifestation.

Case Report: A 63-year-old patient, an active smoker, recently diagnosed with Crohn's disease and treated with budesonide, presented to the emergency department with redness and edema surrounding the appendectomy scar. Upon examination, there were signs of acute abdomen. Blood work showed signs of inflammation (L 13,9x109/L, CRP 185,4 mg/L) and anemia (Hb 104 g/L). A CT scan was performed, revealing an abscess in the abdominal wall and its fistulous communication with the thickened terminal ileum and free fluid in the pelvis. The patient underwent emergency surgery. The incision along the appendectomy scar evacuated an abundant amount of gas and intestinal contents, and a necrosectomy was performed. The wound was left to heal by second-intention. With a medial laparotomy incision, adhesiolysis, a right hemicolectomy, resection of the terminal ileum, and an ileostomy with mucous fistula were performed. The intraoperative swab showed polymicrobial colonization. The patient was admitted to the ICU, treated with antibiotics, and underwent two more necrosectomies. The patient was released on the 18th postoperative day in good condition.

Conclusion: Although the most common site of Crohn's disease is the ileum, perforation usually occurs intra-abdominally. This case describes an unusual condition where postoperative adhesions following appendectomy resulted in a limited perforation into the anterior abdominal wall.

Keywords: Abscess; Abdominal Wall; Crohn's Disease; Ileum

ORCID:
Emili Dragaš: 0009-0000-0040-7044 Branko Bogdanić: 0000-0001-7708-3105

CR82

Mediastinal Spread of Cervical Necrotizing Fasciitis: a Life-Threatening Condition

Valentin Horvatić[1], Lovro Grgurić[1], Barbara Guštin[1], Matija Mamić[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia

Introduction: Necrotizing fasciitis (NF) is a rare and progressive inflammation of the fascia and subcutaneous tissue which most often affects the lower extremities and it is characterized by necrosis. Cervical necrotizing fasciitis (CNF) is an uncommon site of the NF located on the neck, mostly odontogenic in origin with the intention to spread fast towards the mediastinum and therefore with high mortality rates.

Case Report: A 63-year-old male presented to the emergency room with dyspnea and progressive neck edema, which lasted for the last 5 days. On the right side of the neck, bullae and epidermal necrosis were found, extending to the chest. An emergency computed tomography scan detected diffuse thickening of the cervical fascia and subcutaneous tissue, fluid and gas collections expanding to the anterior thoracic wall. The patient underwent two urgent surgical procedures. Maxillofacial treatment of the neck included wide exposure and necrectomy of skin, underlying fatty tissue and muscles. The surgical wound was left open and treated with iodoform gauze. Thoracosurgical intervention included thoracotomy followed by drainage of paratracheal, paraesophageal and subcarinal spaces. At the intensive care unit, antibiotics, analgesics and continuous hydration therapy were administered intravenously. Postoperatively, the inflammatory process progressed and the patient died within 24 hours due to hemodynamic collapse and cardiorespiratory arrest.

Conclusion: This case emphasizes the importance of early diagnosis, surgical treatment and antibiotic therapy in reducing mortality of CNF. Although treated promptly, patients with advanced stage of the disease have minor chances for a positive outcome.

Keywords: Anti-Bacterial Agents; Drainage; Fasciitis, Necrotizing; Mediastinum; Surgical Procedures, Operative

ORCID:
Valentin Horvatić: 0009-0002-8974-805X
Lovro Grgurić: 0009-0004-1041-0668
Barbara Guštin: 0009-0007-8143-8678
Matija Mamić: 0000-0002-3117-2943

CR83

Long-Acting Antipsychotic in the Prevention of Relapse and Rehospitalization in a Patient with Schizophrenia

Ivan Munđar[1], Hrvoje Pecić[1], Miroslav Herceg[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Vrapče Psychiatric Clinic, Zagreb, Croatia

Introduction: Schizophrenia is a chronic mental illness characterized by a range of psychological and physical symptoms, as well as comorbidities that significantly impair the patient's life and social functioning. The incidence is approximately 1%. One of the biggest challenges in the treatment of schizophrenia is the relapse of acute schizophrenic episodes, which is closely linked to the patient's nonadherence to therapy.

Case Report: The patient, S.D.R., is 64 years old, retired, married, and a mother of two children. She was diagnosed with paranoid schizophrenia at the age of 29. By 2014, she had been hospitalized 12 times at the Vrapče Psychiatric Clinic (at that time, she was 54 years old). Over a period of 17 years, she was hospitalized a total of 12 times. Since 2014, a new atypical long-acting antipsychotic, olanzapine, has been introduced into her therapy at a dose of 250 mg every 4 weeks. In 2023, the olanzapine dose was reduced to 230 mg every 4 weeks, and in 2024, it was further reduced to 210 mg every 4 weeks. Since her last hospital discharge in 2014, the patient has not been hospitalized (11 years without hospitalization). She is regularly under outpatient psychiatric treatment and receives applications of long-acting olanzapine.

Conclusion: The treatment of patients with schizophrenia requires continuous, long-term, and often lifelong use of antipsychotics, making their cooperation in the treatment process essential for recovery. Adherence to therapy is notably improved by the use of long-acting antipsychotics, especially new atypical antipsychotics. These medications greatly reduce rehospitalization and relapses.

Keywords: Antipsychotic Agents; Hospitalization; Olanzapine; Recurrence; Schizophrenia

ORCID:
Ivan Munđar: 0009-0005-3872-106X
Hrvoje Pecić: 0009-0007-8032-5970
Miroslav Herceg: 0000-0002-9008-9146

CR84

When One Disease Isn't Enough: Overlapping Autoimmune and Malignant Challenges in a Liver Transplant Candidate

Roko Tutavac[1], Vito Topolnjak[1], Tin Trtanj[1], Nikola Sobočan[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Gastroenterology, Department of Internal Medicine, Merkur University Hospital, Zagreb, Croatia

Introduction: Primary sclerosing cholangitis (PSC) is a cholestatic liver disease caused by diffuse inflammation and fibrosis. The disease can affect the entire biliary tree, leading to the gradual obliteration of the bile ducts and consequently biliary cirrhosis. Two-thirds of PSC patients also suffer from ulcerative colitis (UC). In patients with advanced disease, liver transplantation is the only treatment option.

Case Report: A 64-year-old female patient has a history of ulcerative colitis and liver cirrhosis secondary to primary sclerosing cholangitis. In 2000, she underwent a right hemicolectomy due to colorectal adenocarcinoma (T1N0M0). In 2019, she underwent another surgery for colorectal adenocarcinoma (T3N0M0), leading to a total colectomy. The patient is taking medication for arterial hypertension, type 2 diabetes mellitus and hypothyroidism. Additionally, she has a gallbladder polyp. During the liver transplantation workup, mediastinal lymphadenopathy was detected. Under endobronchial ultrasound guidance, enlarged lymph nodes were sampled. Cytological analysis showed reactive lymph node hyperplasia with a granulomatous reaction, without necrosis. Microbiological tests of the aspirate for Mycobacterium tuberculosis were negative. A follow-up CT scan revealed an irregular thickening of the anterior wall of the gallbladder body with post-contrast enhancement. A cholecystectomy was performed. Histopathological examination confirmed the presence of a high grade dysplasia intracholecystic papillary neoplasm.

Conclusion: Patients with concurrent PSC and UC have a significantly higher risk of developing colorectal cancer and biliary tract malignancies, necessitating regular screening both before and after liver transplantation. Preventing the development of malignancies is a prerequisite for liver transplantation, which remains the only curative treatment option for PSC.

Keywords: Cholangitis, Sclerosing; Colitis, Ulcerative; Colonic Neoplasms; Liver Cirrhosis; Liver Transplantation

ORCID:
Roko Tutavac: 0009-0006-4207-0738
Vito Topolnjak: 0009-0006-4093-4897
Tin Trtanj: 0009-0008-0050-9794
Nikola Sobočan: 0000-0001-6721-9232

CR85

Comeback of the Stenosis - the Natural History of Degeneration of the Native Aortic Valve and Prosthetic Valve

Matej Krišto[1], Luciana Koren[2], Martin Pelin[2], Sandra Jakšić Jurinjak[1,3]

[1]Zagreb County Department of Emergency Medicine, Velika Gorica, Croatia
[2]School of Medicine, University of Zagreb, Zagreb, Croatia
[3]Department of Cardiovascular Diseases, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Degenerative aortic stenosis is a common valvular disorder caused by fibrocalcific changes of the aortic valve cusps resulting in stenosis and insufficiency.

Case Report: A 67-year-old woman was hospitalized in April 2017 after several episodes of syncope associated with hypertension and dyspnea. Her medical history was remarkable for arterial hypertension, permanent atrial fibrillation, type II diabetes mellitus (DM2) and chronic renal insufficiency. The examination revealed severe aortic stenosis with preserved left ventricular ejection fraction. Four months later, the degenerated aortic valve was replaced with a bioprosthetic valve. Postoperative echocardiography showed normal valve position and function. In March 2024, the patient was hospitalized twice due to episodes of heart failure. Echocardiography revealed structural biological valve degeneration resulting in severe aortic stenosis with mild aortic regurgitation and mixed mitral valve disease. Coronary angiography didn't reveal significant stenosis of the coronary artery, and MSCT aortography was performed according to the protocol for TAVI (transcatheter aortic valve implantation). In September 2024, following a decision by the valvular team, an elective percutaneous valve-in-valve (ViV) procedure was performed. After the procedure, echocardiography showed appropriate positioning and proper expansion of the implanted valve requiring further follow-up.

Conclusion: Treatment of patients with aortic stenosis is complex and requires multiple diagnostic approaches. Risk factors such as the patient's age and chronic diseases as renal impairment and DM2 could predispose accelerated degeneration of biological prosthesis. Novel therapeutic options are crucial for achieving a successful outcome in patients with degeneration of an aortic valve prosthesis.

Keywords: Aortic Stenosis; Cardiac Valve Prostheses; Cardiology; Heart Valve Disease

ORCID:
Matej Krišto: 0009-0005-1534-0416
Luciana Koren: 0009-0002-1994-3511
Martin Pelin: 0000-0002-8360-6889
Sandra Jakšić Jurinjak: 0000-0002-7349-6137

CR86

From a Wooden Splinter to Streptococcal Toxic Shock Syndrome: Managing Infections in Immunocompromised Patients After Liver Transplantation

Nika Kvaternik[1], Anna Mrzljak[1,2], Viktor Domislović[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Gastroenterology and Hepatology, Department of Internal Medicine, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Streptococcal toxic shock syndrome (STSS) caused by group A Streptococcus (GAS) is characterized by shock, multiorgan failure, and high mortality. Organ transplant recipients are particularly vulnerable due to immunosuppressive therapy, which is necessary for graft survival, but increases susceptibility to infections, the leading cause of post-liver transplant morbidity and mortality.

Case Report: A 69-year-old female, on dual immunosuppressive regimen (mycophenolate mofetil (MMF) and tacrolimus) after liver transplantation in 2010, and with chronic kidney disease, presented to the emergency department after tripping at home over a chair. A wooden splinter embedded in her neck, and she developed neck swelling, erythema, and a maculopapular rash. Contrast-enhanced CT scan showed an abscess (59x32 mm) with craniocaudal extension (85 mm). Her leucocyte count was 22.4×10^9/L, C-reactive protein (CRP) 327.4 mg/L, and creatinine 233 µmol/L. She developed hypotension, dyspnoea, and fever prompting an urgent surgical drainage. MMF was discontinued and tacrolimus was reduced. Microbiological analysis confirmed GAS, strongly suggesting STSS. She was treated with clindamycin (900 mg IV every 8 hours) and cephazolin (2 g every 8 hours for five days). After surgical treatment CRP decreased to 53.0 mg/L and creatinine to 142 µmol/L. CT scan confirmed complete resolution. After two years of follow-up, she is unremarkable.

Conclusion: STSS in organ transplant recipients is a complex clinical challenge that demands managing infections while minimizing the risk of graft rejection. This case highlights the importance of rapid intervention in transplant recipients and how a seemingly minor injury can potentially lead to fatal outcomes in immunocompromised patients.

Keywords: Abscess; Immunosuppression Therapy; Liver Transplantation; Streptococcus pyogenes

ORCID:
Nika Kvaternik: 0009-0005-0002-7689
Anna Mrzljak: 0000-0001-6270-2305
Viktor Domislović: 0000-0002-3715-5730

CR87

A Case Report: Exploring the Link between Anti-TNF Therapy and Primary Cardiac Lymphoma

Katarina Toljan[1], Ana Živić[1], Marija Bakula[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Clinical Immunology and Rheumatology, Department of Internal Medicine, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Primary cardiac tumors are rare, comprising less than 1% of all cardiac tumors, with non-Hodgkin lymphomas accounting for fewer than 2%. Most primary cardiac lymphomas involve the right chambers and pericardium, often causing nonspecific, unrecognized cardiac symptoms. They are more common in immunocompromised patients, including those undergoing biological therapies for autoimmune diseases.

Case Report: A 70-year-old woman with rheumatoid arthritis, hypertension, and a recent anteroseptal ST-elevation myocardial infarction treated one month prior with stent placement presented to the emergency department with progressive dyspnea and weakness, worsening since her myocardial infarction. Her medications included dual antiplatelet therapy, prednisone, methotrexate, and the anti-TNF antibody golimumab, administered for rheumatoid arthritis over the past eight months. Chest X-ray revealed cardiomegaly. A computed tomographic angiography was performed due to a significant D-dimer rise ruling out embolism. Still, it had identified a 37 mm pericardial effusion with increased density, particularly apically, and paratracheal lymphadenopathy. Cardiac CT raised suspicion for primary cardiac lymphoma, later supported by contrast-enhanced cardiac magnetic resonance imaging which showed a heterogeneously enhanced mass. The diagnosis was confirmed by cardiac biopsy, with histopathology identifying blastoid high-grade non-Hodgkin B-cell lymphoma. The patient died shortly after, having received no therapy due to the rapid progression of the disease and heart failure.

Conclusion: This case highlights the need for awareness of rare complications like primary cardiac lymphoma in patients receiving biological therapy. With the increasing use of these therapies, clinicians must remain aware of atypical presentations and potential side effects to ensure diagnosis without delay and start proper management.

Keywords: Biological Therapy; Heart Neoplasms; Lymphoma, Non-Hodgkin; Tumor Necrosis Factor Inhibitors

ORCID:
Katarina Toljan: 0009-0006-0117-9964
Ana Živić: 0009-0008-4588-4555
Marija Bakula: 0000-0002-0176-362X

CR88

Bilateral popliteal aneurysm

Filip Jakov Klisović[1], Damir Halužan[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Vascular Surgery, Department of Surgery, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Popliteal artery (PA) aneurysms are the most common peripheral artery aneurysms. Of patients with this pathology, 50% have bilateral PA aneurysms. They are true aneurysms, and their pathogenesis is related to the mechanical degradation of the popliteal artery at a high flexion point behind the knee. Any symptomatic aneurysm, or one larger than 2 cm, should be considered for repair. Larger aneurysms may have more extensive arterial wall degeneration, increasing the risk of intraoperative rupture or technical difficulties in achieving adequate vascular control and graft placement.

Case Report: We present the case of a 70-year-old man who underwent surgical repair of bilateral popliteal aneurysms. A Computed Tomography scan uncovered massive aneurysms measuring 5.8 cm on the left and 4.4 cm on the right PA, necessitating surgical repair. The left aneurysm was repaired first, and nine months later, the right aneurysm followed. The aneurysms were accessed through a medial incision on the distal upper leg. The distal superficial femoral artery was ligated, followed by a longitudinal aneurysmotomy and removal of the mural thrombus. The genicular branches within the aneurysmal sac were sutured, and the supragenicular segment of the PA was identified as suitable for distal anastomosis. After administering heparin intravenously, a termino-terminal reconstruction was executed using an 8 mm InterGard Silver graft. Postoperative recovery was uneventful.

Conclusion: Although massive aneurysms can be harder to treat, this case demonstrates the effectiveness of termino-terminal reconstruction using an InterGard Silver graft, showcasing a successful surgical approach for complex bilateral presentations.

Keywords: Anastomosis, Surgical; Popliteal Artery Aneurysm; Vascular Grafting; Vascular Remodeling

ORCID:
Filip Jakov Klisović: 0009-0000-4719-4621 Damir Halužan: 0000-0002-8587-8351

CR89

Pheochromocytoma or Something Else? – a Diagnostic Challenge

Mara Močibob[1], Maša Mitrović[1], Velimir Altabas[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Endocrinology, Diabetes and Metabolic Diseases, Department of Internal Medicine, Sestre milosrdnice University Hospital Centre, Zagreb, Croatia

Introduction: Pheochromocytomas and paragangliomas are rare neuroendocrine tumors with diverse presentations and potentially fatal outcomes. The increasingly widespread use of imaging studies has led to diagnosing these tumors at earlier stages. Diagnosis relies on clinical suspicion, biochemical tests, imaging, and histopathology, but variable presentations and intermittent hormone secretion can complicate confirmation.

Case Report: A 70-year-old female with rheumatoid arthritis (RA) and hypertension was undergoing a routine check-up. Her treatment included methotrexate, an angiotensin receptor blocker, a beta-blocker, a calcium channel blocker, and a thiazide. Elevated tumor markers (CA-125, AFP) raised suspicion of paraneoplastic syndrome. CT revealed a 12 mm hypervascular lesion in the right adrenal gland, suggestive of pheochromocytoma. However, biochemical tests showed normal adrenaline, noradrenaline, metanephrine, and normetanephrine levels, consistent with intermittent hormone secretion. Given the imaging findings and history of hypertension, pheochromocytoma could not be excluded. Following pharmacologic pretreatment, an adrenalectomy was performed. Histopathological evaluation revealed a mass composed of vascular spaces of varying sizes, lined by a single layer of endothelial cells, consistent with a cavernous hemangioma. The final diagnosis was confirmed through positive immunostaining for CD31.

Conclusion: Adrenal cavernous hemangioma is a rare benign vascular tumor, usually discovered incidentally on imaging. Its lack of a characteristic presentation often leads to misdiagnosis, as in this case, where pheochromocytoma was initially suspected. Cavernous hemangioma should be considered in the differential diagnosis of adrenal masses. High misdiagnosis rates highlight the need for improved diagnostic guidelines.

Keywords: Adrenal Gland Neoplasm; Hemangioma; Pheochromocytoma; Tomography, X-ray Computed

ORCID:
Mara Močibob: 0009-0007-3936-2286
Maša Mitrović: 0009-0000-4393-6325
Velimir Altabas: 0000-0002-9076-9870

CR90

Angiodysplasia of the Small Intestine: the Case of the Occult Hemorrhage in Geriatric Gastroenterology

Lukas Librić[1], Tajana Filipec Kanižaj[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Gastroenterology, Department of Internal Medicine, Merkur University Hospital, Zagreb, Croatia

Introduction: Angiodysplasia is most commonly a geriatric disease, presenting as vascular malformation in the mucosal and submucosal layers of the gastrointestinal (GI) tract. The most common symptoms are acute and recurring hemorrhage that most commonly stops by itself.

Case Report: A 73-year-old patient was admitted to the gastroenterology department for acute gastrointestinal hemorrhage in the form of melena. His history included aortic valve stenosis, heart failure, and chronic kidney disease. Gastroscopy, colonoscopy, and capsule endoscopy repeatedly detected fresh blood from the proximal jejunum to the colon but didn't find a clear bleeding source. Scintigraphy with labeled erythrocytes indicated extravasation in the proximal jejunum, while MSCT angiography came out negative. During his three-week stay, he required 300–450 mL erythrocyte concentrates daily and became hemodynamically unstable. Repeated enteroscopy failed to reach the bleeding site, leading to emergency surgery. Median laparotomy and small intestine exploration revealed old blood clots. Enterotomy was performed 100 cm from the Treitz ligament with exploration of the small intestine proximally to the Treitz and 50cm distally. Active vascular ectasia hemorrhage was verified 10–15 cm from Treitz and coagulated. Enterotomy sites were stitched and rinsed with Granudacyn. Hemostasis was achieved, and the patient was stabilized postoperatively and covered by antimicrobial, gastroprotective, and thromboprophylaxis therapy. GI tract recovered, melena resolved, blood tests normalized, and the wound healed well.

Conclusion: With its diagnostic complexities and a span of differential diagnoses, angiodysplasia remains one of the most important surgery delayers and reasons for geriatric GI hemorrhage, albeit a non-malignant and curable one.

Keywords: Angiodysplasia; Gastroenterology; Geriatrics; Occult Blood

ORCID:
Lukas Librić: 0009-0009-7913-9729
Tajana Filipec Kanižaj: 0000-0002-9828-8916

CR91

Aortic Valve Endocarditis Complicated with a Ventricular Septal Defect in a Septuagenarian Patient

Anamaria Yago[1], Paulo Tolić[1], Željko Đurić[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Cardiac Surgery, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Infective endocarditis (IE) is a severe infection of the endocardium, most commonly affecting heart valves. It occurs when bacteria enter the bloodstream and adhere to damaged valvular or endocardial surfaces, forming vegetation. IE can cause heart failure, embolism, or valvular destruction. While aortic valve complications are common, IE-related ventricular septal defect (VSD) is a rare but serious condition requiring urgent surgery.

Case Report: A frail 73-year-old man with ulcerative colitis, chronic obstructive pulmonary disease, hypothyroidism, and glaucoma was admitted due to sepsis caused by Staphylococcus lugdunensis. Transthoracic and transesophageal echocardiography revealed aortic valve vegetations on the left coronary and non-coronary cusps, aortic regurgitation, and a perimembranous VSD. Given his condition, he underwent urgent surgery with cardiopulmonary bypass and cardioplegic arrest. Left ventricular outflow tract (LVOT) reconstruction and VSD closure were performed using a bovine pericardial patch. The right fibrous trigone was reconstructed, and the anterior papillary muscle head of the tricuspid valve was reinserted into the bovine patch. A 21 mm biological aortic Carpentier-Edwards Magna Ease prosthesis was implanted. Due to the extensive destruction of the perimembranous area, a complete heart block was expected, and epicardial electrodes were implanted. On the 11th postoperative day, a permanent pacemaker was placed in the abdominal area. Despite his initial unstable condition, he progressively improved and was transferred for further rehabilitation.

Conclusion: This case shows the unpredictability of IE and how it can cause serious structural damage, including VSD. Early recognition and surgical intervention were key to preventing further worsening and achieving a positive outcome in this case.

Keywords: Aortic Valve; Cardiac Surgical Procedures; Endocarditis, Bacterial; Heart Septal Defects, Ventricular; Heart Valve Prosthesis Implantation

ORCID:
Anamaria Yago: 0009-0001-3383-201X
Paulo Tolić: 0009-0004-6746-9505
Željko Đurić: 0000-0001-9448-8286

CR92

Complications in the Treatment of Mycotic Thoracoabdominal Aortic Aneurysm

Hana Kalit[1], Tomislav Meštrović[1,2], Predrag Pavić[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Vascular Surgery, Department of Surgery, University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Mycotic aneurysms are abnormal blood vessel dilatations caused by bacterial or fungal infections. Their treatment is particularly complex when they affect the thoracoabdominal aorta, requiring reconstruction of visceral aortic branches. Diagnosis relies on multidetector computerized tomography angiography (MDCTA), while treatment depends on patient condition, lesion anatomy, and graft availability, involving open surgery, endovascular, or hybrid procedures.

Case Report: A 73-year-old male with a symptomatic thoracoabdominal aortic aneurysm (TAAA) was referred after being treated for Salmonella sepsis. He presented with back and abdominal pain. MDCTA showed a saccular aneurysm measuring 62×42×32 mm on the left wall of the proximal abdominal aorta, surrounded by fresh intramural hematoma extending from the aortic hiatus to the left renal artery. Urgent thoracophrenolaparotomy was performed, with aneurysm resection and reconstruction using a 22 mm silver-ion coated graft. After initial recovery, the patient experienced slow deterioration, reduced mobility, anorexia, weight loss, and weakness. Follow-up MDCTA revealed a false aneurysm at the descending thoracic aorta anastomosis. Given his frailty, a percutaneous thoracic endovascular aortic reconstruction (pTEVAR) was performed with long-term antibiotic therapy. Early complications included right leg arterial thrombosis requiring thrombendarterectomy and fasciotomy for compartment syndrome. The patient is currently in recovery.

Conclusion: While pTEVAR is not the preferred treatment for post-surgical mycotic TAAA complications, it was necessary due to the patient's poor condition, making open surgery impossible. However, it was further complicated by arterial thrombosis requiring additional surgery. This case highlights mycotic TAAA complexities, emphasizing personalized care, planning, and prompt complication management.

Keywords: Aneurysm, False; Aneurysm, Infected; Anastomosis, Surgical; Endovascular Procedures; Thrombosis

ORCID:
Hana Kalit: 0009-0001-2332-7722
Tomislav Meštrović: 0000-0002-3492-3837
Predrag Pavić: 0000-0002-0117-7663

CR93

Sister Mary Joseph Nodule as the First Sign of Mantle Cell Lymphoma Relapse

Tin Trobić[1], Korina Pervan[1], Ivan Štironja[2], Inga Mandac Smoljanović[1,3]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Division of Abdominal Surgery, Department of Surgery, Merkur University Hospital, Zagreb, Croatia
[3]Division of Hematology, Department of Internal Medicine, Merkur University Hospital, Zagreb, Croatia

Introduction: Sister Mary Joseph nodule is a rare periumbilical metastasis typically linked to gastrointestinal or urogenital cancers, though it can sometimes originate from a lymphoma. It may occur as the first sign of an undiagnosed malignancy or indicate a recurrence or progression of a previous tumor.

Case Report: A 74-year-old man was originally diagnosed with stage IV mantle cell lymphoma (MCL) in 2018 after computed tomography (CT) revealed mediastinal, axillary, and intraabdominal lymphadenopathy with splenomegaly. An axillary lymph node biopsy confirmed a classical nodular variant. The treatment included rituximab, bendamustine, and additional CHOP (cyclophosphamide, hydroxydaunorubicin, vincristine, prednisone) protocol, but the follow-up positron emission tomography/computed tomography (PET/CT) scan revealed refractory disease. In August 2020, the patient started therapy with ibrutinib and achieved complete remission. In February 2024, the patient complained of a painless, purple-colored periumbilical nodule, and was scheduled for a surgical excision. The subsequent biopsy found infiltration of mantle cell lymphoma in the periumbilical tissue, indicating the progression of the disease in the form of a Sister Mary Joseph nodule. The new CT scan revealed intraabdominal lymphadenopathy, which further proved the relapse of the disease and a need for a new line of therapy. The clinical board recommended switching to pirtobrutinib, a next-generation Bruton's tyrosine kinase inhibitor, and within a few months, the intraabdominal lymphadenopathy resolved.

Conclusion: This case emphasizes an unusual presentation of MCL relapse as Sister Mary Joseph nodule and highlights the importance of a long-term, personalized treatment approach. Notably, pirtobrutinib has demonstrated great efficacy in MCL even following previous ibrutinib therapy.

Keywords: Lymphadenopathy; Lymphoma, Mantle-Cell; Recurrence; Tyrosine Kinase Inhibitors

ORCID:
Tin Trobić: 0009-0003-7376-4300
Korina Pervan: 0009-0002-1927-1698
Ivan Štironja: 0000-0002-4874-8670
Inga Mandac Smoljanović: 0000-0001-5234-9464

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Checkpoint Blocked: Autoimmune Diabetes Following Anti-PD-1 Therapy

Barbara Horvat[1], Ivona Frljak[1], Borna Gabrijel Fijember[1], Srećko Marušić[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Endocrinology, Diabetes, Diseases of Metabolism and Clinical Pharmacology, Dubrava University Hospital, Zagreb, Croatia

Introduction: Immune checkpoint inhibitor nivolumab is widely used in the treatment of metastatic melanoma. It is a programmed death receptor-1 blocking antibody (anti-PD-1). This type of drug enhances antitumor immunity but may also trigger immune-related endocrinopathies, including autoimmune diabetes which occurs in 0.6-1.4% of patients.

Case Report: A 76-year-old male was hospitalized due to poorly controlled type 2 diabetes and ketosis. This is a patient with malignant melanoma of the scalp currently undergoing therapy with nivolumab. Diagnostic workup revealed an immeasurably low C-peptide amount (<0.02 nmol/L), along with elevated levels of pancreatic islet cell antibodies (24.1 kIU/L) and significantly increased levels of antibodies to glutamic acid decarboxylase (247 kIU/L), suggesting that the insulin-dependent diabetes of autoimmune origin can be associated with the use of immune checkpoint inhibitors. Basal-bolus insulin therapy was initiated, and the patient was provided with dietary instructions and educated on the administration and titration of insulin therapy. At the follow-up visit after two months, the diabetes was well-regulated.

Conclusion: This case highlights a rare risk of developing insulin-dependent autoimmune diabetes in patients receiving immune checkpoint inhibitors, such as nivolumab. Given the increasing use of immunotherapy in oncology, clinicians must be vigilant in monitoring for endocrine dysfunction in patients undergoing this treatment.

Keywords: Autoimmune Diseases; Diabetes Mellitus, Type 1; Immune Checkpoint Inhibitors; Melanoma; Nivolumab

ORCID:
Barbara Horvat: 0009-0005-1229-3845
Ivona Frljak: 0009-0005-5728-9401
Borna Gabrijel Fijember: 0009-0000-5668-9271
Srećko Marušić: 0000-0002-3982-0765

CR95

Parkinson's Disease: a Primary Care Perspective

Petra Horvat[1], Franciska Ivišić[1], Juraj Jug[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Health Center Zagreb West, Zagreb, Croatia

Introduction: Parkinson's disease (PD) is one of the most common neurodegenerative diseases and a major cause of neurological disability. Diagnosis can be challenging, as symptoms overlap with other neurodegenerative conditions. Motor symptoms, such as bradykinesia, resting tremors, rigidity, and postural instability, are the main signs of PD.

Case Report: A 78-year-old male patient with a history of hypertension visited his family care physician for an examination of a subcutaneous lesion in the perineal area. During the physical exam, the physician noticed a resting tremor in the patient's left hand. Further tests revealed cogwheel rigidity and wide base gait. Suspecting PD, the patient was referred to a neurologist due to limitations in starting treatment at the primary care level. The neurologist did a brief clinical assessment concluding that the tremor was worsening with activity. The patient was diagnosed with essential tremor, with a possible vascular component due to his comorbidities. Propranolol was added to his current antihypertensive regimen but without effect on the tremor. The physician believes PD is the correct diagnosis, even though a neurologist did not consider other motor symptoms.

Conclusion: This case highlights the difficulties family physicians encounter when caring for patients with complicated neurological conditions, particularly when their opinion differs from those of specialists. Since the diagnostic and treatment options for PD in primary care are limited, the teamwork between primary and secondary care is critical for establishing the right diagnosis and treatment, and most importantly, maintaining the patient's quality of life.

Keywords: Neurodegenerative Diseases; Parkinson Disease; Primary Health Care; Tremor

ORCID:
Petra Horvat: 0009-0007-4632-208X
Franciska Ivišić: 0009-0000-0117-9135
Juraj Jug: 0000-0002-3189-1518

CR96

Cardiac Tamponade Arising from Profound LAD Perforation during PCI

Antonio Patrk[1], Jakov Plavetić[1], Tea Smokrović[1], Matias Trbušić[1,2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Cardiovascular Diseases, Sestre milosrdnice University Hospital, Zagreb, Croatia

Introduction: Percutaneous Coronary Intervention (PCI) is a minimally invasive procedure involving balloon angioplasty and/or stent implantation in a coronary artery. Despite its benefits, it carries the risk of severe, life-threatening complications. This case report presents a massive perforation and subsequent cardiac tamponade occurring during the intervention.

Case Report: An 80-year-old female patient with a history of arterial hypertension was admitted to the Coronary Care Unit with severe chest pain. The initial ECG indicated acute myocardial infarction without ST-segment elevation, and highly sensitive troponin I levels were significantly elevated. Coronary angiography revealed significant calcified stenosis of the left anterior descending artery (LAD), with 95-99% stenosis in the middle segment and 85-90% stenosis of the proximal segment of the circumflex artery. PCI was planned due to the patient's age and overall condition. However, visualization was impaired by a prominent arterial loop behind the stenosis, which led to a significant perforation of the LAD and cardiac tamponade. After pericardial drainage and the permanent balloon inflation in the LAD, the patient was transferred to the Clinical Hospital Centre in Zagreb for immediate surgical treatment. She underwent coronary artery bypass grafting (CABG) using the great saphenous vein to the LAD and recovered successfully, relieved of previous symptoms.

Conclusion: A cardiologist's expert assessment is crucial for successful PCI execution. If the vessel is not clearly visible, it is better to reconsider the procedure and explore alternative approaches. The favourable outcome following CABG emphasizes the importance of a multidisciplinary approach and timely surgical intervention for optimal patient recovery.

Keywords: Cardiac Tamponade; Coronary Artery Bypass; Hypertension; Percutaneous Coronary Intervention

ORCID:
Antonio Patrk: 0009-0002-1815-2152
Jakov Plavetić: 0009-0009-9531-8348
Tea Smokrović: 0009-0003-0212-5982
Matias Trbušić: 0000-0001-9428-454X

CR97

Management of Immune Thrombocytopenia in an Elderly Patient with Cardiovascular Comorbidities Requiring Anticoagulation with Elevated Risk of Thrombosis

Petra Nežić[1], Dražen Pulanić[2,3]

[1]Health Center Zagreb East, Zagreb, Croatia
[2]Division of Hematology, Department of Internal Medicine, University Hospital Center Zagreb, Zagreb, Croatia
[3]School of Medicine, University of Zagreb, Zagreb, Croatia

Introduction: Immune thrombocytopenia (ITP) is an autoimmune disorder characterized by decrease in the platelet count below $100x10^9$/L and with increased risk of bleeding. Treatment options include corticosteroids, intravenous immunoglobulins (IVIg), thrombopoietin receptor agonists (TPO-RA), rituximab, rarely other immunosuppressive drugs, and splenectomy. In this work, we present a case of an elderly patient with cardiovascular comorbidities requiring anticoagulation, who was diagnosed with ITP, to present treatment challenges while balancing the risk of bleeding with potential risk of thrombosis.

Case Report: An 81-year-old male with significant previous medical history including previous SARS-CoV2 infections, ischemic cerebral stroke, permanent atrial fibrillation receiving anticoagulation with apixaban, arterial hypertension, and diabetes mellitus, presented with severe thrombocytopenia following a respiratory tract infection. Clinical examination revealed petechiae and a few hematomas. He responded well on steroids and IVIg with fast normalization of platelet count, and further workup was consistent with primary ITP. During steroid taper his platelet count dropped again, and he became steroid-depended. Second line of treatment for ITP was discussed. TPO-RA was avoided due to high thrombotic risk, rituximab was not indicated due to SARS-CoV-2 history, and splenectomy was contraindicated. Mycophenolate mofetil was started as a steroid-sparing agent with an excellent result, achieving platelet count around $100x10^9$/L, allowing safe administration of anticoagulation with apixaban.

Conclusion: Treatment of ITP among elderly patients with many prothrombotic comorbidities might be challenging. It is important to find the best treatment option to prevent bleeding, but also not to increase the risk of thrombosis and infections in such complex patients.

Keywords: Anticoagulants; Immune Thrombocytopenia; Mycophenolic Acid; Thrombosis

ORCID:
Petra Nežić: 0009-0003-5430-0666
Dražen Pulanić: 0000-0002-1177-8921

CR98

The Impact of Environmental Stressors on Dementia Patients

Karla Sertić[1], Petra Relota[1], Eva Stanec[1], Sandra Richter[2]

[1]School of Medicine, University of Zagreb, Zagreb, Croatia
[2]Department of Dementia, Sveti Ivan Psychiatric Hospital, Zagreb, Croatia

Introduction: Dementia is the progressive decline in cognitive function to the extent that it may interfere with a person's daily life and activities. Suicidal ideations refer to thoughts about ending one's own life and may be found in some dementia patients. In dementia-related psychosis, patients experience disconnection from reality, hallucinations, and delusions.

Case Report: We present the case of an 88-year-old female patient who experienced dementia-related psychosis. She was found standing in the rain by a passerby after having jumped into a lake. She experienced suicidal ideation and delusional thoughts of impending ruin, and stated this was an impulsive act driven by intrusive thoughts. This incident led to her fifth psychiatric hospitalization. Her first visit to a psychiatrist was in 1964, following a devastating flood. Her first hospitalization occurred in 2007, after the death of her husband. Her current episode began in 2023, with the renovation of her lifelong home and her relocation to temporary accommodation. These unfamiliar surroundings triggered the four subsequent hospitalizations. She is currently being treated with a combination of antipsychotics, anxiolytics and antidementia medication, with signs of improvement. However, past episodes have consistently resurfaced when she returned to her temporary housing, as she was once again exposed to a foreign environment.

Conclusion: This case illustrates the vulnerability of elderly patients with dementia to changes in their surroundings. It highlights the importance of a stable and familiar environment in psychiatric patients, especially those with a lower threshold for stress tolerance.

Keywords: Dementia; Hospitalization; Psychotic Disorders; Suicidal Ideation

ORCID:
Karla Sertić: 0009-0003-1162-4353
Petra Relota: 0000-0001-8660-6043
Eva Stanec: 0009-0008-4683-5448

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