CROATIANSTUDENTSUMMIT21:

BOOK ABSTRACTS

Designing the Good Life

SVEUČILIŠTE U ZAGREBU MEDICINSKI FAKULTET

CROSS C21

April 14th - 17th, 2026

21th Croatian Student Summit

Zagreb
April 14th-17th, 2026

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MENTOR

Prof. Slavko Orešković, MD, PhD

Mentor of the 21st Croatian Student Summit
Dean of the Universitiy of Zagreb School of Medicine

Slavko Orešković is a full professor with tenure at the Department of Gynecology and Obstetrics of the University of Zagreb School of Medicine. He is employed at the Department of Gynecology and Obstetrics (Petrova) of the School of Medicine and University Hospital Centre Zagreb, where he also holds the position of the Head of the Department.

He was born on 3 February 1960 in Gospić, where he finished elementary school and high school. He enrolled in the University of Zagreb School of Medicine in 1979 and graduated in 1984. He completed his medical internship at the Gospić Medical Center from 1985 to 1986. In the period from 1986 to 1988, he worked at the Gospić General Hospital as a secondary physician in the Gynecology Department. He obtained his master's degree in 1996 and his doctorate in 1999.

In 1997 he acquired the academic title of Assistant, in 2002 Assistant Professor, in 2007 Associate Professor, and in 2013 Full Professor at the Department of Gynecology and Obstetrics of the University of Zagreb School of Medicine. At the same Department in 2018 he was granted the title of Full Professor with tenure.

He is a member of the Croatian Medical Chamber and the Croatian Medical Association (CMA). He is the president of the Croatian Society for Gynecological Urology at CMA. He is the vice-president of the Croatian Society for Gynecology and Obstetrics and a member of the Board of Directors of the Croatian Society for Gynecological Endoscopic Surgery at CMA. He is also a member of the Croatian Society for Perinatal Medicine at CMA, the Croatian Association of Forensic Experts at CMA and the European Association for Cancer Research.

CO-MENTOR

Prof. Ana Borovečki, MD, PhD

Co-mentor of the 21st Croatian Student Summit
Assistant Dean for Graduate Studies at the Integrated Study in Medicine

Ana Borovecki MD, PhD, was born in Zagreb in 1973, where she finished the Classical Gymnasium. In 1998 she graduated in medicine from the School of Medicine, University of Zagreb. In 2000 she got a bachelor's degree in philosophy and comparative literature from the Faculty of Humanities and Social Sciences, University of Zagreb. In 2004 she got a European Master of Bioethics degree from the Catholic University of Leuven, Belgium. In 2007 she got a PhD degree from Radboud University in Nijmegen, the Netherlands. She is a specialist in clinical pharmacology and toxicology and a master of Public Health. She is deputy director to the program director of the PhD Program in Biomedicine and Health Sciences at the School of Medicine, University of Zagreb. She works at Andrija Stampar, School of Public Health, School of Medicine, University of Zagreb, as an assistant professor. Her field of research is biomedical ethics.

ABOUT THIS YEAR'S TOPIC

At the **21st CROSS**, held under the central theme **Designing the Good Life**, our objective is to explore the fundamental determinants that enable the optimal quality of life. Through lectures, discussions, and an interdisciplinary framework, participants will engage with a comprehensive range of topics addressing both intrinsic factors—such as genetics, endocrinology, and metabolism—and extrinsic influences, including nutrition, sleep, mental health, lifestyle, and the role of the individual within society. Particular emphasis is placed on the dynamic interplay between these factors and their collective contribution to long-term health preservation and disease prevention.

The scientific programme is structured across four thematic days, each representing a key dimension of a well-designed life. The first day, **The Stable Foundations**, focuses on the biological basis of health, highlighting the roles of genetics, hormonal regulation, and metabolic processes. The second day, **The Calm Mind**, addresses the importance of psychological well-being through topics such as sleep, stress, and psychiatric health. The third day, **The Right Fuel**, is dedicated to nutrition and its essential role in maintaining physiological balance and overall vitality. Finally, the fourth day, **Human in Society**, explores the broader social and environmental context of health, including social determinants, longevity, integrative medicine, and the individual's role within the community.

The aim of CROSS extends beyond the mere dissemination of knowledge; it seeks to foster critical thinking, encourage the exchange of ideas, and facilitate meaningful professional connections among participants. By integrating diverse disciplines, the programme aspires to inspire future healthcare professionals to adopt a comprehensive and forward-thinking perspective on health. Furthermore, it aims to equip them to address emerging challenges within healthcare systems and to navigate the complexities introduced by contemporary lifestyles, technological advancement, and evolving societal conditions.

In contemporary medical practice, insufficient emphasis is often placed on the prevention of disease, with greater focus directed toward its treatment. This programme seeks to address that imbalance by underscoring the critical role that future physicians can play in promoting health at both the individual and societal levels. By embracing a proactive and integrative approach, healthcare professionals can significantly contribute to reducing disease incidence and improving overall quality of life.

Welcome

messages

Ema Kazazić

President of the 21st Croatian Student Summit

Dear colleagues, distinguished guests, and dear friends,

It is a true honour and great pleasure to welcome you to the 21st Croatian Student Summit.

As we continue building on years of academic excellence and collaboration, we are proud to once again gather at the **University of Zagreb School of Medicine**, a place that symbolizes knowledge, progress, and innovation. Over time, CROSS has evolved into a vibrant international platform, connecting participants from diverse backgrounds and fostering the exchange of ideas that shape the future of medicine and science.

This year's theme, **"Designing the Good Life,"** challenges us to look beyond conventional definitions of health. It encourages us to explore what it truly means to live well — not only physically, but mentally, socially, and emotionally. A good life is not a single concept, but a dynamic balance shaped by genetics, hormones, the mind, nutrition, and the environment in which we live. In a world of rapid scientific advancement, understanding these complex interactions has never been more important. Our **goal** is to provide insight into how modern research can help us create sustainable foundations for long-term well-being, while also reminding us of the human aspect of medicine — empathy, connection, and holistic care. With this vision in mind, we have gathered distinguished **experts** from Croatia and abroad, who will share their knowledge, experiences, and perspectives through lectures, workshops, and discussions. We hope this programme will not only expand your knowledge, but also inspire you to think differently, ask questions, and seek new solutions.

However, CROSS is more than just an academic event. It is a place where ideas turn into conversations, and conversations into lasting collaborations and friendships. I encourage each of you to actively participate, engage with one another, and make the most of this experience — both professionally and personally.

I would like to express my sincere gratitude to our **mentors, speakers, partners, and the entire organizing team**, whose dedication and hard work made this congress possible. Their commitment is the foundation upon which CROSS continues to grow.

To all our **international and local participants** — thank you for being here. Your presence enriches this congress and strengthens the community we are building together.

I wish you a fulfilling, inspiring, and memorable summit.

Ema Kazazić

Welcome to CROSS 21!

Leon Enc

President of the Scientific Programme Committee

Dear participants, esteemed guests, colleagues, and friends,

It is my honor, **on behalf of the Scientific Program Committee**, to welcome you to the 21st edition of the Croatian Student Summit.

CROSS is a long-standing congress organized by medical students, bringing together students from the biomedical field, young doctors, and a broader audience. The congress is held in English, which has positioned it as an international event in this part of Europe.

This year's theme, **Designing the Good Life,** aims to explore what is essential for a healthy life—from stable foundations and a calm mind to a right fuel and society. Each day is dedicated to a major topic. In total, there will be twelve lectures and four panel discussions. I would like to take this opportunity to thank to all the **speakers, panel moderators, and panelists** who will make this program possible.

I would also like to highlight that CROSS offers students and young doctors the opportunity to submit **abstracts**, which will be presented and published in our congress book. CROSS also provides an opportunity to develop practical skills through **workshops**.

I would like to express my **gratitude to my team, as well as to all other teams, workshop leaders, the faculty administration, patrons, sponsors, donors, and our predecessors**, all of whom have contributed to making this congress what it is today.

My message to all participants is to engage as much as possible—ask questions, connect with one another, and broaden your horizons.

I hope you will all enjoy the next four days.

Sincerely,

Matija Martinić

President of the Student Council of the University of Zagreb School of Medicine

Dearest colleagues,

It is with a full heart and a quiet sense of wonder that I welcome you to the 21st edition of the Croatian Student Summit, **on behalf of the Student Council** of the University of Zagreb School of Medicine.

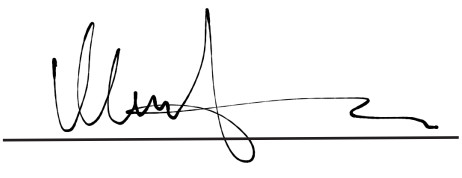
CROSS has a way of finding you before you fully understand what it is. I first walked into this congress as a student with more curiosity than confidence, with little idea of what the next five years would hold. What followed was something I could not have scripted. Five editions, each its own chapter, each leaving its mark. CROSS did not just teach me how to be a part of a congress. **It taught me how to lead, how to collaborate, and how to believe that students, when given the space to create, are capable of something genuinely extraordinary.**

That belief is alive and well in **CROSS 21,** and it is one I hold not just as an observer, but as someone who has lived it from the inside. What years of being part of this organizing team gave me goes far beyond event logistics or scientific program design. It gave me the ability to listen before I speak, to lead without losing sight of the people beside me, to navigate uncertainty with composure, and to find clarity in complexity. These are not simply organizational skills. They are the skills of a good physician. They are the skills of a good colleague, a good mentor, a good member of any academic community worth belonging to. I believe, deeply and without reservation, that congresses like CROSS are where future doctors are not just educated, they are formed. And that is something no curriculum alone can offer.

This year's theme, **Designing the Good Life**, arrives at exactly the right moment. As future physicians, we are being called to think beyond diagnosis and treatment, to consider the fuller picture of what it means for a person to truly thrive. The research and ideas gathered in these pages reflect that ambition. They represent not only the scientific work of young researchers at the beginning of their careers, but also a collective conviction that medicine, at its best, is an act of profound care for the human experience.

Over the next four days, we hope you find ideas that challenge you, conversations that stay with you, and connections that outlast the congress itself. That has always been the quiet promise of CROSS, and it is one we intend to keep.

Welcome to CROSS 21. Let's design the good life. Together.



Wholeheartedly yours,

CROSS 21

TUESDAY April 14th		WEDNESDAY April 15th		THURSDAY April 16th		FRIDAY April 17th	
8.00 - 10.00	Poster session 1.1	8.00 - 10.00	Poster session 2.1	8.00 - 10.00	Poster session 3.1	8.00 - 10.00	Poster session 4.1
10.15 - 12.15	Poster session 1.2	10.15 - 12.15	Poster session 2.2	10.15 - 12.15	Poster session 3.2	10.15 - 12.15	Poster session 4.2
15.00 - 15.30	Opening Ceremony	12.30 - 14.00	Lunch break	12.30 - 14.00	Lunch break	12.30 - 14.00	Lunch break
15.30 - 16.00	Hidden Genetic Risk: What Your Genome Really Says About Your Future Health Prof. Oliver Vugrek, PhD	14.00 - 14.30	Sleep as the Foundation of a Calm Mind: What Happens in the Brain When We Sleep — and When We Don't Alen Juginović, MD	14.00 - 14.30	Nutrition in Newborns: Shaping Lifelong Health Assoc. Prof. Iva Hojsak, MD, PhD	14.00 - 14.30	Blue Zones and Beyond: What Makes Some Populations Live Longer Sebastijan Orlić, PhD, Sports Nutricionist
16.00 - 16.30	University surrounding as a risk factor for weight gain Asst. Prof. Maja Baretić, MD, PhD	14.30 - 15.00	Stress Is Normal — Coping Is a Skill: Psychological Tools for Daily Practice Mirta Fraisman Čobanov, MBA, MSc in Economics, Psychotherapist	14.30 - 15.00	Nutraceuticals and Anti Aging: Can Food Really Slow Down Aging Prof. Darija Vranešić Bender, PhD, Clinical Nutricionist	14.30 - 15.00	Integrative Medicine: Bridging Evidence-Based Care and Holistic Health Katarina Babić, MD
16.30 - 16.45	Coffee Break	15.00 - 15.15	Coffee Break	15.00 - 15.15	Coffee Break	15.00 - 15.15	Coffee Break
16.45 - 17.15	Vitamin B12 in children in health and disease Asst. Prof. Danijela Petković Ramadža, MD, PhD	15.15 - 15.45	Interpretable Artificial Intelligence for Affective Disorders Asst. Prof. Nikolina Frid, PhD	15.15 - 15.45	The Future of Food: Designing Sustainable and Healthy Lives Prof. Anet Režek Jambrak, PhD	15.15 - 15.45	Beyond Medical Treatment: Social Work in Hospital Care Nina Prosinečki, MSW
17.15 - 18.00	Panel Discussion The Stable Foundations Panelists: Prof. Oliver Vugrek, PhD Asst. Prof Maja Baretić, MD, PhD Asst. Prof. Danijela Petković Ramadža, MD, PhD Chiara Krtak, student **Moderator:** **Asst. Prof. Anja Kafka, PhD, MSc in Biology**	15.45 - 16.30	Panel Discussion The Calm Mind Panelists: Asst. Prof. Nikolina Frid, PhD Mirta Fraisman Čobanov, MBA, MSc in Economics, Psychotherapist Jakša Vukojević, MD, PhD Lara-Nika Holjevac Stasiow, student **Moderator:** **Prof. Tina Dušek, MD, PhD**	15.45 - 16.30	Panel Discussion The Right Fuel Panelists: Iva Hojsak, MD, PhD Prof. Darija Vranešić Bender, PhD, Clinical Nutricionist Prof. Anet Režek Jambrak, PhD Dora Bedenic, student **Moderator:** **Prof. Nadira Duraković, MD, PhD**	15.45 - 16.30	Panel Discussion Human in Society Panelists: Sebastijan Orlić, PhD, Sports Nutricionist Katarina Babić, MD Nina Prosinečki, MSW Matija Martinić, student **Moderator:** **Asst. Prof. Dorja Vočanec, MD, PhD**
18.00 - 20.00	Buffet Dinner	17.00 - 18.30	Workshop 1	17.00 - 18.30	Workshop 3	16.30 - 17.00	Closing Ceremony
		18.30 - 20.00	Workshop 2	18.30 - 20.00	Workshop 4		
		20.30 - 23.00	Pub Quiz	21.00 - 2.00	Gala Dinner	23.00 - 5.00	MEF Spring Party

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Hall	APRIL 14TH, 17.00-18.30	Workshop
WICKERHOUSER	AMBOSS	**Mastering Clinical Excellence with AMBOSS: From Evidence to Practice**
ŠERCER	CPSA	**Beyond the Hype: Evidence-Based Use of Dietary Supplements**
HIIM H1	FER	**Surface Electromyography for Non-invasive Assessment of Muscle Function**
AUDIO 4	Student Association for Medical Genetics and Metabolism	**CRISPR: Redesigning Life**
	APRIL 14TH, 18.40 - 20.00	
WICKERHOUSER	Speech-Language Pathology Student Society "Logomotiva", ERF	**Applied Speech-Language Pathology: Simulation in Medical Assessment and Treatment**
ŠERCER	Student Society for Anesthesiology, Reanimatology and Intensive Medicine	**Every Breath Your Patient Takes: Secure the Airway**
HIIM H1	Student Society of Neuroscience	**Brain Drop**
AUDIO 4	Stepp	**Designing Survival: A Structured Approach to Pre-hospital Trauma Management**

Hall	APRIL 15TH, 17.00 - 18.30	Workshop
WICKERHOUSER	Student society for Gynecology and Obstetrics	**Delivery Without a Delivery Room**
ŠERCER	Luka Oliš Workshop, KIFOS	**When Hands Speak**
AUDIO 4	Student Society of Gastroenterology and Hepatology	**Bloody Business: GI Bleeding 101**
	APRIL 15TH, 18.40 - 20.00	
WICKERHOUSER	Student Society of Cardiology	**ECG Essentials: From Zero to Hero**
ŠERCER	Student Society for Oncology and Immunology	**Saving Lives, Preserving Futures: An Introduction to Oncofertility**
AUDIO 4	Student Society for Pediatrics	**From theory to pulse: pediatrics BLS and ALS**
HIIM H1	Student Society for Surgery	**Back to Basics: Primary Wound Management**

Lecturers

Asst. Prof. Anja Kafka, PhD, MSc in Biology

PANEL DISCUSSIONS MODERATOR

The Stable Foundations

Assistant Professor Anja Kafka, PhD graduated in 2011 from the Faculty of Science (PMF), University of Zagreb, where she obtained the title of Master of Experimental Biology. She has been employed at the Department of Medical Biology, School of Medicine, University of Zagreb since 2012, initially as a research assistant, from 2018 as a senior assistant/postdoctoral researcher, and in 2022 she was appointed to the academic rank of Assistant Professor.

Her narrower scientific and professional interests include cancer genetics, the Wnt signaling pathway, the genetic basis of human brain tumors, mechanisms of tumorigenesis, epithelial–mesenchymal transition, tumor suppressor genes and oncogenes, and genomic instability of tumors of the central nervous system.

She is a co-author of 26 scientific papers published in internationally peer-reviewed journals. She has participated in more than 40 national and international scientific and professional conferences, including 8 invited lectures. She is the principal investigator of a University of Zagreb support project for 2024 and the NPOO research project "Synergistic inhibition of Wnt and Hedgehog signaling pathways as a strategy to overcome therapeutic resistance in glioblastoma and ovarian cancer" (SWITCH). She has also collaborated on 13 completed projects.

She has further advanced her expertise through numerous courses and workshops. She is the recipient of several scholarships and awards for participation in congresses, including the Dean's Award for scientific productivity during her postgraduate doctoral study in Biomedicine and Health in 2018. She has mentored three completed graduate theses and is currently supervising one doctoral dissertation in progress. With all mentored students, she has co-authored publications in international journals. She has also participated in several science popularization workshops as part of the Festival of Science.

She is a member of various scientific and professional organizations (HDIR – EACR; HDN – FENS; HDBMB – FEBS; DKGH – ESHG). Since her employment, she has continuously fulfilled a full teaching load and has successfully introduced new teaching content in molecular biology and molecular medicine. She is also the author of several chapters in the new textbook Medical Biology (Medicinska naklada, Zagreb, 2024; editor Nives Pećina-Šlaus).

Prof. Oliver Vugrek, PhD

Hidden Genetic Risk: What Your Genome Really Says About Your Future Health

Oliver Vugrek (OV) graduated in biology from the Albert Einstein University in Ulm (Germany) in 1992, and in 1995 obtained his PhD in natural sciences from the Karl Ruprechts University in Heidelberg (Germany). After postdoctoral training at the Max Planck Institute for Cell Biology, he was awarded a two-year postdoctoral fellowship at the Australian National University (ANU) in Canberra. In 1999, he joined the Ruđer Bošković Institute (RBI) as an assistant, and in 2006, he established his own laboratory. From 2012 to 2015, he was appointed Head of the Department of Molecular Medicine. In 2018, he attained the rank of Scientific Advisor. Currently, he heads the Laboratory for Advanced Genomics as a Tenured Scientific Advisor at the RBI.

It is worth mentioning that OV has led 15 research projects (at EU, national, and international levels). His greatest achievement to date is the European FP7 project InnoMol, the largest project ever conducted in Croatia in the field of natural sciences, with a budget of 4.8 million euros. The InnoMol project enabled the establishment of the then-most-advanced genomic next-generation sequencing platform and the advancement of genomic research at the RBI, fostering cancer diagnostics in collaboration with Croatian university hospital centers.

OV actively participates in academic activities and has been a member of the FEBS Fellowship Committee and the Croatian Science Foundation.

Since 2019, he has been the national representative of the special group 'Signatories of the Declaration of Cooperation "Towards access to at least 1 million sequenced genomes in the EU by 2022"', and since 2022, he has been the national representative of the Republic of Croatia in the 1+MG WG12 Genome of Europe (GoE) working group at the European Commission.

OV organized the International Conference 'Game of Epigenomics', April 24–28, 2016, Dubrovnik, Croatia, as well as several workshops and mini-symposia at the RBI. He is also involved in teaching activities for postgraduate studies at the Faculty of Science and the School of Medicine in Zagreb. In 2022, he was promoted to the titular scientific-teaching rank of Full Professor in the scientific field of Biomedicine and Health at the University of Rijeka.

To date, he has mentored 5 doctoral dissertations and 7 master's theses. Other activities include membership in RBI boards, Croatian societies, and editorial boards of scientific journals.

In 2010, he received the RBI Director's Annual Award for outstanding scientific achievements. To date, OV has published >50 papers, of which 46 are peer-reviewed papers with a total of 1152/1182 citations (WoS/SCOPUS) and an h-index of 15.

Asst. Prof. Maja Baretić, MD, PhD

University surrounding as an risk factor for weight gain

Assistant Professor Maja Baretić, MD, PhD is a consultant endocrinologist, diabetologist, and specialist in internal medicine at the University Hospital Centre Zagreb, Croatia. Her clinical and research work focuses on diabetes mellitus, the integration of emerging technologies in healthcare, and the evolving role of innovation in modern medicine. She has a strong clinical focus on diabetes in pregnancy, obesity, cystic fibrosis-related diabetes, and thyroid disorders. Dr. Baretić leads the Croatian Obesity Treatment Referral Centre, which is recognised as a Collaborating Centre for Obesity Management by the European Association for the Study of Obesity. She holds the title of European Obesity Fellow. In addition, she is an active member of the Croatian EUGOGO team (European Group on Graves' Orbitopathy). Her research has been published in leading international journals including The Lancet, Nature, and Nature Medicine. She has also presented the outcomes of her work at the European Parliament and the World Health Organization. In 2023, her project "Communication in Obesity" was recognised as the Best Collaborative Project of World Obesity Day Europe. Dr. Baretić serves on the boards of the member of Clinical committee of European society of Endocrinology. She is also one of the editors of the health portal HealthMed.

Asst. Prof. Danijela Petković Ramadža, MD, PhD

Vitamin B12 in children in health and disease

Danijela Petković Ramadža, MD, PhD, is a pediatrician and consultant in inherited metabolic diseases at the Department of Pediatrics, University Hospital Centre Zagreb. She is a Senior Research Associate and Assistant Professor at the School of Medicine, University of Zagreb. She serves as President of the Section for Metabolic Diseases and is a Board Member of the Croatian Pediatric Society.

Prof. Tina Dušek, MD, PhD

PANEL DISCUSSION MODERATOR

The Calm Mind

Having graduated from School of Medicine, University of Zagreb, Tina Dušek pursued her career as a specialist of internal medicine with subspecialization in endocrinology and diabetology. Currently working at the Department of Endocrinology and Diabetology, Clinic for Internal Medicine, University Hospital Centre Zagreb, she finished part of her subspecialty training at the Endocrinology Department of The Christie Hospital NHS Trust in Manchester, England. She is also an Associate Professor at the University of Zagreb, School of Medicine, participating in teaching internal medicine to medical students, and has been the head of the Department of Internal Medicine since 2022. Her specific areas of interest in endocrinology are pituitary and adrenal gland diseases and gynecological endocrinology. At Harvard Medical School, she completed the

Alen Juginović, MD

Sleep as the Foundation of a Calm Mind: What Happens in the Brain When We Sleep — and When We Don't

Dr. Alen Juginović is a physician and researcher at Harvard Medical School and Massachusetts General Hospital, where he specializes in the neurobiology of sleep and the clinical diagnosis of sleep disorders. His work encompasses translational research that bridges basic science with everyday clinical practice, with a focus on understanding how sleep quality affects health and longevity. He particularly studies the role of the gut microbiome, identifies biomarkers in clinical samples such as blood and urine, and develops innovative therapeutic approaches with the potential to transform how sleep disorders are diagnosed and treated.

In his clinical work, Dr. Juginović focuses on the comprehensive assessment and treatment of complex sleep disorders, including insomnia, sleep apnea, narcolepsy, parasomnias, and rare conditions resistant to standard therapies. He places special emphasis on sleep disorders associated with neurological diseases, applying a multidisciplinary approach in collaboration with leading experts. This combination of clinical experience and scientific research provides him with a unique perspective in his approach to each patient.

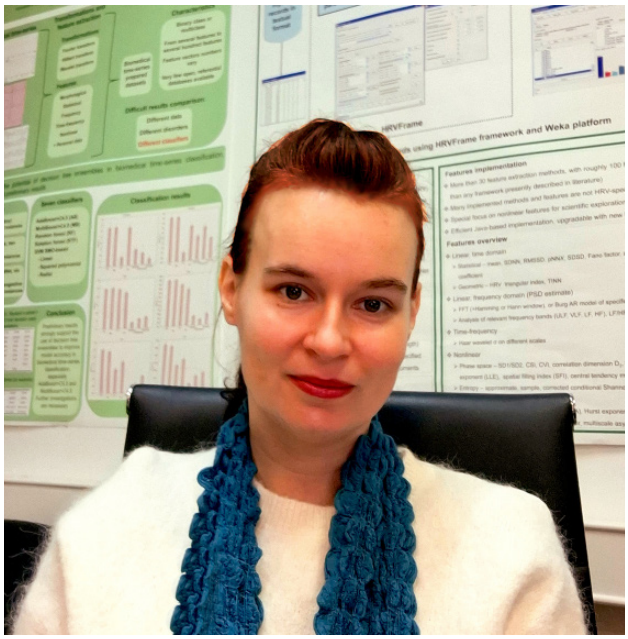
Beyond clinical medicine, he actively collaborates with elite sports organizations and clubs, helping athletes optimize their cognitive and motor performance by improving sleep quality. Through the study of athletes' sleep patterns and the application of evidence-based, personalized interventions, he significantly contributes to the development of sports medicine and performance. In this way, he positions sleep not only as a foundation of health, but also as a key factor in achieving peak performance.

Dr. Juginović is the author of the textbook Sleep Science Made Simple and a member of the editorial board of the prestigious Journal of Clinical Sleep Medicine. He regularly lectures at international conferences and publishes in leading scientific journals, and his research and expert commentary have been featured in global media such as The New York Times and Forbes. Alongside his strong academic and clinical engagement, he is also dedicated to science communication and mentoring young researchers and physicians, building a bridge between science, medicine, and society.

Mirta Fraisman Čobanov, MBA, MSc in Economics, Psychotherapist

Stress Is Normal — Coping Is a Skill: Psychological Tools for Daily Practice

Mirta Fraisman Čobanov graduated in 2001 with a degree in Economics from the Faculty of Economics and Business in Zagreb, majoring in Finance. Shortly thereafter, in 2004, she obtained an "Executive Certificate" as part of her MBA studies at Henley Management College in London. She began her professional career at KPMG and continued at HBOR (Croatian Bank for Reconstruction and Development), where she launched an internal education project within the Human Resources department. She trained 12 internal trainers and successfully led the internal education academy for five years. Due to growing interest in the field of human resource development, in 2007 she began training in Humanistic Neuro-Linguistic Psychology, which she completed in 2009, earning the title of Trainer and Coach of Humanistic Neuro-Linguistic Psychology through studies in Arizona, USA. In 2010, she founded the Partus Center for Education and Counseling and traveled to New York (USA), where she earned the title of Certified Hypnotherapist, recognized by the American Board of Hypnotherapy. At the same time, she enrolled in a five-year study program in the field of psychodrama, which she successfully completed, earning the title of Psychodrama Psychotherapist. In 2011, she obtained a Management Trainer & Business Coach certificate at EBWK Management School Munich, and a year later, she enrolled in a two-year study program in the field of "Clinical Expressive Art Therapy," which she successfully completed in 2014. From 2010 to 2013, she attended annual supervision in the field of Generative Coaching with the renowned American psychologist and psychotherapist Dr. Stephen Gilligan, where she learned how to apply the latest knowledge and models from the field of neuroscience to business, psychotherapy, and coaching. She has conducted more than 1,000 lectures and educational training sessions in the field of business and personal growth and development, and has over 4,500 hours of individual work with clients. Over 15 years, she has led 36 groups through one-year education programs in the New Code Leadership methodology, and a total of 380 certified NCL practitioners and NCL coaches have completed their training under her supervision. She also conducts training sessions abroad, including a leadership training session she held in New York City for members of the General Electric company.



Asst. Prof. Nikolina Frid, PhD

Interpretable Artificial Intelligence for Affective Disorders

Nikolina Frid, PhD, is an Assistant Professor at University of Zagreb Faculty of Electrical Engineering and Computing (FER). Her research focuses on applied machine learning, particularly in biomedicine, health informatics, and optimization. She has published in established peer-reviewed international journals and conferences and serves as a reviewer for publications in these fields. She is a member of several conference program committees and has been an editor for the CIT. Journal of Computing and Information Technology since 2022. Nikolina has contributed to national and international research projects, with a focus on biomedical and health informatics, as well as optimization. She is an active member of the IEEE.

Jakša Vukojević, MD, PhD

SPECIAL PANEL DISCUSSION PARTICIPANT

The Calm Mind

Jakša is a specialist in psychiatry with a PhD in neuroscience and is currently pursuing a subspecialization in biological psychiatry. He earned his medical degree from the University of Zagreb School of Medicine and currently works in the Department for Diagnostics and Intensive Care at the "Vrapče" Psychiatric Hospital.

Actively engaged in research, he began his research in pharmacology and molecular pathology, and his scientific interests are now predominantly in digital psychiatry. He is the author of several dozen scientific publications and has completed courses in stress, statistics, and data science. Beyond clinical and research work, Jakša has contributed to mental health app development and market research consulting, applying his expertise to interdisciplinary initiatives.

Prof. Nadira Duraković, MD, PhD

PANEL DISCUSSION MODERATOR

The Right Fuel

Nadira Duraković is board certified in Internal Medicine and Hematology, currently working as an attending physician in Bone Marrow Transplantation Unit at the University Hospital Centre Zagreb. She is also a professor of Internal Medicine at the University of Zagreb School of Medicine.

She graduated from the University of Zagreb Medical School in May 2000. Soon after graduation she took position of a post-doctoral research fellow at Johns Hopkins University in Baltimore, MD, USA, where she worked on translational projects in the field of transplantation immunology. Transplanted a lot of mice in her time there, but the experience determined her interest in biology of stem cell transplantation and instigated her love and admiration for T cells.

She appreciates educating and mentoring students and younger colleagues, as she firmly believes that it is the duty of every physician to teach and to share knowledge, both with students as with patients and public. Health education empowers individuals with the knowledge and skills to make informed decisions, prevent diseases, and promote overall well-being, ultimately contributing to a healthier and more informed society.

Assoc. Prof. Iva Hojsak, MD, PhD

Nutrition in Newborns: Shaping Lifelong Health

Iva Hojsak is a pediatric gastroenterologist and the Director of the Children's Hospital Zagreb. She graduated and defended her doctoral dissertation (PhD) at the School of Medicine, University of Zagreb. She is the author of more than 220 scientific and professional papers and is actively involved in more than 15 national and international research projects. Due to her scientific contribution, she has been included among the top 2% of the most cited scientists in the world according to the Stanford University ranking list.

In addition to the above, she holds the position of Vice President (General Secretary) of the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN), is a member of the ESPGHAN Porto IBD Group, and the pediatric section of the European Crohn's and Colitis Organisation (ECCO). From 2017 to 2020, she served as a member of the ESPGHAN Council as the Secretary for Education, and was a member of the ESPGHAN Committee on Nutrition from 2016 to 2020. She is the Deputy Editor-in-Chief of the journals Journal of Pediatric Gastroenterology and Nutrition (impact factor 2.839) and Clinical Nutrition (impact factor 6.6). Her main clinical and research interests include inflammatory bowel disease, intestinal failure, clinical nutrition, and probiotics.

Prof. Darija Vranešić Bender, PhD, Clinical Nutricionist

Nutraceuticals and AntiAging: Can Food Really Slow Down Aging

Prof. Darija Vranešić Bender, PhD, a clinical nutritionist, graduated from the Faculty of Food Technology and Biotechnology in Zagreb. She obtained her doctoral degree (PhD) in 2005 in the field of biotechnical sciences. In 2024, she was elected to the title of Professor at the Faculty of Food Technology and Biotechnology in Zagreb in the scientific field of nutrition, specifically in the area of diet therapy.

She is the Director of the company Vitaminoteka d.o.o., Zagreb, for nutrition consulting, and is also employed as a nutritionist at the University Hospital Centre Zagreb (KBC Zagreb) in the Department of Clinical Nutrition. Her primary areas of interest include clinical nutrition and diet therapy for digestive system diseases, as well as the supplemental use of micronutrients and other biologically active food compounds. She teaches diet therapy and clinical nutrition at the School of Medicine and the Faculty of Food Technology and Biotechnology, University of Zagreb. She is the author and co-author of numerous published scientific papers, guidelines, textbooks, books, and chapters in books, textbooks, and manuals. She has participated in the initiation and organization of a series of professional and scientific congresses, conferences, workshops, and courses. She is a coordinator and leader of public health projects aimed at education on proper nutrition. She has participated as an expert collaborator on several scientific research projects both in Croatia and abroad.

She is the President of the Croatian Society of Nutritionists and Dietitians (HDND), as well as the Vice President of the Croatian Society for Clinical Nutrition of the Croatian Medical Association, and a member of the Committee for Education and Clinical Practice of the European Society for Clinical Nutrition and Metabolism (ESPEN).

Prof. Anet Režek Jambrak, PhD

The Future of Food: Designing Sustainable and Healthy Lives

Prof. Anet Režek Jambrak, PhD is a Professor at the Faculty of Food Technology and Biotechnology, University of Zagreb, Croatia. She obtained her PhD in 2008, with a doctoral thesis titled *Effect of ultrasound on physical and functional properties of whey proteins*. She completed professional training abroad at Coventry University in the UK and at the University of Avignon in France. She holds the rank of Full Professor (since 2018) and Scientific Advisor (tenured) since 2017 – food engineering (biotechnical sciences). Since 2019, she has been the Head of the Laboratory for Sustainable Development.

Her research areas include: non-thermal techniques, advanced thermal techniques, sustainability, food processing, Industry 4.0, digitalization, food chemistry, food physics, etc. Since 2007, Anet Režek Jambrak has published over 130 significant scientific papers with more than 9,800 citations (h-index 51) and is the author of numerous book chapters for renowned scientific publishers such as Wiley, Elsevier, Springer, etc. She is the editor of the book *Nonthermal Processing in Agri-Food-Bio Sciences: Sustainability and Future Goals*; Springer Nature Switzerland AG 2022. She has been invited to more than 50 conferences as an invited or keynote speaker and has participated in many panels and workshops. From 2003 to the present, she has attended numerous lectures, professional and scientific workshops, training sessions, and expert lectures (thermal analysis, non-thermal processing, additive technologies, digitalization, sustainability, etc.). In 2021, she completed the EIT Food Executive Academy.

She is the recipient of many awards and recognitions: 2022 Food Sustainability Idea/ Concept Development Competition (IUFOST and Singapore Food Agency): „Additive manufacturing in capsules development filled with by-product plant material extracts obtained by energy efficient low carbon emission technique" - 2nd prize; in 2021, she received the Emerging Sustainability Leader Award from the MDPI Sustainability Foundation; in 2019, she was included in the Highly Cited Researcher list, among the top 0.1% of world scientists. She received the National Science Award in 2009 for young scientists, and in 2019, the Annual Science Award for 2018 for exceptional scientific contribution from the Parliament of the Republic of Croatia, the Ministry of Science and Education, and the Government of the Republic of Croatia; in 2016, she was awarded the Young Scientist Award - International Union of Food Science and Technology (IUFOST), etc. Professor Anet Režek Jambrak is an editor of the official EFFoST journal, Journal of Food Quality, Wiley, and an editor for the journal Trends in Food Science and Technology, Elsevier. She is one of the editors of the journal Food Engineering Reviews, Springer Nature, and one of the editors of the journal CyTA – Journal of Food, Taylor and Francis.

She is a member of the Alumni Global Young Academy (GYA), the Young Academy of Europe (YAE); the European Federation of Food Science and Technology (EFFoST), and the International Academy of Food Science and Technology (IAFoST).

Asst. Prof. Dorja Vočanec, MD, PhD

PANEL DISCUSSIONS MODERATOR

Human in Society

Dorja Vočanec is an assistant professor at the Department of Social Medicine and Organization of Health Care at the University of Zagreb School of Medicine, Andrija Stampar School of Public Health.

She graduated from the University of Zagreb School of Medicine in 2016. In 2019, she completed a specialist Postgraduate study in Public Health Medicine at the University of Zagreb School of Medicine. In 2023, she completed her Postgraduate doctoral studies in Biomedicine and Health, with a dissertation focusing on the determinants of the long-term care integration process in Croatia based on a palliative care model. She became a specialist in public health in April 2024.

Dorja is one of the leading members of the Center for Health Systems, Policies and Diplomacy at the University of Zagreb School of Medicine. Within this role, she actively participates in various professional and research projects focusing on health system organization and management, policy analysis, optimization of healthcare delivery, and the development of policy and strategic documents. She also engages in initiatives aimed at enhancing business processes within healthcare systems at international, national, regional, and local levels. In her project collaborations, she works closely with governmental organizations, healthcare and social welfare professionals, and non-governmental organizations dedicated to healthcare issues.

Additionally, she is an active member of the Croatian project team for the European Observatory on Health Systems and Policies, and, since 2018, the President of the NGO Partnership-Information-New Progress for Health Association (PIN for Health).

Sebastijan Orlić, PhD, Sports Nutricionist

Blue Zones and Beyond: What Makes Some Populations Live Longer

Sebastijan Orlić – PhD in Engineering Chemistry in the field of biotechnology, certified sports nutritionist, and gym fitness instructor. Founder of the "Kvaliteta života" (Quality of Life) project, through which he uses an interdisciplinary approach to educate the public on nutrition, supplementation, and a healthy lifestyle, with a special emphasis on performance, longevity, and vitality. Team specialist at the company GlycanAge (biological age testing), sports nutritionist of the CIRSP team at the Croatian Olympic Committee and at the Kaliper Polyclinic, expert collaborator at the Breyer Polyclinic, and lecturer at the Faculty of Kinesiology, Zagreb and the Fitness Academy, Zagreb. Co-owner of the women's recreation studio "2xtjedno," Zagreb and scientific advisor at the Yunara Life Longevity Clinic, Long Island, New York.

Katarina Babić, MD

Integrative Medicine: Bridging Evidence-Based Care and Holistic Health

Dr. Katarina Babić is a medical doctor and psychotherapist-in-training dedicated to whole-person, integrative care. She is an Integrative Medicine Fellow at the Andrew Weil Center for Integrative Medicine at the University of Arizona, with additional training in yoga and other mind–body approaches.

Her background bridges conventional medicine with psychotherapy, clinical psychoneuroendocrinoimmunology, and Eastern mind–body practices. She is particularly interested in the psychophysiological mechanisms of health and disease, and the integration of mental health, nervous system regulation, and lifestyle medicine into clinical care.

Dr. Babić focuses on community-based integrative care, including group programs and education, and has supported underserved and refugee populations through Médecins du Monde, shaping her commitment to accessible and culturally sensitive healthcare.

Nina Prosinečki, MSW

Beyond Medical Treatment: Social Work in Hospital Care

Nina Prosinečki was born on December 19th, 1979., in Zagreb. She completed her secondary education at IX. Gymnasium and graduated from the University of Zagreb Faculty of Law, Study Centre of Social Work. She began her professional career in 2004. as an intern at the University Hospital Centre Zagreb, Clinic for Psychiatry, while simultaneously completing additional training with the Croatian Association for Reality Therapy, where she obtained certification as a counselor. After completing her internship, she continued working at the same clinic, and since 2010. she has been employed within the Department of Social Work, serving as Head of Department since 2018.

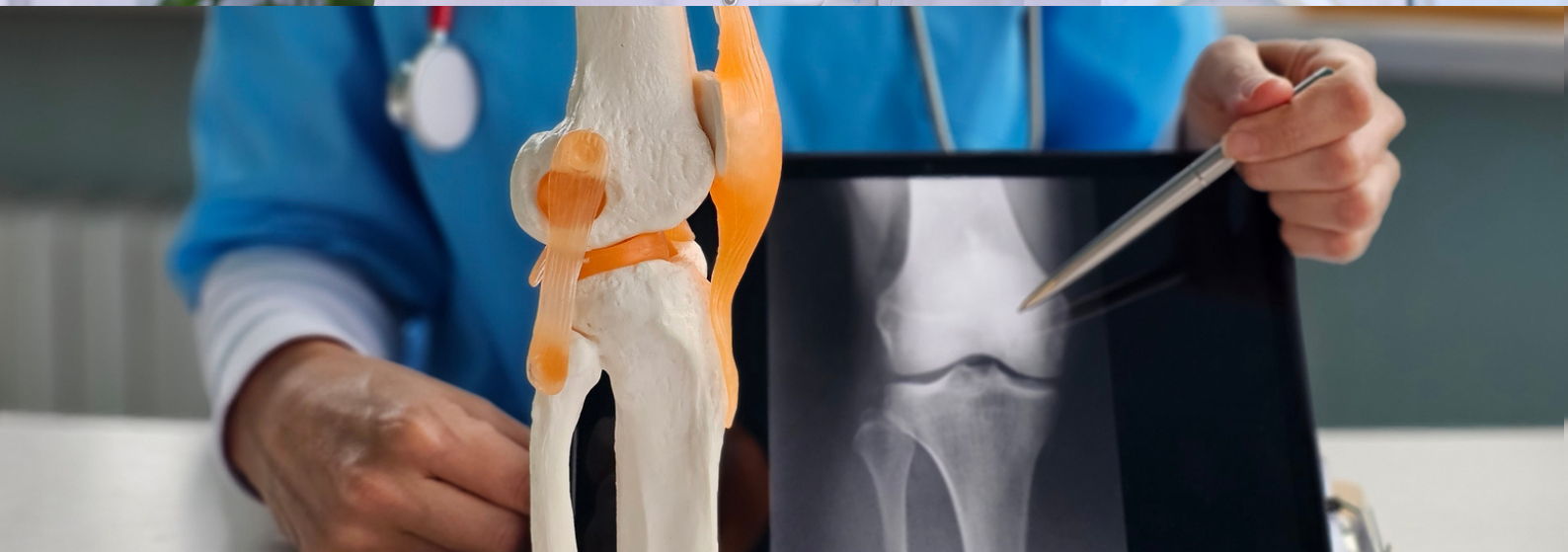
From 2018. to 2021., she served as President of the Section of Social Workers in Healthcare within the Croatian Chamber of Social Workers. She has maintained long-term collaboration with the Study Centre of Social Work as a supervisor of practical training in the hospital setting for the course *Basics of Counseling*, and also participates as a guest lecturer in the courses *Social Work in Healthcare* and *Social Work with Individuals*.

She has participated in international mental health projects, including RECOVER-E (2018–2022), focused on implementing a community-based collaborative care model for persons with severe and persistent mental disorders using mobile teams, and EU-PROMENS (2024–2026), a capacity-building program in mental health within the EU4Health framework, emphasizing professional knowledge exchange based on EU practice.

During her professional career, she has developed particular interests in group work with patients with personality disorders, liaison medicine, transplant social work, and work with hematology patients and individuals undergoing hemodialysis. In line with these interests, she regularly participates in professional lectures, seminars, symposia, and educational programs. She also serves as a mentor to social work trainees completing part of their internship in hospital settings from social welfare institutions.

Her professional focus is directed toward developing integrated care models, strengthening interdisciplinary collaboration in healthcare, and improving the quality of psychosocial support for patients.

Workshops



MASTERING CLINICAL EXCELLENCE WITH AMBOSS: FROM EVIDENCE TO PRACTICE

AMBOSS Medical Knowledge Platform for Doctors and Students

Zlatan Ibradžić, MD, Elena Veljkova, MD

This interactive 80minute workshop introduces medical students and physicians to the AMBOSS medical knowledge platform, a powerful clinical decision support and learning tool designed for everyday practice. Participants will explore the platform's comprehensive features — including a vast medical library, clinical reference tools, evidence-based decision support, differential diagnosis functions, management checklists, clinical calculators, and an integrated drug database — demonstrating how AMBOSS supports high-quality patient care and lifelong learning.

The session will also highlight advanced capabilities such as AI-assisted clinical search and insights, allowing users to rapidly access relevant evidence and up-to-date recommendations at the point of care. Physicians will get hands-on experience navigating clinical cases focused on chronic disease management and lifestyle interventions, applying AMBOSS tools to real-world decision-making.

Led by Dr. Zlatan Ibradzic, Dr. Elena Veljkova and Manish Bajaj from AMBOSS, this workshop blends platform walkthroughs, interactive case discussions, and quizzes designed to reinforce practical skills. By the end of the session, participants will be equipped with strategies for efficiently integrating AMBOSS into clinical workflows, improving diagnostic confidence, and making evidence-based decisions with greater speed and clarity.

BEYOND THE HYPE: EVIDENCE-BASED USE OF DIETARY SUPPLEMENTS

Croatian Pharmacy Student Association (CPSA)
Ana Galić, Ana Palavra, Prof. Dubravka Vitali Čepo, PhD

The workshop is intended for healthcare professionals and specialists interested in the practical application of diet therapy for common clinical conditions and complaints. Through an interactive approach, clinical cases of patients will be presented, including diagnoses such as polycystic ovary syndrome, menstrual cramps, acne, insomnia, Hashimoto's thyroiditis, anti-aging supplement use, and similar examples. Each case will include a brief anamnesis, symptom presentation, and intervention proposals based on recent clinical studies.

Special emphasis is placed on the application of dietary supplements with proven efficacy for the mentioned diagnoses and complaints, along with discussions on safety, potential interactions, and individualized approaches to patients. Participants will be divided into groups to gain practical skills in selecting appropriate supplements, dosing, and integrating diet therapy into daily clinical practice.

SEMG IN PRACTICE: RECORDING, PROCESSING AND INTERPRETING MUSCLE SIGNALS

University of Zagreb, Faculty of Electrical Engineering and Computing,

Laboratory for Biomedical Electronics

Matea Čunović, 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).

CRISPR: REDESIGNING LIFE

Student Association for Medical Genetics and Metabolism

Chiara Krtak, Marko Krklec, Lucija Kršlović, Laura Vinković, Prof. Ljiljana Šerman, PhD

Through a guided simulation of actual gene-editing workflows, participants in this workshop will learn about the fundamentals of CRISPR-based genome editing. Working in smaller groups, participants will identify a genetic target based on a clinical case, choose a guide RNA and perform a simulated CRISPR-Cas9 cut on a DNA sequence. They will determine how the cell repairs the damage after the DNA break and examine the molecular and phenotypic consequences of their choices. By simulating every step of the CRISPR process, from target selection to DNA repair, this workshop will show both the strengths and limitations of CRISPR technology while promoting conversations about its role in the idea of designing the good life.

APPLIED SPEECH-LANGUAGE PATHOLOGY: SIMULATION IN MEDICAL ASSESSMENT AND TREATMENT

Speech-Language Pathology Student Society "Logomotiva"

Josipa Dževrnja-Viro, Diana Firkelj, Prof. Tatjana Prizl Jakovac, PhD, Ana Došen, MSc in Speech and language therapy

This workshop will cover a brief intro to theoretical background on aphasias and neurogenic communication disorders and show students that knowledge is applied in the healthcare system. The practical part – simulations and scenarios inspired by real-life cases and aphasia categories – will challenge students to think through the lens of a speech-language pathologist: a different view on diagnosing and the perspective of therapy and rehabilitation.

EVERY BREATH YOUR PATIENT TAKES: SECURE THE AIRWAY

Student Society for Anesthesiology, Reanimatology and Intensive Medicine

Tin Plaftak, Kristina Jurakić, Patricia Šušak, Katarina Židov, Assoc. Prof. Daniela Bandić Pavlović, PhD

This workshop provides a comprehensive, hands-on introduction to airway management - one of the most critical skills in anesthesiology, emergency medicine, and intensive care. Through a concise, structured lecture, participants will be introduced to the fundamental principles of airway management, including indications, contraindications, and decision-making algorithms for both routine and difficult airway scenarios. The theoretical component is followed by an intensive hands-on training session using simulation models. Participants will practice bag-mask ventilation, placement of an oropharyngeal airway and I-gel, use of a laryngeal mask airway, endotracheal intubation with a tube, as well as techniques of direct and video laryngoscopy. Special emphasis is placed on fiberoptic intubation, recognized as the gold standard for managing the difficult airway. The goal of the workshop is to build confidence, precision, and competence in securing the airway across a wide range of clinical situations.

BRAIN DROP

The Student Society of Neuroscience
Lucija Grbin, Dora Pavlin, Andrija Ivan Batinić, Ema Bogdan, Mario Zelić, MD

In our workshop, attendees will be able to become neurologists/neurosurgeons for one day as they will try to take a sample of cerebrospinal fluid by doing a lumbar puncture. They will learn about the importance of aseptic practice in general, but especially why it is important when doing a lumbar puncture. They will also learn about the risks of doing this procedure, as well as the benefits for the patient who needs one. In the beginning of the workshop, we would like to present a small presentation about the lumbar puncture to explain the basics before practising on the model.

DESIGNING SURVIVAL: STRUCTURED APPROACH TO PRE-HOSPITAL TRAUMA MANAGEMENT

StEPP Associtation

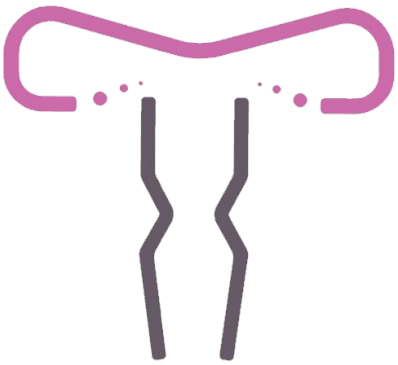
Lucija Karlušić, Ana Lovrić, Lara Maričić, Andro Petrović, Beatriče Bogdanović, MD

This workshop emphasizes that a patient's future quality of life is designed through rapid and systematic identification of life-threatening conditions, where precision in the first minutes of trauma care sets the foundation for long-term well-being and the prevention of permanent disability. Guided by this principle, the StEPP Association aims to equip participants with essential competencies for the initial assessment and pre-hospital management of severely injured trauma patients.

The workshop will begin with a simulation in which StEPP instructors assume the roles of an emergency medical team(physician, medical technician, ambulance driver) to illustrate the real-time application of the trauma assessment algorithm using the "DR ABCDEFGH" mnemonic. After the demonstration, each step of the algorithm will be systematically reviewed, with emphasis on its clinical relevance and proper execution. Participants will then practice the algorithm individually under close instructor guidance. In the second part of the workshop, participants will be organized into emergency response teams and challenged to apply their newly acquired skills in simulated trauma scenario. This structured, hands-on approach allows participants to rotate through professional roles, engage in clinical decision-making, and receive immediate, targeted feedback from instructors.By offering immediate feedback and encouraging a structured approach to trauma care, this workshop helps bridge the gap between undergraduate theoretical knowledge and effective clinical practice.

Ultimately, it highlights that mastery of these essential skills is crucial for improving patient outcomes and ensuring that trauma victims have the best possible chance for a functional life and good long-term quality of life.

DELIVERY WITHOUT A DELIVERY ROOM



Student society for Gynecology and Obstetrics, School of Medicine, University of Zagreb, Croatia

Ana Milas, Fani Čeović, Lucija Cvitak, Aya El-Hajj, Elena Cahun, MD

Out-of-hospital childbirth is an unpredictable event that requires prompt decision-making and practical clinical skills. This workshop is designed to prepare medical students for managing childbirth outside the hospital environment, where resources may be limited and time is critical. Under the guidance of a specialist in gynecology and obstetrics, participants will gain insight into the stages of labor, indications for urgent intervention, and principles of maternal and neonatal stabilization. Practical training will be conducted using a childbirth simulation model, complemented by case-based presentations and demonstrations delivered by members of the leadership of the Student Society for Gynecology and Obstetrics. The workshop aims to build confidence, situational awareness, and preparedness for real-life emergency scenarios involving out-of-hospital delivery.

WHEN HANDS SPEAK

Student Science Section at the Faculty of Kinesiology in Osijek

Luka Oliš, Assist. Prof. Petar Šušnjara, PhD

How critical is fast and accurate communication when deaf individuals interact with the healthcare system, whether in a waiting room, a clinic, or a hospital? For deaf people, access to care, understanding instructions, and making informed decisions are often hindered by communication barriers. This dynamic workshop bridges medicine and the deaf community, offering practical tools for inclusive communication in various environments. By mastering basic signs and communication strategies, you will learn how to communicate clearly, confidently, and respectfully with deaf individuals without relying on your voice.

BLOODY BUSINESS: GI BLEEDING 101

Student Society of Gastroenterology and Hepatology

Lukas Grbac Lacković, Marija Sara Marić, Petra Forić, Maša Gašparović, Prof. Anna Mrzljak, PhD

In this workshop, you will learn how to examine and diagnose a patient with suspected gastrointestinal (GI) bleeding. Using a digital rectal examination (DRE) simulator, you will perform a rectal exam and learn how different findings point toward specific diagnoses. By integrating these findings with the patient's history, you will quickly develop a focused differential diagnosis.

The workshop will include multiple clinical cases, ranging from simple to more challenging, allowing you to test your knowledge and compete with fellow students while exploring this essential clinical topic.

ECG ESSENTIALS: FROM ZERO TO HERO

Student Society of Cardiology
Katarina Arbanas, Petra Bašić, Borna Burić,
Assoc. Prof. Matias Trbušić,
MD, PhD

This workshop offers a practical and structured approach to ECG interpretation using the FROHI interpretation system, a step-by-step method that simplifies the ECG analysis. After an introduction on a systematic approach to interpretation, participants will work through approximately 15 clinically relevant cases covering the most common and high-yield diagnoses, providing them with an invaluable experience for future doctors.

To apply and test their ECG interpretation skills, this workshop will feature an interactive Mentimeter presentation (featuring various question types, including multiple-choice, open-ended, and ranking questions) based on the presented cases, helping participants sharpen their clinical skills and confidence in ECG analysis. This hands-on approach actively engages students in experimental learning, building a strong foundation for managing cardiology diagnoses.

As part of the CROSS21 "Designing the Good Life" workshop program, this workshop highlights how mastering ECG interpretation and making informed clinical decisions contribute to patients' well-being, helping to shape competent and empathetic future doctors and laying the foundation for a "good life" in medical practice. Also, this form of workshop represents a continuation of the long-standing workshop tradition of popular ECG workshops organized and held by the Student Society of Cardiology.

SAVING LIVES, PRESERVING FUTURES: INTRODUCTION TO ONCOFERTILITY

Student Society for Oncology and Immunology

Paula Đozić, Tomislav Ivanović, Tina Šepl, Lovro Balen, Prof. Natalija Dedić Plavetić, MD, PhD, Prof. Davor Ježek, MD, PhD

Oncofertility is an emerging interdisciplinary field bridging oncology and reproductive medicine, addressing a key quality-of-life issue in young cancer patients: future fertility. With improving cancer survival rates, particularly in younger patients, fertility preservation has become an essential component of cancer care. This workshop will provide medical students with a practical, clinically relevant overview of oncofertility. Participants will learn how chemotherapy, radiotherapy, and surgical treatments affect gonadal function in both male and female patients. The workshop will cover established fertility preservation methods, including sperm cryopreservation, oocyte and embryo freezing, and ovarian tissue cryopreservation, as well as emerging experimental approaches.

Participants will be divided into groups and given two clinical cases (male and female), for which they will develop both a therapeutic and fertility-preserving treatment plan. Special emphasis will be placed on timing of interventions, ethical considerations, counseling strategies, and multidisciplinary collaboration between oncologists, gynecologists, urologists, and reproductive specialists. Case discussions will highlight decision-making in urgent oncologic settings and demonstrate effective communication of fertility risks.

By the end of the workshop, participants will understand the biological basis of treatment-related infertility, recognize candidates for fertility preservation, and understand the importance of early referral and patient-centered counseling. The workshop aims to equip future physicians with the knowledge and confidence to advocate for fertility preservation as an integral part of modern oncologic care.

FROM THEORY TO PULSE: PEDIATRICS BLS AND ALS

Student Society for Pediatrics
Anja Kovačić, Petra Bolt, Veronika Karla Barišić, Prof. Jurica Vuković, MD, PhD

The workshop *'From theory to pulse: pediatrics BLS and ALS'* is focused on acquiring theoretical knowledge and practical skills in basic (BLS) and advanced life support (ALS) for infants and children. Through simulation of real-life scenarios, participants will master team work, and practice the correct assessment of vital functions and performance of resuscitation according to the pediatric BLS protocol. Medication administration and the pediatric ALS protocol will be covered only theoretically. The goal of the workshop is to educate and prepare students to respond safely and promptly in emergency pediatric situations. The practical part of the workshop will be shown on a 6-month-old resuscitation model.

Abstracts

Abstracts list

Case Reports

CR1
From Giving Life to Facing Death: Refractory Septic Shock in Pregnancy With Alpha-1 Antitrypsin Deficiency
Marko Roso, Lara Rončević, Ivana Haršanji Drenjančević

CR2
Cervical Vasovagal Shock
Paula Đozić, Dominik Čačija, Roko Ćuk, Ena Frkin, Krešimir Reiner

CR3
Autoimmune Encephalitis in Adolescent Female
Martina Tolo, Dora Težak, Lorna Stemberger Marić

CR4
TIA or Stroke? MRI-Confirmed Acute Ischemic Stroke in a High-Risk Patient with Patent Foramen Ovale
Jana Jelenić, Matea Kostić, Andrea Kostić, Sven Lasta

CR5
Managing Multiple Sclerosis in the Setting of Concurrent Autoimmune Diseases: A Case Report
Iva Predovan, Niko Jukić, Anja Ritz, Lucija Ribić, Ivan Martinez

CR6
Transitory Hydrocephalus After Ventriculoperitoneal Shunt
Sara Perić , Karla Periša , Korina Pervan , Katarina Starčević

CR7
When breast cancer reaches the sella: pituitary metastasis revealing endocrine collapse, a case report
Lucija Grbić , Ivan Škoro , Domagoj Dlaka, Andrea Blažević, Tonko Marinović

CR8
Unrecognized Myasthenia Gravis in a Patient With ACI Stenosis
Karla Periša, Sara Perić, Iva Pištelek, Katarina Starčević

CR9
Pancreatic Adenocarcinoma as a Leading Cause of Paraneoplastic Thromboembolic Events: A Case Report
Matea Kostić, Andrea Kostić, Jana Jelenić, Sven Lasta

CR10
Transforming Early MS Management: Ocrelizumab in a Young Adult With Highly Active Disease
Nina Rotim, Petar Krešimir Kes, Vanja Bašić Kes

CR11
Good Life Lost, or Is It? - Road to Recovery From Hemodialysis
Dina Dauti, Matija Crnogorac

CR12
Hemorrhagic Cerebral Venous Sinus Thrombosis in an Elderly Patient
Andrea Kostić, Matea Kostić, Jana Jelenić, Sven Lasta

CR13

Early-Onset and Rapid Progression of Gordon–Holmes Syndrome in a Patient With a History of Substance Abuse

Inga Jutriša, Lucija Gorički, Katarina Ivezić, Ivona Jutriša

CR14

Atypic Transient Perivascular Inflammation of the Carotid Artery (TIPIC) Syndrome

Klara Balog, Petra Kolundžić, Dora Domijan, Jana Vidić, Darija Mahović Lakušić

CR15

Targeting the Acoustic Nerve: A Rare Case of Lung Adenocarcinoma Metastases Treated With Gamma Knife

Domenika Jurčić, Ema Vrdoljak, Jakob Nemir

CR16

Juvenile Amyotrophic Lateral Sclerosis: Subtle Clinical Presentation and Implications Of Overlapping Genetic Mutations

Brooke Marie Jensen, Blanka Anna Belavic, Mirea Hancevic

CR17

Severe Lower-Leg Cellulitis Associated With Chemoradiotherapy in the Treatment of Hypopharyngeal Squamous Cell Carcinoma

Lara Mikulić, Laura Mihoković, Martina Mikulandra

CR18

Exceptional Radiosensitivity of Mandibular Gingival Squamous Cell Carcinoma After Palliative-Dose Radiotherapy: A Case Report

Laura Mihoković, Lara Mikulić, Martina Mikulandra

CR19

Acquired Hemophilia A as the First Presentation of Metastatic Breast Cancer

Vice Zubak, Dražen Pulanić

CR20

Targeted Therapy in BRCA2 Mutated HR+/HER2- Metastatic Breast Cancer

Ivo Todorić, Luka Trkmić, Tomislav Tokić, Tajana Silovski

CR21

Chronic Erdheim–Chester Disease: A Rare Abdominal Presentation

Korina Pervan, Sara Perić, Karla Periša, Tin Trobić, Inga Mandac Smoljanović

CR22

The Importance of Patient-Reported Quality of Life in Multiple Myeloma: A Real World Case Series

Tiyya Selimović, Nikolina Bajlo, Ivana Crkvenac, Matej Raguž, Duška Petranović

CR23

Intrinsic Motivation and Social Environment as Catalysts for Recovery in Pediatric Acute Lymphoblastic Leukemia With Chronic Graft Versus Host Disease

Hana Rajić, Nino Petroci, Ivan Bambir, Ernest Bilić, Zrinko Šalek

CR24

Diagnostic and Therapeutic Challenges in Severe Idiopathic Hypereosinophilic Syndrome: A Case Report

Ana Ćenan, Andrija Ćurić, Katerina Mijatović, Marin Međugorac

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Advanced High-Grade B-Cell Lymphoma Initially Presenting as Primary Cardiac Disease

Deni Miličević, Nina Beluhan, Mirjana Matić, Lucija Marić, Jozica Šikić

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Breast Tumor as a Rare Location of Extramedullary Relapse of Acute Lymphoblastic Leukemia – Case Report

Mia Maria Jurinjak, Nadira Duraković

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When Less Is More: Designing Better Lives Through Organ Preservation in Rectal Adenocarcinoma

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From Giving Life to Facing Death: Refractory Septic Shock in Pregnancy With Alpha-1 Antitrypsin Deficiency

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INTRODUCTION: Refractory septic shock remains one of the leading causes of death in an intensive care setting. Alpha-1 antitrypsin (A1AT) deficiency, a rare genetic condition, exacerbates the inflammatory response, thereby leading to life-threatening complications. Together, they pose a therapeutic challenge, potentially compromising a favorable outcome.

CASE REPORT: A 24-week pregnant woman with a genetic A1AT deficiency and a family history of fatal sepsis presented to the Gynecology Clinic with uterine bleeding. Ultrasound examination revealed a low-lying placenta and breech presentation. Urgent Cesarean section was performed in the 28th week given the onset of labour. Shortly thereafter, severe incisional and lumbar pain appeared. Computed tomography of the abdomen and pelvis established free fluid, air, and significant fatty tissue edema suggestive of dehiscence, prompting revision surgery. Despite this, she developed septic shock, indicating transfer to the Department of Intensive Care and empiric antibiotic therapy. Profound hypotension (65/45 mmHg), tachycardia, and tachypnea were present. Additional imaging revealed right-sided pulmonary embolism and suspected intrauterine placental tissue retention, requiring a total abdominal hysterectomy. Due to treatment resistance, blood purification, anticoagulation, and immunoglobulins were initiated. Considering the A1AT deficiency, supplementation was given preoperatively and continued weekly. During treatment, extensive skin necrosis and bullae were observed, indicating five subsequent necrectomies. Microbiological examination isolated Escherichia coli followed by Candida albicans. Therapy was adjusted accordingly and gradual stabilization ensued. On the 16th day of hospitalization, the patient was transferred to a plastic surgery center for post-necrotic defect management.

CONCLUSION: Although A1AT deficiency severely complicated sepsis management, timely intervention and aggressive treatment proved pivotal for the patient's stabilization and recovery. This case represents an exceptional therapeutic success given the underlying genetic vulnerability.

KEYWORDS: Hysterectomy; Necrosis; Pregnancy; Shock, Septic

CR2

Cervical Vasovagal Shock

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INTRODUCTION: Cervical vasovagal shock is defined as maternal hypotension and bradycardia due to cervical stimulation. The pathophysiology includes stimulation of the vagus nerve in the cervix area, which causes a parasympathetic response. It must not be misdiagnosed due to different treatment than for other causes of shock.

CASE REPORT: A 37-year-old pregnant woman with a gestational age of 4 weeks was admitted to the hospital for a planned surgical procedure—manual vacuum aspiration. Obstetric history revealed one prior gestation terminated by medically induced abortion. Residual products of conception were removed by aspiration, complicated with vasovagal shock. The patient is otherwise healthy. This time, the procedure was done with local anesthetic alongside analgosedation, which included 2 mg of midazolam and 0.1 mg of fentanyl intravenously (IV). Soon after the start of vacuum aspiration, a short-term asystole was monitored without prior bradycardia. Cardiac massage was initiated, and a 1 mg IV bolus of atropine was administered. After one minute, ventricular tachycardia was observed but terminated spontaneously. Sinus rhythm was subsequently established. After several breaths of 100% oxygen, the patient regained consciousness. She was cardiorespiratory stable and transferred to the post-anesthesia care unit. During observation, the patient was in verbal contact with stable vital signs. She was discharged to the ward with an Aldrete score of 10. A cardiologist was consulted and found no abnormalities on echocardiogram or electrocardiography, without need for further follow-up.

CONCLUSION: Although cervical vasovagal shock is rare, procedures involving the cervical region should always be performed with caution. It should always be considered in the case of hypotensive shock without tachycardia and failure to respond to fluids.

KEYWORDS: Bradycardia; Shock; Vacuum Curettage; Vagus Nerve

CR3

Autoimmune Encephalitis in Adolescent Female

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INTRODUCTION: Anti-N-methyl-D-aspartate receptor (anti-NMDAR) encephalitis is a rare autoimmune encephalitis caused by immunoglobulin G (IgG) antibodies against the N-methyl-D-aspartate receptor subunit 1 (NR1) of the N-methyl-D-aspartate receptor (NMDAR). It mainly affects children and young women and is often associated with ovarian teratomas. In children, it commonly presents with neurological symptoms, while psychiatric manifestations prevail in adolescents and adults.

CASE REPORT: A 13-year-old girl was admitted due to subfebrility and an altered level of consciousness. A few days prior to admission, she had complained of a sore throat and ear pain. She became unresponsive, with intermittent eye opening, a weak response to painful stimuli, and nuchal rigidity. Her extensive medical history revealed that she had been treated since the age of 11 for anxiety, depression, and later for self-harming behavior. Detailed laboratory testing excluded an infectious etiology. Additionally, anti-NMDA receptor antibodies were detected in the cerebrospinal fluid and serum. An ovarian teratoma was discovered and immediately treated surgically. Despite early recognition, surgical treatment and multiple lines of immunosuppressive therapy (including corticosteroids, plasma exchange, intravenous immunoglobulin, rituximab, cyclophosphamide, tocilizumab, and intrathecal methotrexate), neurological recovery was not achieved, indicating a pharmacoresistant disease course.

CONCLUSION: Although anti-NMDA receptor encephalitis generally has a favorable prognosis, particularly in cases associated with underlying teratomas, a small minority of patients, likely well under 5%, experience a pharmacoresistant disease course. Neuropsychiatric symptoms, especially in adolescent females, warrant thorough and careful evaluation.

KEYWORDS: Adolescent; Anti-N-Methyl-D-Aspartate Receptor Encephalitis; Teratoma

CR4

TIA or Stroke? MRI-Confirmed Acute Ischemic Stroke in a High-Risk Patient with Patent Foramen Ovale

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INTRODUCTION: Transient ischemic attack (TIA) and acute ischemic stroke are focal cerebral ischemic syndromes that share overlapping clinical presentations but differing by the presence of irreversible infarction. Clinical differentiation alone is often unreliable. Non-contrast multislice computed tomography (MSCT) may appear normal in early ischemia, whereas magnetic resonance imaging (MRI) with diffusion-weighted imaging (DWI) offers superior sensitivity for acute lesions. Patent foramen ovale (PFO) is associated with increased risk of paradoxical embolism and stroke. This report highlights the diagnostic value of MRI in patients with transient neurological symptoms and a high-risk profile.

CASE REPORT: A 59-year-old woman with a previously diagnosed large PFO and hyperlipidemia presented to the emergency department after transient visual disturbance and transient nominal aphasia. On arrival, neurological status was normal and the symptoms had resolved. Urgent non-contrast brain MSCT showed no acute pathology. Given her high-risk profile, further neuroradiological evaluation was performed. Brain MRI with DWI revealed a small acute lacunar ischemic lesion in the left occipital subcortical region, distinct from chronic microangiopathic changes seen bilaterally in the periventricular, deep, and subcortical white matter. Time-of-flight (TOF) angiography was unremarkable.

No evidence of deep vein thrombosis was found, excluding the likelihood of paradoxical embolism via PFO. Further workup included 24-hour electrocardiogram (ECG) Holter monitoring, comprehensive laboratory and thrombophilia testing, with pending results. Existing antiplatelet therapy was modified from acetylsalicylic acid to clopidogrel. She was discharged after six days without neurological deficits, with outpatient follow-up arranged.

CONCLUSION: This case highlights the importance of advanced neuroimaging given that transient neurological symptoms and a non-contrast MSCT cannot exclude acute ischemic stroke. MRI is essential in the diagnostic evaluation of high-risk patients for accurate diagnosis, risk stratification, and timely therapeutic intervention.

KEYWORDS: Brain Ischemia; Diffusion Magnetic Resonance Imaging; Foramen Ovale, Patent; Ischemic Attack, Transient; Ischemic Stroke

CR5

Managing Multiple Sclerosis in the Setting of Concurrent Autoimmune Diseases: A Case Report

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INTRODUCTION: Autoimmune diseases often share similar immunopathogenic mechanisms; therefore, more than one autoimmune condition may occur in the same patient. In such cases, treatment becomes particularly challenging, as therapies effective for one disease may exacerbate another, or newly introduced medications may lead to significant adverse effects.

CASE REPORT: We report the case of a 47-year-old woman with a long-standing history of ulcerative colitis treated with vedolizumab and rheumatoid arthritis in clinical remission, who developed left-sided optic neuritis. Brain magnetic resonance imaging revealed demyelinating lesions, while cerebrospinal fluid analysis showed an elevated kappa index and the presence of oligoclonal bands, fulfilling the diagnostic criteria for multiple sclerosis. Given the patient's ongoing therapy and comorbid autoimmune diseases, treatment selection was complex. Teriflunomide was initially introduced due to its efficacy in both multiple sclerosis and rheumatoid arthritis, but was discontinued because of persistent diarrhea. Therapy was subsequently switched to glatiramer acetate because of its favorable interaction profile. After 10 months, the patient developed adverse reactions, including shortness of breath, head and ear pressure, flushing, intestinal spasms, and urticaria at the injection site. Following multidisciplinary consultation with a gastroenterologist and immunologist, and in the absence of indications for continued treatment of rheumatoid arthritis, vedolizumab was discontinued. Natalizumab was initiated as a therapeutic option effective for both ulcerative colitis and multiple sclerosis.

CONCLUSION: The presence of three autoimmune diseases poses a significant therapeutic challenge in maintaining disease remission, making a multidisciplinary approach to patient management essential. This case illustrates the complexity of balancing treatment efficacy while minimizing adverse effects in patients with multiple autoimmune conditions.

KEYWORDS: Arthritis, Rheumatoid; Colitis, Ulcerative; Multiple Sclerosis; Optic Neuritis

CR6

Transitory Hydrocephalus After Ventriculoperitoneal Shunt

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INTRODUCTION: Ventriculoperitoneal (VP) shunting is a standard treatment for hydrocephalus, a condition characterized by abnormal accumulation of cerebrospinal fluid within the ventricular system of the brain leading to increased intracranial pressure. A ventriculoperitoneal shunt diverts cerebrospinal fluid from the cerebral ventricles into the peritoneal cavity in order to relieve this pressure. Although shunt malfunction is a common complication, the development of hydrocephalus despite a clinically patent and functioning VP shunt is rare and not fully understood. Such cases suggest mechanisms beyond mechanical obstruction, including transient disturbances in cerebrospinal fluid dynamics. The aim of this report is to present a case of transitory hydrocephalus following VP shunt placement that resolved with conservative management.

CASE REPORT: A 50-year-old man was admitted to the neurologic intensive care unit with acute subarachnoid hemorrhage (SAH) caused by rupture of the basilar artery. He presented with vomiting and diffuse headache lasting 24 hours, followed by somnolence. On the same day, the aneurysm was successfully embolized. The patient subsequently developed hydrocephalus, and an external ventricular drain (EVD) was placed. One month later, a ventriculoperitoneal shunt was implanted using a mid-pressure Pudenz valve. A follow-up computed tomography (CT) scan 24 hours after the procedure showed resolution of hydrocephalus, accompanied by clinical improvement. However, three days later, the patient became soporose and developed respiratory insufficiency. CT imaging revealed recurrent obstructive hydrocephalus. Clinical examination of the VP shunt showed no evidence of obstruction: the pump was soft, easily compressible, and refilled normally. With regular manual pumping of the shunt, hydrocephalus resolved completely within one week.

CONCLUSION: This case demonstrates a rare occurrence of transient obstructive hydrocephalus despite a completely functioning ventriculoperitoneal shunt. Resolution with conservative management suggests that functional disturbances of cerebrospinal fluid dynamics may mimic shunt malfunction and lead to unnecessary surgical revision.

KEYWORDS: Aneurysm; Hydrocephalus; Subarachnoid Hemorrhage; Ventriculoperitoneal Shunt

CR7

When Breast Cancer Reaches the Sella: Pituitary Metastasis Revealing Endocrine Collapse, a Case Report

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INTRODUCTION: Although pituitary metastases account for a small fraction of sellar lesions, their clinical relevance far exceeds their rarity. Breast cancer demonstrates a distinct predilection for pituitary involvement, typically in advanced disease, where metastatic infiltration of the sellar region may represent a critical but underrecognized cause of acute endocrine failure and visual compromise. Early identification is essential, as these lesions often masquerade as benign pituitary adenomas, leading to delayed or inappropriate management.

CASE REPORT: We describe a 69-year-old woman with metastatic breast cancer treated since 2010 with multimodal oncologic therapy. In 2023, she developed widespread systemic metastases, including renal, adrenal and pulmonary involvement. During routine follow-up, persistent hyponatremia triggered endocrine evaluation, which revealed panhypopituitarism. Magnetic resonance imaging (MRI) demonstrated an infiltrative sellar and suprasellar mass with involvement of the pituitary gland and infundibulum, extending cranially with compression of the optic chiasm. The patient underwent endoscopic endonasal transsphenoidal resection. Postoperatively, she remained neurologically stable, with no new deficits and satisfactory early imaging findings.

CONCLUSION: Pituitary metastases arise predominantly through hematogenous dissemination, facilitated by the gland's dual vascular supply via the hypophyseal arteries and the hypothalamic–hypophyseal portal circulation. This unique vascular architecture explains the preferential involvement of the posterior pituitary and infundibulum and the frequent occurrence of rapid-onset endocrine dysfunction. In patients with advanced breast cancer, the sudden onset of electrolyte imbalance, hypopituitarism, or visual symptoms should be regarded as a red flag for pituitary metastasis rather than benign sellar disease, as timely recognition may be crucial for preserving neurological function and quality of life. Prompt multidisciplinary evaluation enables timely surgical and hormonal intervention, which may significantly improve outcomes despite disseminated disease.

KEYWORDS: Breast Neoplasms; Hypopituitarism; Pituitary Neoplasms

CR8

Unrecognized Myasthenia Gravis in a Patient With ACI Stenosis

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INTRODUCTION: Myasthenia gravis (MG) is a rare autoimmune disorder caused by the production of antibodies that target and impair receptors at the neuromuscular junction, namely the acetylcholine receptors. This results in decreased synaptic transmission and muscle weakness, particularly in the ocular, bulbar, and proximal skeletal muscles, which can be subtle and easily missed.

CASE REPORT: A 71-year-old man was referred to the Department of Intensive Care, Neurology Clinic, for an initial neurological evaluation and consideration of carotid artery stenting due to complex vascular anatomy. Diagnostic imaging demonstrated occlusion of the right internal carotid artery (ACI), severe stenosis at the origin of the left ACI, and significant stenosis of the distal left common carotid artery. His medical history included a previous ischemic stroke due to left ACI occlusion, hypertension, hyperlipidemia, prior excision of stage II squamous cell carcinoma of the nose, and tonsillectomy.

Neurological examination revealed right-sided central facial paresis, with no other focal deficits. Following discharge, the patient developed progressive extremity weakness and increasing difficulty maintaining head posture, particularly in the evening. Subsequent evaluation revealed bilateral ptosis and gradually progressive bilateral facial weakness. Serological testing confirmed MG, with anti–nicotinic acetylcholine receptor (anti-N-AChR) antibodies detected at a titer >8.0.

Treatment with pyridostigmine (Mestinon) was initiated, resulting in marked clinical improvement, particularly in bulbar symptoms and nuchal muscle strength.

CONCLUSION: This case emphasizes the importance of comprehensive neurological assessment in elderly patients with acute vascular disease, as coexisting conditions such as MG may otherwise remain unrecognized and delay appropriate treatment.

KEYWORDS: Carotid Stenosis; Clinical Decision-Making; Ischemic Stroke; Myasthenia Gravis

CR9

Pancreatic Adenocarcinoma as a Leading Cause of Paraneoplastic Thromboembolic Events: A Case Report

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INTRODUCTION: Pancreatic adenocarcinoma has been shown to be associated with a high risk of cancer-associated thromboembolic events, with reported incidences ranging from 14% to 35%. These thromboembolic events have been observed to occur in both veins and arteries, including cases of ischemic stroke.

CASE REPORT: A 56-year-old female patient was admitted to the neurological emergency department due to a complaint of right arm weakness. The onset of symptoms occurred one day prior to admission. A neurological examination revealed right-sided hemiparesis, accompanied by mild sensory deficits and the presence of bilateral Babinski signs. Speech and visual impairment, loss of consciousness, and seizures were not observed. The patient's medical history was notable for a recently diagnosed metastatic pancreatic adenocarcinoma with involvement of the body and tail, accompanied by malignant ascites and peritoneal carcinomatosis. Therapeutic paracentesis was performed, and cytology of the ascitic fluid confirmed adenocarcinoma.

Daily subcutaneous anticoagulation with dalteparin (5000 IU) was initiated. Surgical evaluation confirmed unresectable disease. After one cycle of chemotherapy, further oncological treatment was discontinued due to clinical deterioration, and the patient was referred to palliative care.

Initial brain computed tomography (CT) revealed no evidence of hemorrhage or acute ischemia. Brain magnetic resonance imaging (MRI) demonstrated multiple hyperintense areas with diffusion restriction in the left frontal, parietal, and occipital cortical regions, consistent with acute ischemia. Carotid Doppler ultrasound, transthoracic echocardiography, and 24-hour Holter ECG showed no significant embolic source. Laboratory findings indicated the presence of a prothrombotic state.

CONCLUSION: In patients with active malignancy who present with acute cerebrovascular events and no clear embolic source, cancer-associated hypercoagulability should be strongly considered, as early recognition is essential for appropriate multidisciplinary management.

KEYWORDS: Adenocarcinoma; Ischemic Stroke; Pancreatic Neoplasms; Paraneoplastic Syndromes

CR10

Transforming Early MS Management: Ocrelizumab in a Young Adult With Highly Active Disease

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INTRODUCTION: Multiple sclerosis (MS) is a chronic autoimmune disorder characterized by destruction of the myelin sheath, resulting in signal disruption and upper motor neuron impairment. Such detrimental pathological abnormalities must be controlled as a way of preventing long-term disability in MS patients. Modern therapies focus on highly efficient drugs aimed at creating durable disease control. This case demonstrates the successful therapeutic process of long-term stabilization of aggressive relapsing MS in a young patient being treated with Ocrelizumab.

CASE REPORT: A 19-year-old man was diagnosed with MS in January 2020 after complaining of left-leg paresthesias. A neurological exam was performed, and suspicion was raised for an upper motoneuron lesion. Cerebrospinal fluid (CSF) diagnostics and an MRI were performed, and have confirmed a typical MS diagnosis with CSF oligoclonal bands (type II) and demyelinating lesions in the brainstem and spinal cord. Interferon beta-1a therapy was introduced in March 2020. Follow-up MRI in September of 2020 showed new lesions in the mesencephalon and the cervical medulla, along with the enhancement of new spinal cord lesions (C3-C5) found in October of 2020. Treatment was escalated to Ocrelizumab (anti-CD20). The first cycle was introduced in January 2021, followed by regular dosing every six months. A series of MRIs performed from 2021 to 2025 has shown that the disease has stabilized remarkably and there have been no new lesions. The patient remained stable, asymptomatic, and without any adverse effects.

CONCLUSION: This case demonstrates the importance of early aggressive therapy in patients with highly active lesions. Ocrelizumab demonstrated the potential to achieve complete clinical remission if applied early. Thus, early escalation was shown to have utmost importance in long-term neurological preservation and sustained quality of life.

KEYWORDS: Antibodies, Monoclonal; Demyelinating Diseases; Immunotherapy; Multiple Sclerosis

CR11

Good Life Lost, or Is It? - Road to Recovery From Hemodialysis

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INTRODUCTION: Hemodialysis (HD) is a lifesaving procedure for patients with end stage renal disease (ERSD) or acute kidney injury (AKI). However, the prevalence of serious mental health disorders, such as anxiety or depression, in patients on HD is alarmingly high. We present a case of a patient's struggle with HD.

CASE REPORT: The patient is a 71-year-old male with the history of being treated for metastatic prostate adenocarcinoma. He was hospitalized due to AKI with severely elevated serum creatinine, hyperkalemia, oliguria and signs of volume overload. He was started on HD immediately. Emergency kidney biopsy showed acute tubulointerstitial nephritis that was caused by recent chemotherapy. Patient was started on glucocorticoids but remained dialysis dependent after discharge. He was a farmer, hiker, hunter and tolerated HD well physically, but he developed depression while on HD and lost the will to pursue his activities. Through an intervention that included psychiatrists, nephrologists and the patient's family members, his mental state had gotten progressively better. After 10-12 weeks of HD, his kidney function had improved significantly, and the HD sessions were reduced from three times a week to once a week. After 17 weeks from the start of HD, nephrologists paused dialysis and observed the patient for 2 weeks with regular checkups. The patient's urine output was normal as were the kidney function parameters. Dialysis catheter was removed. During this, his mental state improved, he became active again and regained his quality of life.

CONCLUSION: Sometimes after AKI, patients can recover their renal function and stop HD treatment. Active support is crucial to help patients go through this process and prevent mental health deterioration and depression.

KEYWORDS: Acute Kidney Injury; Hemodialysis; Tubulointerstitial Nephritis

CR12

Hemorrhagic Cerebral Venous Sinus Thrombosis in an Elderly Patient

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INTRODUCTION: Cerebral venous sinus thrombosis (CVST) is an uncommon cause of stroke with diverse risk factors and clinical presentations. While venous infarctions are more prevalent, intracerebral hemorrhage (ICH) occurs in 15-30% of cases and is often associated with more severe symptoms and challenges in anticoagulant therapy. Computed tomography (CT) venography is essential for timely diagnosis and management. This case highlights early diagnosis and an individualized approach to CVST presenting with intracerebral hemorrhage.

CASE REPORT: A 70-year-old woman presented with a one-day history of a progressively worsening, diffuse headache; nausea; photophobia; impaired concentration; and temporal disorientation. Her medical history included arterial hypertension, paroxysmal supraventricular tachycardia, and Wolff–Parkinson–White syndrome previously treated with catheter ablation. Upon admission, she was alert but exhibited psychomotor impairment, presenting with right homonymous hemianopsia and no motor deficits.

Non-contrast CT revealed a 30-mm left occipitotemporal ICH with surrounding vasogenic edema. Hyperdense signals at the confluence of the sinuses and the left transverse sinus suggested CVST. This was confirmed by CT venography, which showed thrombosis of the left transverse and sigmoid sinuses, as well as the jugular bulb. Serial imaging demonstrated stable hematoma size with gradual regression of edema. Laboratory evaluation revealed hyperlipidemia, and further imaging showed a nodule in the left thyroid.

The patient was managed conservatively with anticoagulants, antihypertensives, and physical therapy, resulting in clinical stabilization. The patient was discharged in stable condition with outpatient follow-up and further evaluation.

CONCLUSION: CVST may present with hemorrhage and subtle neurological deficits. Even in the presence of ICH, anticoagulation is not an absolute contraindication; however, treatment should be adjusted based on clinical and imaging findings. Early recognition and tailored management can lead to favorable outcomes.

KEYWORDS: Anticoagulants; Cerebral Hemorrhage; Sinus Thrombosis, Intracranial

CR13

Early-Onset and Rapid Progression of Gordon–Holmes Syndrome in a Patient With a History of Substance Abuse

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INTRODUCTION: Gordon–Holmes syndrome is a rare autosomal recessive adult-onset neurodegenerative disorder characterized by progressive cognitive decline, hypogonadotropic hypogonadism, and movement disorders. Neurological symptoms typically begin in early adulthood, most often with dysarthria, followed by progressive cerebellar ataxia with impaired balance and coordination.The aim of this report is to describe an emergency presentation of Gordon–Holmes syndrome with unusually early onset and rapid progression, and to discuss potential factors that may influence the clinical course of the disease.

CASE REPORT: An emergency medical service was dispatched following a report of severe aggressive behavior in a 33-year-old male, whom family members were unable to restrain and who posed a danger to himself and others. Upon arrival, the patient was markedly agitated, psychomotor restless, disoriented to time and place, verbally aggressive, and poorly cooperative. He appeared disheveled, with an ataxic gait, tremor, dysarthric speech, impaired coordination, and generalized motor clumsiness. Heteroanamnesis obtained from the patient's parents revealed a diagnosis of Gordon–Holmes syndrome, a rare autosomal-recessive neurodegenerative disorder. The onset of neurological symptoms occurred in the patient's early twenties, initially presenting with speech and coordination difficulties. Based on previous neurological assessments, it was suspected that the disease course had been accelerated by the use of psychoactive substances during early adulthood. Due to pronounced agitation, parenteral haloperidol was administered in the emergency setting, resulting in clinical calming and stabilization, allowing further medical evaluation.

CONCLUSION: Gordon–Holmes syndrome should be considered in young adults presenting with progressive cerebellar and neuropsychiatric symptoms. This case suggests that external factors, such as psychoactive substance use, may influence the clinical course, although further studies are needed to clarify their role in disease progression.

KEYWORDS: Ataxia; Dysarthria; Neurodegenerative Diseases; Psychomotor Agitation

CR14

Atypic Transient Perivascular Inflammation of the Carotid Artery (TIPIC) Syndrome

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INTRODUCTION: TIPIC syndrome, also known as carotidynia, is a rare condition characterized by unilateral neck pain and swelling, resulting from nonspecific inflammation of the carotid artery. Recent studies described imaging abnormalities, establishing a correlation between clinical presentation and radiological findings that were not previously specified.

CASE REPORT: A 64-year-old male, who presented with facial and neck swelling and erythema, was hospitalized due to suspected superior vena cava syndrome. MSCT (Multi-slice Computed Tomography) of the neck showed blurring of the perivascular fat tissue from the right carotid bifurcation, following the right ICA (internal carotid artery) to the base of the skull. These radiological features indicated TIPIC syndrome; based on this, corticosteroids were administered orally, following regression of the symptoms. An extensive workup was conducted, excluding any other neurological and immunological etiologies. Four months later, there was a recurrence of the disease with the same symptoms affecting the left side of the face. The patient started treatment with methylprednisolone lasting for five days, which resulted in the resolution of the symptoms. Control MSCT angiography was performed, revealing blurring of the perivascular fat tissue of the left ICA. During the next few months, facial swelling occurred on multiple occasions upon awakening and lasted for one day, while showing a good therapeutic response to ibuprofen.

CONCLUSION: TIPIC syndrome is an entity previously described as self-limited or responsive to non-steroidal anti-inflammatory drugs or corticosteroids, typically lasting up to two weeks. Due to its recurrent clinical presentation, this case represents an atypical presentation of the TIPIC syndrome.

KEYWORDS: Anti-Inflammatory Agents, Non-Steroidal; Carotid Artery, Internal; Inflammation; Neck Pain

CR15

Targeting the Acoustic Nerve: A Rare Case of Lung Adenocarcinoma Metastases Treated With Gamma Knife

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INTRODUCTION: Lung adenocarcinoma is a type of non-small cell lung cancer (NSCLC) more commonly found in non-smokers. Metastatic spread to the internal acoustic meatus is rare and may cause neuro-otological symptoms such as sudden hearing loss, vertigo, and facial nerve palsy. Diagnosis relies on magnetic resonance imaging (MRI), while treatment options include radiotherapy and chemotherapy. The purpose of this case report is to highlight a rare metastatic pattern and demonstrate the effectiveness of Gamma Knife radiosurgery (GKRS) in preserving cranial nerve function.

CASE REPORT: The patient is a 54-year-old woman with a known diagnosis of lung adenocarcinoma, negative for epidermal growth factor receptor (EGFR) mutations, anaplastic lymphoma kinase (ALK) rearrangements, and programmed death-ligand 1 (PD-L1) expression, but positive for EGFR-RAD51 fusion, treated with chemotherapy. In 2023, MRI revealed a right temporo-parieto-occipital brain metastasis, which was surgically removed and treated with stereotactic body radiotherapy (SBRT). The patient underwent regular neuroradiological follow-ups. In 2024, she developed bilateral hypoacusis, which was confirmed by audiometry. MRI showed six new metastatic lesions involving both internal acoustic meatuses and acoustic nerves, as well as the cerebellum. She was admitted and treated with hypofractionated GKRS. A total dose of 25 Gy was delivered in five fractions (5 Gy/day) to the acoustic nerve lesions (prescription isodose 36-49%), while the prescribed dose for cerebellar metastases was 25 Gy (prescription isodoses 58-77%). The procedure was completed without complications, with significant improvement in hearing function.

CONCLUSION: GKRS is a precise, multi-step neurosurgical procedure allowing effective treatment of intracranial metastases while preserving cranial nerve function. This case showcases its potential role in managing rare acoustic nerve metastases, an area with limited published evidence regarding optimal dosing and functional outcomes.

KEYWORDS: Adenocarcinoma of Lung; Hearing Loss; Radiosurgery

CR16

Juvenile Amyotrophic Lateral Sclerosis: Subtle Clinical Presentation and Implications Of Overlapping Genetic Mutations

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INTRODUCTION: Juvenile amyotrophic lateral sclerosis (jALS) is a rare ALS subtype, accounting for under 2% of cases, with variable symptoms and genetic backgrounds. Early signs can be subtle, and standard imaging or nerve studies may appear normal, delaying diagnosis and treatment. Pathogenic mutations occur in up to 40% of cases but may be difficult to interpret due to overlap with other neurological disorders.

CASE REPORT: In June 2022, a 34-year-old woman developed a feeling of weakness, cramping, and swelling in the left leg three months postpartum. In July 2023, physical examination, MRI, laboratory tests, and electromyography were unremarkable, hindering a diagnosis. Over the following year, her condition declined, with pyramidal upper motor neuron signs manifesting as left arm weakness, gait instability, and recurrent falls, ultimately leading to loss of independent ambulation. In April 2024, repeat electromyography and nerve conduction studies confirmed motor neuronopathy.

Genetic testing revealed a heterozygous pathogenic SPG11 frameshift variant and a heterozygous SETX variant, suggesting hereditary spastic paraplegia or jALS. SPG11 mutations usually cause autosomal recessive spastic paraplegia, though some truncating variants appear in jALS with combined upper and lower motor neuron involvement. SETX mutations underlie ALS4, a juvenile-onset ALS with prominent pyramidal signs. These overlapping genetic and clinical features highlight the need to interpret results alongside the clinical and electrophysiological findings. By 2025, bulbar involvement developed, including dysarthria, tongue hypotrophy with fasciculations, and combined upper and lower motor neuron signs. JALS was diagnosed in July 2025, and medical treatment with multidisciplinary supportive care was initiated after substantial functional decline.

CONCLUSION: This case highlights the diagnostic complexity of jALS and the need for vigilant surveillance, as earlier diagnosis allows timely supportive care and improved quality of life.

KEYWORDS: Amyotrophic Lateral Sclerosis; Electromyography; Genetic Testing; Motor Neuron Disease; Spastic Paraplegia, Hereditary

CR17

Severe Lower-Leg Cellulitis Associated With Chemoradiotherapy in the Treatment of Hypopharyngeal Squamous Cell Carcinoma

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INTRODUCTION: Hypopharyngeal squamous cell carcinoma is an aggressive malignancy commonly treated with definitive chemoradiotherapy, which is associated with a wide spectrum of adverse effects. Although relatively rare and unexpected, cellulitis can occur as one of these complications. Cellulitis is a bacterial infection of the dermis and subcutaneous tissue that requires early recognition and proper management.

CASE REPORT: In 2024, a middle-aged man was diagnosed with locoregional squamous cell carcinoma of the piriform sinus. Primary chemoradiotherapy was chosen as the preferred and less invasive treatment option over total laryngectomy. Cisplatin was used as the chemotherapeutic agent. After three weeks of therapy following one cycle of cisplatin, the patient developed bilateral lower-leg edema and erythema. He was hospitalized due to the progression of symptoms. Petechiae appeared on both legs, and the edema worsened. The right leg was more severely affected, complicated by cellulitis and an anterior ulceration with purulent discharge. A wound swab was obtained and sent for microbiological analysis. The results revealed a polymicrobial infection, which was treated with appropriate antibiotics administered both orally and intravenously. The patient gradually recovered, and inflammatory markers decreased significantly. Supportive and anti-edema therapy was continued, along with electrolyte correction. He was subsequently discharged and remained under follow-up.

CONCLUSION: This case highlights the importance of recognizing that chemoradiotherapy can cause a range of adverse effects. Such complications can significantly impact patient outcomes, making prompt identification and appropriate management essential.

KEYWORDS: Cellulitis; Chemoradiotherapy; Cisplatin; Drug-Related Side Effects and Adverse Reactions

CR18

Best abstract in the category Case report

Exceptional Radiosensitivity of Mandibular Gingival Squamous Cell Carcinoma After Palliative-Dose Radiotherapy: A Case Report

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INTRODUCTION: Squamous cell carcinoma (SCC) of the gingiva is a rare oral malignancy primarily treated with surgery, often followed by adjuvant radiotherapy or chemoradiotherapy. Despite established treatment protocols, tumor response to radiotherapy in head and neck cancer is variable and sometimes difficult to predict. This case demonstrates an unexpectedly pronounced response of mandibular gingival SCC to palliative dose radiotherapy.

CASE REPORT: We report the case of a 61-year-old patient diagnosed with squamous cell carcinoma of the mandibular gingiva (pT4aN1), characterized by bone invasion and perineural spread. Following radical surgical resection with negative margins, the patient received adjuvant radiotherapy. A total dose of 54-60 Gy delivered in 30 fractions was administered to the tumor bed and lymph node regions at risk. Three months later, imaging revealed findings consistent with perineural tumor recurrence with metastases to the ipsilateral regional lymph nodes. This included a lesion of the left sphenoid bone with extension toward the left temporal apex. Stereotactic radiotherapy was administered to the skull base lesion, followed by surgical re-resection of the left neck and thyroid lobe. Histopathological analysis confirmed metastatic SCC in the lymph nodes and surrounding tissue. In December, the patient was hospitalized due to ipsilateral regional lymph node recurrence, with no evidence of metastatic disease and poor performance status. She received palliative radiotherapy of 20 Gy delivered in 5 daily fractions. The patient responded remarkably well to therapy and her overall condition improved. This response made her an unexpected candidate for systemic therapy.

CONCLUSION: This case demonstrates that gingival SCC can exhibit unexpectedly high radiosensitivity, even in patients with poor prognosis and poor performance status, highlighting the need to consider this possibility when tailoring treatment.

KEYWORDS: Gingival Neoplasms; Head and Neck Neoplasms; Neoplasm Recurrence, Local; Radiotherapy

CR19

Acquired Hemophilia A as the First Presentation of Metastatic Breast Cancer

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INTRODUCTION: Acquired Hemophilia A is a very rare autoimmune disease caused by antibodies against factor VIII (FVIII) presenting as a life-threatening bleeding in a patient without previous personal or family history of bleeding diathesis. The aim of this case report is to present an extremely rare manifestation of the disease in a patient with previously unknown breast cancer.

CASE REPORT: A 54-year-old female was admitted to a local hospital due to traumatic injury of the left knee with development of severe hematomas covering the entire lower extremity. She was not taking any anticoagulant medications, had no personal and family history of bleeding. Laboratory tests showed prolonged activated partial thromboplastin time (62.5 s), very low FVIII activity (< 0.010 kIU/L), high inhibitor titre against FVIII (53.8 Bethesda kJ/L), leading to the diagnosis of acquired hemophilia A. Corticosteroid therapy was started along with recombinant activated factor VII (rFVIIa), and she was transferred to our tertiary facility. For further eradication of inhibitors, she received 4 weekly doses of rituximab together with methylprednisolone and for stopping bleeding she received FEIBA (factor eight inhibitor bypassing activity) and rFVIIa with positive clinical and laboratory outcome. After she was no longer actively bleeding, she received prophylaxis with emicizumab. Upon further diagnostic evaluation, invasive metastatic breast cancer was diagnosed as the underlying condition, and she was referred to the oncology department for breast cancer treatment.

CONCLUSION: Acquired hemophilia can cause severe bleeding with high mortality. Treatment requires administration of effective hemostatic agents for bleeding control together with immunosuppression for eradication of inhibitors, balancing between bleeding and prothrombotic conditions and avoiding infective complications. Further diagnostic work-up should be directed to detect a potential underlying cause.

KEYWORDS: Blood Coagulation Disorders; Breast Neoplasms; Hemophilia A

CR20

Targeted Therapy in BRCA2 Mutated HR+/ HER2- Metastatic Breast Cancer

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INTRODUCTION: Hormone receptor-positive and human epidermal growth factor receptor-2-negative (HR+/HER2−) metastatic breast cancer (mBC) is the most common mBC subtype, standardly treated by a combination of antihormonal therapy (AT) and cyclin-dependent kinase 4/6 inhibitors in the first-line setting. In endocrine-resistant tumors harboring phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha (PIK3CA) mutations, the addition of inavolisib is possible. Carriers of germline breast cancer (BRCA) genes often exhibit resistance to CDK4/6i treatment. The aim of this report is to highlight the importance of comprehensive genomic profiling (CGP) in mBC to guide optimal targeted therapy.

CASE REPORT: A 57-year-old breast cancer patient developed metastatic disease four years after adjuvant AT was introduced. Bone metastasis was biopsied and confirmed the PIK3CA mutated HR+/HER2- mBC. Therefore, treatment with palbociclib, fulvestrant, and inavolisib was initiated, resulting in a short and poor therapeutic response. Due to disease progression, treatment was subsequently continued with paclitaxel. CGP was performed, revealing a mutation in phosphatase and tensin homolog (PTEN), Fibroblast Growth Factor Receptor 1, Checkpoint kinase 2, and BRCA2 gene, which was additionally confirmed to be germline, and further targeted therapy with olaparib, a poly-ADP-ribose-polymerase (PARP) inhibitor, was indicated, and the patient responded very well.

CONCLUSION: In this case, PTEN mutation causes downstream pathway activation, so inhibition of phosphoinositide-3-kinase alpha (PI3Kα) with inavolisib was not effective despite the PIK3CA mutation. In contrast, the coexisting BRCA2 mutation predicted sensitivity to PARP inhibition, which resulted in a favorable therapeutic response. Therefore, CGP in endocrine-resistant HR+/HER2- mBC is important to recognize targetable gene mutations.

KEYWORDS: Breast Neoplasms; Genes, BRCA2; Genetic Testing; Poly(ADP-ribose) Polymerase Inhibitors

CR21

Chronic Erdheim–Chester Disease: A Rare Abdominal Presentation

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INTRODUCTION: Erdheim-Chester disease (ECD) is a rare clonal myeloid neoplasm characterized by CD68-positive histiocytic infiltration and chronic inflammation. The disease most commonly involves the skeletal, central nervous, and cardiovascular systems, while gastrointestinal and mesenteric involvement is uncommon. Early management typically involves initiation of systemic therapy, whereas surgery and corticosteroids may be used for symptomatic treatment and localized complications. We present a rare case of ECD with predominant mesenteric involvement and a prolonged clinical course characterized by recurrent intestinal obstruction requiring both surgical and systemic treatment.

CASE REPORT: A 59-year-old man initially presented with persistent vomiting and inability to tolerate oral intake. He underwent an exploratory laparotomy. A large retroperitoneal soft tissue mass (20×18×10 cm) infiltrating the superior mesenteric artery and vein was identified. Tumor debulking was performed, and histopathology confirmed ECD. During follow-up, he was diagnosed with and treated for prostatic adenocarcinoma. Five years later, the patient developed high-grade ileus due to recurrence of the mesenteric tumor, which was resolved surgically. Fifteen years after the initial diagnosis, he again presented with symptoms indicating ileus. Abdominal computed tomography scan revealed mesenteric lymphadenopathy and colonic diverticulosis, without aerofluid levels. Corticosteroids were initiated considering the ECD diagnosis. Positron emission tomography/computed tomography showed increased uptake in a thickened proximal ileal loop, with adjacent mesenteric fat stranding, consistent with ECD progression. The patient was started on ropeginterferon administered every two weeks. Reevaluation at four months showed complete resolution of tumor activity, and therapy was continued.

CONCLUSION: This patient's unusual fifteen-year disease trajectory illustrates the challenges of managing an unpredictable, locally progressive condition. The case emphasizes the necessity of long-term multidisciplinary care and expands the limited literature on atypical ECD manifestations.

KEYWORDS: Erdheim-Chester Disease; Gastroenterostomy; Interferons; Mesentery

CR22

The Importance of Patient-Reported Quality of Life in Multiple Myeloma: A Real World Case Series

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INTRODUCTION: Multiple myeloma (MM) is a chronic hematologic malignancy associated with a complex symptom burden and reduced health-related quality of life (HRQoL). With improving survival due to modern therapies, patient-reported outcomes (PROs) have become increasingly important for evaluating treatment impact beyond traditional clinical response. Regular monitoring of HRQoL may improve supportive care planning and potentially influence prognosis and treatment adherence.

The aim of this case series is to illustrate how systematic monitoring of patient-reported outcomes can guide individualized treatment decisions and optimize supportive care in advanced multiple myeloma.

CASE PRESENTATION: We present five real-world cases of patients with multiple myeloma, demonstrating diverse disease stages, comorbidities, and clinical complications:

(1) a 70-year-old woman with relapsed/refractory MM who developed posterior reversible encephalopathy syndrome after seven prior treatment lines;

(2) a 68-year-old man who became blind following encephalitis;

(3) a 52-year-old man with psychiatric illness requiring chronic hemodialysis;

(4) a 45-year-old woman with large extramedullary plasmacytomas of the leg and pelvis;

(5) a 38-year-old man, a former athlete, with vertebral fractures, cauda equina syndrome, and paraplegia.

All patients completed HRQoL questionnaires (EORTC QLQ-C30 and QLQ-MY20) along with semi-structured interviews. The analysis revealed substantial variation in perceived quality of life, its fluctuation throughout the disease course, and limited correlation with objective clinical assessments. In several cases, PRO monitoring supported continuation of therapy despite severe disease, enabling treatment responses while preserving patient-reported quality of life.

CONCLUSION: This case series underscores the clinical value of systematic patient-reported outcome and health-related quality of life monitoring in multiple myeloma. Integrating these measures into routine clinical practice can support personalized treatment decisions, optimize supportive care, and help preserve meaningful quality of life alongside disease control.

KEYWORDS: Multiple Myeloma; Patient Reported Outcome Measures; Quality of Life; Treatment Outcome

CR23

Intrinsic Motivation and Social Environment as Catalysts for Recovery in Pediatric Acute Lymphoblastic Leukemia With Chronic Graft Versus Host Disease

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INTRODUCTION: B-cell Acute Lymphoblastic Leukemia (B-ALL) is a common pediatric hematopoietic malignancy. While hematopoietic stem cell transplantation (HSCT) is curative, it can trigger life-threatening complications, such as graft-versus-host disease (GVHD), which impose a profound physical and psychological toll. While medical management typically focuses on the physiological aspects of GVHD, a patient's psychosocial framework can be the crucial driver of clinical recovery. The aim of this report is to illustrate how social influences on mental health can facilitate healing, particularly when physical treatments alone fail to reach the intended clinical goals.

CASE REPORT: This case involves a sixteen-year-old boy diagnosed with B-ALL at age nine. Following a successful HSCT, he developed extensive chronic GVHD affecting the skin, eyes, esophagus, and lungs; the latter necessitated a bilateral lung transplant. Esophageal involvement resulted in strictures requiring repeated balloon dilatations. The cumulative burden of malignancy and gastrointestinal complications led to severe cachexia. Despite the eventual resolution of these physical conditions, the patient experienced persistent weight loss. Psychiatric care was initiated and gradually intensified, yet the clinical trajectory showed no significant improvement until a familial health shift: the mother's diagnosis of diabetes. This event disrupted the patient's perception of caregiver invulnerability, acting as a catalyst for increased self-efficacy and improved nutritional compliance. A secondary clinical improvement followed a geographic and social transition to the capital for schooling. Relocating from a socially isolating rural environment to a setting rich in peer interaction proved transformative.

CONCLUSION: This case highlights the profound impact of psychosocial factors and surroundings on disease recovery. When conventional medicine reaches its limits, clinicians must identify a patient's intrinsic motivators and social catalysts to achieve healing and long-term compliance.

KEYWORDS: Cachexia; Graft vs Host Disease; Hematopoietic Stem Cell Transplantation; Leukemia

CR24

Diagnostic and Therapeutic Challenges in Severe Idiopathic Hypereosinophilic Syndrome: A Case Report

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INTRODUCTION: Idiopathic hypereosinophilic syndrome is a rare condition characterized by persistent eosinophilia combined with eosinophil-mediated organ damage. It represents a diagnosis of exclusion after thorough evaluation of clonal hematologic disorders and secondary causes of eosinophilia. This case illustrates the complexity of diagnosing and managing this condition.

CASE REPORT: A 68-year-old male patient presented with severe eosinophilia, sinonasal congestion, and a recurrent non-productive cough. A computed tomography (CT) scan of the paranasal sinuses revealed changes consistent with chronic sinusitis. The patient also underwent a pulmonary evaluation, which was consistent with asthma, and a chest CT, which showed peribronchial infiltrates. Based on the clinical findings, eosinophilic granulomatosis with polyangiitis (EGPA) was suspected, and antineutrophil cytoplasmic antibodies (ANCA) were assessed and found to be negative. Although the patient met the current classification criteria for EGPA, the diagnosis could not be confirmed in the absence of histologically proven vasculitis. Further evaluation, including bone marrow biopsy, excluded all clonal hematologic disorders, and parasitic infections were also excluded. The diagnosis of idiopathic hypereosinophilic syndrome was then established. The patient was initiated on oral glucocorticoid therapy, resulting in a resolution of the symptoms and reduction of eosinophilia. However, the reduction of the dose to prevent side effects caused exacerbations of the symptoms and a rise in eosinophilia. The dose was then raised again with marked improvements, but gradual tapering proved unsuccessful. Given the steroid dependence, a decision to start treatment with mepolizumab, an interleukin-5 binding humanized monoclonal antibody, was made, and the first dose was administered.

CONCLUSION: Idiopathic hypereosinophilic syndrome can be difficult to distinguish from other possible causes of hypereosinophilia, one of them being EGPA. In steroid-dependent disease, mepolizumab represents a possible treatment option.

KEYWORDS: Churg-Strauss Syndrome; Glucocorticoids; Hypereosinophilic Syndrome; Interleukin-5

CR25

Advanced High-Grade B-Cell Lymphoma Initially Presenting as Primary Cardiac Disease

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INTRODUCTION: High-grade B-cell lymphoma is an aggressive B-cell non-Hodgkin lymphoma that presents with lymphadenopathy, fever and night sweats. Cardiovascular symptoms are uncommon, occurring in advanced disease. Cardiac involvement may present with chest pain, dyspnea and pericardial effusion. We present an atypical case of high-grade B-cell lymphoma mimicking a primary cardiac disease.

CASE REPORT: A 69-year-old woman presented with left-sided chest pain radiating to the left arm and was diagnosed with anteroseptal ST-segment elevation myocardial infarction based on electrocardiography (ECG) and echocardiography findings. She was urgently treated by a primary percutaneous coronary intervention and was discharged in stable condition on optical medical therapy. One month later, she was hospitalized for functional assessment (instantaneous wave-free ratio, iFR) of a borderline stenosis of the left circumflex artery, which was found negative. Four weeks later, the patient developed fatigue, dyspnea, cough and exercise intolerance. Computed tomography (CT) angiography excluded pulmonary embolism, while echocardiography confirmed progressive pericardial effusion. A large volume of serous fluid was collected by pericardiocentesis and cytological analysis suggested a B-cell lymphoproliferative disorder. Targeted cardiac CT scan revealed an extensive infiltrative mediastinal mass circumferentially involving the heart, infiltrating all cardiac chambers, the interventricular septum and major thoracic vessels. Endomyocardial biopsy confirmed the diagnosis of high-grade B-cell non-Hodgkin lymphoma. Despite supportive therapy, the patient developed respiratory and circulatory failure and died.

CONCLUSION: This case highlights the rapid progression of high-grade B-cell lymphoma and its presentation as a primary cardiac disease due to cardiac infiltration. Awareness of an underlying malignant condition is essential in unexplained clinical deterioration and atypical symptom presentations.

KEYWORDS: Heart Neoplasms; Lymphoma, B-Cell; Mediastinal Neoplasms; Pericardial Effusion

CR26

Breast Tumor as a Rare Location of Extramedullary Relapse of Acute Lymphoblastic Leukemia – Case Report

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INTRODUCTION: Acute lymphoblastic leukemia (ALL) is a malignancy of clonal lymphoid cells that most commonly affects children, while adult cases are associated with a more aggressive course and inferior outcomes. Extramedullary relapse is rare, particularly following multiple lines of therapy. Here, we present a case of a young adult with ALL complicated by an extraordinarily rare location of relapse.

CASE REPORT: In March 2018, a 20–year-old female, presenting with headache and refractory fever, was diagnosed with ALL. Bone marrow examination revealed 98% lymphoblasts, after which the treatment was initiated according to the HOVON – 70 protocol, followed by allogeneic hematopoietic stem cell transplantation (HSCT) from an HLA-matched unrelated donor after thiotepa-busulfan-fludarabine (TBF) conditioning chemotherapy, achieving complete remission for seventeen months. In February 2020, relapse was confirmed with 89% blasts on bone marrow aspirate. The patient underwent chimeric antigen receptor (CAR) T-cell therapy, receiving two cycles of inotuzumab ozogamicin as bridging treatment, followed by lymphodepletion with fludarabine and cyclophosphamide and CAR T-cell infusion in May 2020, achieving a second complete remission. In August 2020, the patient was readmitted due to an extramedullary relapse of ALL presenting with B-phenotype cells infiltration of the right breast, with a 3.0 × 2.5 cm necrotic mass showing on computerized tomography. Treatment was initiated with high-dose cytosine arabinoside and mitoxantrone (HAM) chemotherapy and radiotherapy, followed by a second allogeneic HSCT from her haploidentical sister after FluCyTBI200 conditioning, resulting in a third complete remission. At five years follow up, the patient remains in complete remission, with 100% donor chimerism from the second donor.

CONCLUSION: This case demonstrates long term disease control through individualized multimodal therapy despite multiple relapses and an exceedingly rare extramedullary manifestation.

KEYWORDS: Acute Lymphoblastic Leukemia; Breast Neoplasms; Neoplasm Metastasis

CR27

When Less Is More: Designing Better Lives Through Organ Preservation in Rectal Adenocarcinoma

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INTRODUCTION: Total neoadjuvant therapy (TNT) refers to delivering chemotherapy and radiotherapy before surgery. The method shows improvement in compliance and early micrometastasis treatment, sometimes even leading to an outstanding possibility of watch-and-wait (WW) approach in contrast to total mesorectal excision (TME) in rectal neoplasms.

CASE REPORT: We present a 55-year-old male patient admitted in 2024 after testing positive for fecal occult blood through The National Colorectal Cancer Early Detection Program. Examination showed locally advanced stage III (cT3bN1) rectal adenocarcinoma with negative extramural venous invasion and clear mesorectal fascia. While the carcinoembryonic antigen (CEA) level was elevated, carbohydrate antigen 19-9 was in the normal range. TNT was chosen as the treatment, starting with 6 cycles of capecitabine and oxaliplatin (CAPEOX). One cycle included intravenous oxaliplatin on day one and peroral capecitabine twice a day for 2 weeks, with a 7-day interval before the subsequent cycle. The patient has reported tingling in the feet as a side effect. Short-course radiation therapy with 25 Gy in 5 fractions was started after the third cycle. A complete response was achieved with the administered treatment; therefore, the multidisciplinary team decided on a WW approach instead of TME. CEA is currently within the normal range, and the latest follow-up protocol in 2025 is still interpreted as a complete remission.

CONCLUSION: This case illustrates how TNT led to a remarkable stage III adenocarcinoma response, enabling rectal preservation and avoidance of a permanent stoma, thereby substantially improving physical and psychological outcomes. Although mild tingling remains in the feet, by saving bowel, urinary and sexual function this therapy gives the opportunity to design a good life for patients.

KEYWORDS: Adenocarcinoma; Antineoplastic Agents; Neoadjuvant Therapy; Radiotherapy; Rectal Neoplasms

CR28

Severe Overlap Graft-Versus-Host Disease in an Infant With Neurofibromatosis and Juvenile Myelomonocytic Leukemia: Long-Term Survival After Mini–Extracorporeal Photopheresis

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INTRODUCTION: Graft-versus-host disease (GVHD) remains the most significant complication following allogeneic hematopoietic stem cell transplantation (HSCT), the only curative treatment for juvenile myelomonocytic leukemia (JMML), a rare pediatric myeloproliferative neoplasm frequently associated with neurofibromatosis. Post-transplant survival rate is approximately 50%. This report aims to describe the development, management, and long-term course of GVHD after HSCT in a pediatric patient with JMML.

CASE REPORT: A 1-year-old male infant diagnosed with neurofibromatosis and JMML underwent allogeneic HSCT from fully HLA-matched unrelated donor using peripheral blood stem cells with immunosuppressive GVHD prophylaxis. Three weeks post-transplantation, patient developed acute GVHD involving the skin and gastrointestinal tract, which responded to prednisone and cyclosporine A. Three months after, the patient developed severe late-onset steroid-resistant acute skin GVHD, biopsy-confirmed, along with liver GVHD. Due to low body weight and inability to perform standard extracorporeal photopheresis, the patient was referred for mini-extracorporeal photopheresis (mini-ECP), a less invasive protocol not requiring direct connection to the apheresis machine. One month after mini-ECP treatment combined with steroids and cyclosporine, skin symptoms improved. Liver GVHD persisted requiring tacrolimus, mycophenolate-mofetil and low-dose methotrexate. Liver enzyme levels gradually normalized by three years post-transplant. Starting eight months post-HSCT, the patient developed progressive respiratory insufficiency and dyspnea, treated with inhaled corticosteroids, azithromycin, and montelukast. At 19 months, dyspnea worsened with radiological features of pulmonary chronic GVHD, which improved with treatment. Five years post-HSCT, while receiving only inhaled corticosteroids, the patient developed a left-sided pneumothorax requiring resection of the upper left lobe, which was successfully performed.

CONCLUSION: Despite complex overlap GVHD, the patient remains clinically stable at long-term follow-up, demonstrating effectiveness of the mini-ECP for GVHD in some of the affected organs.

KEYWORDS: Graft vs Host Disease; Hematopoietic Stem Cell Transplantation; Leukemia, Myelomonocytic, Juvenile; Photopheresis

CR29

Five-Year Disease-Free Survival in Platinum-Refractory High-Grade Serous Tubal Carcinoma After Repeat Cytoreductive Surgery and Stereotactic Body Radiation Therapy

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INTRODUCTION: Platinum-refractory high-grade serous ovarian cancer (HGSOC) typically recurs within 6 months of treatment and carries a poor prognosis, with a median survival of 9-12 months paired with low response rates to subsequent chemotherapy. We report this case to illustrate the potential for long-term disease control through a multidisciplinary treatment strategy.

CASE REPORT: In February 2018, a 71-year-old woman with stage IV tubal carcinoma (HGSOC) underwent extensive primary cytoreductive surgery, including hysterectomy with bilateral adnexectomy, left hemicolectomy with stoma formation, splenectomy, para-aortic lymphadenectomy, and omentectomy. She then received six cycles of paclitaxel/carboplatin but developed a recurrence in September 2018. The second surgery consisted of exploratory laparotomy, partial small-bowel resection with end-to-end anastomosis, extirpation of peritoneal tumour deposits, and distal pancreatectomy for metastatic involvement. Adjuvant topotecan monochemotherapy (six cycles) started in December 2018. Bevacizumab was omitted due to delayed wound healing. Positron emission tomography/computerized tomography (PET/CT) in May 2019 revealed new fluorodeoxyglucose-avid lesions near the falciform ligament, suggesting liver involvement, and in the presacral region. A third cytoreductive procedure in July 2019 included liver resection and presacral tumour extirpation, followed by 12 weekly cycles of paclitaxel. Follow-up PET/CT scans from March to July 2020 showed an isolated interaortocaval lymph node growing from 8x12 mm to 12x12 mm. This lesion was treated with stereotactic body radiotherapy (SBRT) of 37 Gy divided into three fractions, resulting in complete metabolic and morphologic regression. The patient remains disease-free five years after the initial surgery.

CONCLUSION: This case highlights how combining multiple modalities of treatment, such as cytoreduction surgeries with a tailored high-precision SBRT plan for isolated oligorecurrences, can help improve patient outcomes in carefully selected patients with platinum-refractory HGSOC.

KEYWORDS: Cytoreduction Surgical Procedures; Drug Resistance, Neoplasm; Fallopian Tube Neoplasms; Radiosurgery; Recurrence

CR30

A Silent Killer: A Case Report of a 53-Year-Old Woman With Acute Myeloid Leukemia Associated With Systemic Mastocytosis

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INTRODUCTION: Systemic mastocytosis is a clonal mast cell neoplasm that can coexist with acute myeloid leukemia, conferring aggressive disease and poor prognosis. Early symptoms are often nonspecific, contributing to delayed recognition of concurrent pathology. This case illustrates the clinical consequences of diagnostic delay and the importance of vigilant primary care assessment.

CASE REPORT: A 53-year-old woman presented to a family medicine clinic with cough, fever, and chest pain. Initial evaluation revealed an elevated C-reactive protein level of 48 mg/L, with no other significant findings, consistent with a viral infection. Given the influenza season, symptomatic management was advised, with instructions to return if symptoms persisted. Three days later, she re-presented with worsening symptoms. Examination revealed splenomegaly, and the peripheral blood smear showed one circulating blast. She was urgently referred to the hospital and admitted to hematology for fever, pancytopenia, and organomegaly. Comprehensive evaluation established acute myeloid leukemia with associated myelodysplastic syndrome in the context of symptomatic systemic mastocytosis. During hospitalization, midostaurin was initiated, as thrombocytopenia precluded avapritinib. Azacitidine (75 mg/m² for seven days) was subsequently added, with midostaurin continued at 75 mg twice daily. The course was complicated by febrile neutropenia, injection-site induration, and post-viral perimyocarditis. Venetoclax was initially deferred due to concerns of mast cell degranulation. She is planned for allogeneic stem cell transplantation once a suitable donor is identified.

CONCLUSION: To conclude, acute myeloid leukemia with concomitant systemic mastocytosis may initially present with nonspecific symptoms, delaying diagnosis and complicating management. This case highlights the pivotal role of family physicians in early recognition and timely referral, and underscores that close collaboration between primary care and hematology is essential for lifesaving intervention.

KEYWORDS: Leukemia, Myeloid, Acute; Mastocytosis, Systemic; Myelodysplastic Syndromes

CR31

How to Achieve ANCA-Associated Vasculitis Remission With Limited Therapeutic Options

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INTRODUCTION: The treatment of ANCA-associated vasculitis (AAV), a systemic autoimmune disease, includes induction therapy with either cyclophosphamide or rituximab (RTX), followed by remission maintenance with azathioprine (AZA), rituximab, or mycophenolate mofetil (MMF). Glucocorticoids (GC) should be used for a limited period only. However, the optimal therapeutic approach may be challenging in situations where standard treatment cannot be applied, as demonstrated in our case.

CASE REPORT: A 61-year-old female patient with a history of myeloperoxidase (MPO)-positive AAV with renal involvement was hospitalized due to suspected AAV relapse with worsening of renal function. Six months prior, she had been treated for pulmonary tuberculosis. Kidney biopsy confirmed AAV relapse. Induction therapy consisted of glucocorticoids and cyclophosphamide. Due to the recent tuberculosis infection, rituximab could not be used in either induction or maintenance treatment. After the remission was achieved, the patient began azathioprine but developed hepatotoxicity. MMF was then introduced, but the patient developed severe anemia as a side effect (other causes were excluded). Eventually, she was kept on low-dose glucocorticoids, which negatively affected the patient's quality of life due to Cushing syndrome, loss of muscle mass and osteoporosis. With regular follow-up and support, she persisted in treatment and the disease remained in remission. After the GC dose was reduced, many of the side effects disappeared and the patient regained part of her previous quality of life.

CONCLUSION: In conclusion, AAV remission maintenance is a crucial step in reducing the risk of relapse and ensuring patients have good quality of life. If treatment options are limited, steroids can be used, although they can have serious side effects. Nonetheless, considering ANCA vasculitis mortality and morbidity, any therapeutic option is better than none.

KEYWORDS: Antibodies, Antineutrophil Cytoplasmic; Glucocorticoids; Remission Induction; Vasculitis

CR32

Long-Term Control of Metastatic HER2-Positive Breast Cancer with Oligoprogression Managed by Local Treatment

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INTRODUCTION: Human epidermal growth factor receptor 2 (HER2) positive breast cancer is an aggressive malignancy which used to have a poor prognosis. It is characterized by HER2 overexpression, which nowadays can be effectively treated with targeted anti-HER2 therapies, resulting in improved disease control and clinical outcomes.

CASE REPORT: A 41-year-old patient presented with a three-month history of progressive enlargement and induration of the right breast, bilateral axillary lymphadenopathy and right axillary pain, along with unintentional weight loss over the past two years. Breast ultrasound and magnetic resonance imaging revealed a large infiltrative right breast mass involving the skin and subcutaneous tissue, with suspicious axillary lymph nodes. Core needle biopsy confirmed invasive HER2-positive breast carcinoma. Staging with positron emission tomography-computed tomography was done and revealed metastases in the lungs, axillary lymph nodes and bones. First line therapy for HER2-positive metastatic breast cancer with pertuzumab, trastuzumab and docetaxel was initiated. After 10 cycles, maintenance with dual anti-HER2 (pertuzumab and trastuzumab) targeted therapy was continued. The therapy was well tolerated, and regular follow-up imaging was performed. After 24 months of first-line therapy, a cerebellar metastasis was detected and surgically resected. Three and a half years after that, the patient experienced oligoprogression of the primary breast tumor and underwent a right-sided mastectomy. Targeted therapy was continued, and follow-up imaging showed no evidence of disease progression. Now, 6 years after the diagnosis, the patient is still treated with first-line maintenance therapy with good disease control.

CONCLUSION: This case highlights that long-term disease control can be achieved in metastatic HER2-positive breast cancer through continuous anti-HER2 targeted therapy combined with local treatment for oligoprogressive disease, showing the importance of a personalized, multidisciplinary approach.

KEYWORDS: Breast Neoplasms; Molecular Targeted Therapy; Neoplasm Metastasis; Trastuzumab

CR33

Migrating Skin Tumor: A Rare Case of Human Subcutaneous Dirofilariasis in Ophthalmology Praxis

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INTRODUCTION: Dirofilaria repens is a filarial nematode that affects carnivores, and mosquitoes are vectors for this parasite. Humans are considered to be accidental hosts in which D. repens rarely reaches sexual maturity, but infection results in local inflammation of subcutaneous and ocular tissues. Climate change and globalisation lead to the introduction of more mosquito species capable of transmitting filariae, which results in the spread of this disease.

CASE REPORT: We present a 39-year-old female who sought medical attention at the ophthalmology department with the complaint of a migrating lesion in her periorbital area. The possibility of the presence of a psychiatric diagnosis must be taken into account during the investigation of such complaints. Nevertheless, clinical examination revealed a subcutaneous, painless, palpable mass in the upper eyelid and an unremarkable complete eye examination. Laboratory tests showed no abnormalities in the blood count, including the absence of eosinophilia and elevated IgE levels. The diagnostic method of choice was surgical exploration. The procedure was time-sensitive because of the migration of the lesion. The parasite was visualised and removed. It was later identified as D. repens. The surgical extraction of the parasite was both diagnostic and curative. Subcutaneous D. repens infections do not require systemic antihelmintic treatment due to the fact that D. repens is reproductively inactive in humans.

CONCLUSION: This case highlights the importance of considering exotic infectious diseases in differential diagnoses. Contemporary global mobility and climate change allow patients to be infected with organisms that are not routinely considered and screened for during diagnostic testing.

KEYWORDS: Dirofilariasis; Eye Diseases; Subcutaneous Tissue; Zoonoses

CR34

Graves Hyperthyroidism and Sight-Threatening Graves' Orbitopathy: A Case Report

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INTRODUCTION: Graves' orbitopathy is an autoimmune disease of retro-ocular tissue associated with patients with Graves disease and can lead to sight-threatening complications. This case report aims to highlight the importance of recognizing life-threatening complications of Graves' orbitopathy.

CASE REPORT: A 59-year-old man, a professional driver, presents to the Emergency Department of University Hospital Centre Zagreb with acute-onset diplopia, a sensation of pressure behind the eyes (more pronounced on the left), periorbital swelling and blurred vision in the left eye. Initial ophthalmologic examination revealed reduced visual acuity in the left eye, conjunctival chemosis, redness, proptosis and elevated intraocular pressure. Medical history included hyperthyroidism, glucose intolerance, arterial hypertension and hyperlipidemia. Clinical findings led to the diagnosis of Graves' orbitopathy with left-sided compressive optic neuropathy. The patient was immediately hospitalised and treated with intravenous pulse corticosteroid therapy (methylprednisolone 500 mg daily for 3 consecutive days). Laboratory findings (thyroid-stimulating hormone receptor antibodies, hepatogram, lipid profile) and endocrinology consultation all supported the diagnosis.

Due to insufficient response to corticosteroid therapy and progression to severe visual loss in the left eye (hand motion vision), urgent surgical intervention was indicated. Three-wall bony decompression of the left orbit (medial, inferior and lateral walls) with periorbital incision and fat herniation was performed. Postoperatively, there was a reduction of periorbital edema and intraocular pressure, recovery of visual acuity and visual field, improved ocular motility and lastly complete resolution of diplopia.

CONCLUSION: Graves' orbitopathy represents a visually debilitating disease, significantly affecting self-confidence, social interaction and quality of life; a functionally debilitating disease, causing diplopia, visual field constriction and potential vision loss. In addition, it represents a significant socioeconomic burden as it predominantly affects working-age individuals, leading to prolonged sick leave, costly and lengthy treatment and slow rehabilitation.

KEYWORDS: Decompression, Surgical; Diplopia; Exophthalmos; Graves Disease; Graves Ophthalmopathy

CR35

Ordinary Headache or Something More

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INTRODUCTION: Arteritic anterior ischemic optic neuropathy (AAION) is an ophthalmic emergency occurring in 30–50% of untreated patients with temporal arteritis and is characterized by rapid, painless vision loss. Prompt recognition and treatment are essential to preserve vision in the fellow eye. The aim of this abstract is to present a case with subtle symptoms, successful recognition of the diagnosis and preservation of the other eye.

CASE REPORT: A 68-year-old man presented with a 7-day history of a light blue defect in the inferior visual field of the right eye, followed by involvement of the superior field over the preceding three days. Three weeks earlier he had attended the emergency department because of headache and was discharged with a presumed diagnosis of sinusitis; the symptoms improved after treatment with clindamycin, analgesics and antihypertensive therapy. Ophthalmologic examination revealed severely reduced visual acuity in the right eye, with perception of hand movements temporally. A positive relative afferent pupillary defect and optic disc edema were present in the right eye. A pterygium crossing the cornea was observed in both eyes. Based on these findings, arteritic anterior ischemic optic neuropathy (AAION) was suspected and pulse corticosteroid therapy was initiated. Temporal artery biopsy confirmed temporal arteritis. At follow-up, visual acuity in the left eye remained normal, while the right eye perceived only hand movements.

CONCLUSION: AAION is mostly a complication of unrecognized and untreated temporal arteritis. When suspected, therapy with corticosteroids should be started immediately, without waiting for diagnostic confirmation, due to the high risk of damage to the other eye. This case highlights the importance of timely diagnosis and comprehensive evaluation, as even an ordinary headache can be symptom of a serious disease.

KEYWORDS: Headache; Optic Nerve Diseases; Visual Acuity; Visual Fields

CR36

Gene Therapy Preventing Inevitable Blindness: Long-Term Functional Outcomes After Voretigene Neparvovec Treatment

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INTRODUCTION: Retinal pigment epithelium-specific 65 kDa protein (RPE65) is a key visual cycle enzyme, necessary for the synthesis of the active visual pigment, rhodopsin. RPE65 gene mutations are the cause of autosomal recessive retinal dystrophies, associated with early-onset blindness. Voretigene neparvovec (VN, Luxturna), the first gene therapy approved for this condition, restores the retinoid visual cycle and modifies disease progression. This report aims to demonstrate the long-term effectiveness of VN in a pediatric patient with RPE65-associated retinal dystrophy.

CASE REPORT: We report a 10-year-old male patient with nyctalopia and progressive visual impairment caused by biallelic RPE65 mutations, who underwent bilateral subretinal administration of VN in 2021. Before treatment, the patient presented with severe night blindness, restricted visual fields, reduced retinal sensitivity, and unstable fixation, resulting in significant functional limitations. A comprehensive diagnostic evaluation, performed post-treatment to assess its effectiveness, showed clinically meaningful improvements. Best-corrected visual acuity improved from 0.4 to 0.1 logMAR bilaterally. Kinetic perimetry revealed a marked expansion of the III4e isopter area from 957° at baseline to over 1300°. Microperimetry showed a substantial increase in mean retinal sensitivity, from 4.6 dB pre-treatment to a peak of 14.9 dB, accompanied by a transition from unstable to predominantly stable fixation, indicating improved foveal control and visual function. At five-year follow-up, the patient attends mainstream education without visual aids and demonstrates age-appropriate independence, including safe navigation and cycling under mesopic conditions.

CONCLUSION: This case highlights voretigene neparvovec as an innovative treatment capable of preventing functional blindness. Objective long-term improvements in retinal sensitivity, fixation stability, and visual fields translate into sustained functional vision, supporting the role of VN as a life-changing intervention that preserves vision and enables normal childhood development.

KEYWORDS: Blindness; Genetic Therapy; Ophthalmology; Retinal Dystrophies

CR37

Late-Onset Corneal Perforation Fifteen Years After Penetrating Keratoplasty: A Case Report

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INTRODUCTION: Penetrating keratoplasty (PKP) is a full-thickness corneal transplant performed to restore corneal clarity and visual function in advanced corneal disease. Despite high success rates, PKP results in permanent reduction in corneal structural strength at the transplant site. Corneal perforation may occur due to trauma, infection or suture-related instability. It typically presents with sudden visual loss, ocular pain, hypotony and a shallow anterior chamber and represents an ophthalmic emergency requiring urgent intervention to prevent irreversible vision loss. The aim of this report is to present a case of late traumatic corneal graft rupture 15 years after PKP.

CASE REPORT: A 49-year-old female patient sustained severe blunt trauma to the left eye in 1997, resulting in permanent corneal opacity. In 2011, she underwent PKP of the left eye with an uneventful postoperative course and long-term graft stability. In January 2026, the patient experienced another blunt trauma to the same eye and presented to the ophthalmic emergency department with sudden vision loss. Slit-lamp examination showed partial detachment of the corneal graft involving the nasal quadrants and hyphema within the anterior chamber. Visual acuity in the left eye was limited to light perception. The atient was hospitalized and underwent emergency surgical repair, including corneoscleral suturing and intracameral antibiotic instillation. Postoperatively, she remained clinically stable. She was discharged on topical and systemic therapy with protective eye shielding and remains under ophthalmologic supervision with scheduled follow-up to monitor healing.

CONCLUSION: This case highlights the long-term structural fragility of corneal grafts after PKP and demonstrates that graft rupture may occur over a decade after transplantation, even following a minor trauma. It emphasizes the importance of long-term patient education regarding eye protection and prompt evaluation after ocular injury.

KEYWORDS: Corneal Perforation; Corneal Transplantation; Eye Injuries; Keratoplasty, Penetrating

CR38

Horner's Syndrome as a Manifestation of Internal Carotid Artery Pathology: A Case Report

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INTRODUCTION: Horner's syndrome is a rare neurological condition characterized by unilateral ptosis, miosis and facial anhidrosis, with possible conjunctival hyperemia and enophthalmos. The syndrome is a result of a disruption in the oculosympathetic pathway extending from the hypothalamus to the eye. This disruption can be central or peripheral. Common causes include vascular lesions, neoplastic processes, trauma and central nervous system pathology.

CASE REPORT: A 50-year-old male was referred for neurological evaluation in January 2024 due to pulsatile headaches localized in the left occipital and frontotemporal regions. Ophthalmologic examination revealed anisocoria and left upper eyelid ptosis, the left pupil was miotic with sluggish reaction to light. Ocular motility was normal and the patient denied diplopia. Further examination showed mild conjunctival hyperemia, clear cornea, and normal anterior chamber depth. Additional ophthalmologic investigations were unremarkable. Ipsilateral facial anhidrosis was also present. A 5% cocaine test was performed and confirmed Horner's syndrome: the right (unaffected) pupil dilated after instillation, while the left (affected) pupil remained constricted, indicating impaired sympathetic innervation. Computed tomography angiography showed a fusiform dilation of the left internal carotid artery (ICA) in the C2 segment, which was identified as the cause of Horner's syndrome since the path of the postganglionic sympathetic fibers supplying the eye is along the ICA. Treatment of Horner's syndrome is based on resolving the underlying cause, so in this case the management focused on monitoring the carotid artery abnormality.

CONCLUSION: This case illustrates Horner's syndrome caused by a vascular abnormality of the ICA and highlights the importance of neuro-ophthalmologic evaluation and targeted imaging in patients presenting with anisocoria and ptosis. Finding the underlying cause is crucial because it determines further treatment.

KEYWORDS: Anisocoria; Carotid Artery, Internal; Cocaine; Horner Syndrome

CR39

Common Pathology in an Uncommon Localisation - Managing Laryngeal Lipoma in a General Hospital

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INTRODUCTION: Lipomas are the most common benign mesenchymal tumours arising from fat cells. Lipomas are not a rare occurrence in the head and neck (around 15%), but laryngeal involvement accounts for less than 1%, with under 150 cases reported worldwide. They usually present with nonspecific symptoms such dysphagia, sleep apnea and hoarseness, which can lead to misdiagnosis. They are removed through median thyrotomy or lateral pharyngotomy, or, preferably, by microscopic surgery. The latter typically requires referral to a tertiary institution.

CASE REPORT: A 75-year-old female patient presented to the otorhinolaryngology clinic with a history of sensation of mucous buildup in the throat, coughing, and dysphagia when swallowing solids. She reported interrupted sleep due to dyspnea, leading to mouth breathing. On examination, a voice hoarseness, known as „hot potato“ voice, was noticeable. Indirect laryngoscopy showed a well-defined, round cystic mass covering the laryngeal vestibulum. A subsequent computed tomography scan of the neck confirmed a mass measuring 29x28x13mm, primarily suggesting a lipoma. The mass was located on the aryepiglottic fold, partially obstructing the laryngeal vestibulum. The patient was then hospitalised, and extirpation was performed via laryngomicroscopy using a diode laser. She was put under general anaesthesia and intubated, which is less invasive than the tracheotomy needed in the external approach. Postoperative pathohistological finding confirmed the lipoma. The patient was followed up in 6-month increments, reporting no further symptoms.

CONCLUSION: Although rare, laryngeal lipoma should be considered in the differential diagnosis in patients with nonspecific symptoms. Furthermore, in a modernly equipped hospital with trained staff, patients benefiting from less invasive microsurgical treatment, such as this case of laryngeal lipoma, can be managed in a general hospital, disburdening the overcrowded clinical hospital centers.

KEYWORDS: Deglutition Disorders; Dysphonia; Lasers, Semiconductor; Lipoma; Microsurgery

CR40

From Paralysis to Motion: Successful Facial Reanimation Using Dual Motor Nerve Transfer

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INTRODUCTION: Facial paralysis, the complete loss of voluntary facial muscle movement, severely impacts daily life causing functional, social, and psychological challenges due to loss of expression, eye and lip control and facial symmetry. Facial reanimation aims to restore muscle tone, movement and symmetry, though ideal outcomes are difficult. The dual motor nerve method, combining hypoglossal and masseteric nerve transfers, restores resting tone and midface movement, improving smile, symmetry, and overall facial function.

CASE PRESENTATION: An 18-year-old male sustained a right temporal bone fracture in a traffic accident, resulting in complete right-sided facial paralysis due to disruption of facial nerve continuity. The injury was located in the proximal segment of the temporal bone, making direct surgical restoration of nerve continuity impossible. The patient presented to our clinic three months after the injury with no clinical evidence of facial function recovery, showing complete absence of facial mimicry and a House–Brackmann grade VI. Given the lack of functional improvement and the severity and location of the nerve injury, restoration of facial function using the dual motor nerve transfer technique was proposed and performed. At postoperative follow-up, clinical examination showed restoration of facial tone and improved voluntary facial movements. Four months after surgery, facial function improved to House–Brackmann grade II–III from the preoperative grade VI.

CONCLUSION: Dual motor nerve transfer is an effective option for restoring facial function in patients with facial nerve injuries where direct repair is not possible. This approach can achieve significant recovery of facial movement, improved symmetry and facial tone, greatly enhancing the patient's quality of life and highlighting its usefulness in the clinical management of facial paralysis.

KEYWORDS: Cranial Nerves; Facial Nerve Injuries; Facial Paralysis; Nerve Transfer; Recovery of Function

CR41

Presurgical Infant Orthopedics for Bilateral Cleft Lip and Palate Reconstruction: Setting up for Success

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INTRODUCTION:

Presurgical Infant Orthopedics (PSIO) are non-invasive procedures done prior to primary cleft lip and palate reconstruction to positively influence the anatomy of the cleft. PSIO includes Lip Taping and Nasoalveolar Molding (NAM), whose main purpose is to improve the anatomical relationships within the cleft region by narrowing the cleft, repositioning the alveolar segments and soft tissues of the upper lip, reducing nasal asymmetry, and facilitating feeding. One of the most significant effects of PSIO is its ability to positively influence the position of the premaxilla in cases of complete bilateral cleft lip and palate.

CASE REPORT:

A male newborn was diagnosed with complete bilateral cleft lip and palate. The premaxilla

was severely protruded, deviated to the right and rotated, which represented an indication for PSIO. Lip Taping was commenced at the age of two weeks, and once centralization of the premaxilla was achieved, a passive palatal plate was introduced. The plate was molded once a week, with regular monitoring of its position, allowing for gradual guidance of the anatomical structures in the desired direction. The premaxilla was progressively fully centralized and relative retrusion was also accomplished, while preventing medial collapse of the lateral palatal shelves. The improved tissue position enabled primary cleft lip and anterior hard palate repair at the age of five months.

CONCLUSION:

With the help of presurgical orthopedics, a very severe form of complete bilateral cleft lip and palate was gently guided into a more favourable anatomical starting point. This approach facilitated the primary repair and contributed to more predictable postoperative outcomes, highlighting that surgery does not always begin in the operating room — sometimes it begins months earlier.

KEYWORDS: Cleft Lip; Cleft Palate; Infant; Nasoalveolar Molding

CR42

Surgical Controversy: Decompression of Sacculus Endolymphaticus in Refractory Ménière's Disease

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INTRODUCTION: Ménière's disease represents one of the most challenging entities in contemporary otology. When conservative therapy fails, the surgeon must operate within a narrow therapeutic window between symptom control and irreversible inner ear destruction. In this context, endolymphatic sac surgery with direct saccular decompression has been described as a hearing-preserving yet unpredictable procedure. By targeting the presumed pathophysiology of endolymphatic hydrops at its origin, this technique aims to control vertigo while preserving cochleovestibular function, achieving success in approximately two-thirds of patients. Owing to its uncertain prognosis and absence of adequate control groups in surgical trials, operative treatment of Ménière's disease remains difficult to time and perform with predictable results. Nevertheless, in selected patients, surgery may represent the only intervention ensuring vertigo control.

CASE REPORT: A female patient first presented in 2019 with intermittent vertigo and sudden sensorineural hearing loss. She subsequently developed progressive right-sided Ménière's disease characterized by recurrent disabling vertigo, persistent tinnitus, gait instability, nausea, and worsening sensorineural impairment. Extensive conservative therapy, including oral and intratympanic corticosteroids, diuretics, hyperbaric oxygen therapy, and oral betahistine, failed to control vertigo episodes. Pure-tone audiometry demonstrated moderate upward-sloping right-sided sensorineural hearing loss (65–15 dB), while vestibular testing and temporal bone imaging were unremarkable. Given symptom severity and therapeutic failure, a hearing-preserving surgical strategy was undertaken with myringotomy and ventilation tube placement, followed by endolymphatic sac decompression in 2021.

CONCLUSION: Vertigo recurred ten days later. Subsequently, high-dose single-day intratympanic gentamicin administration achieved complete vertigo control. Progressive hearing deterioration resulted in profound right-sided deafness, and the patient is currently evaluated for cochlear implantation while remaining vertigo-free during follow-up. This case illustrates the unpredictable course of Ménière's disease and limitations of endolymphatic sac decompression.

KEYWORDS: Decompression, Surgical; Endolymphatic Sac; Hearing Loss, Sensorineural; Meniere Disease; Vertigo

CR43

Synchronous Primary Neoplasms: Non-Hodgkin Lymphoma and Papillary Thyroid Cancer – A Case Report

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INTRODUCTION: Multiple primary malignant neoplasms are defined as two or more primary malignancies occurring in an individual. The incidence of synchronous neoplasms is approximately 0.8% in patients with non-Hodgkin lymphoma. This report aims to describe a rare case of simultaneous small B-cell non-Hodgkin lymphoma and papillary thyroid cancer occurring in an individual.

CASE REPORT: A 45-year-old female patient presented with unilateral cervical and axillary lymphadenopathy, cervical pain and dry cough. She had no history of fever, drenching night sweats or weight loss. Pathohistological analysis of two extirpated lymph nodes revealed non-Hodgkin B-cell lymphoma – small lymphocytic lymphoma. A diffuse infiltrate mainly consists of small, rounded nuclei cells with granulated chromatin and scant cytoplasm. Immunohistochemistry was positive for CD20, CD5, CD3, CD23, BCL2, CD79 alpha markers and Ki67 proliferation index of 15%. Follicles filled with colloid and surrounded by enlarged, atypical follicular cells were detected in one of the lymph nodes. The described cells were immunohistochemically positive for thyroid transcription factor-1 (TTF-1), thyroglobulin (Tg), and cytokreatin 19 (CK19), which suggests a metastatic deposit of thyroid cancer. Our patient was treated with the rituximab-bendamustine protocol. She underwent total thyroidectomy, and the post-operative histopathology revealed multifocal papillary microcarcinoma. The surgery was followed by radioactive iodine ablation and lifelong hormone replacement therapy. Control computed tomography scan and thyroid gland scintigraphy showed an improvement of previous lymphadenopathy and no signs of papillary thyroid cancer recurrence.

CONCLUSION: This case describes an unusual combination of two primary malignancies, emphasizing the importance of establishing pathohistological diagnosis (especially in early stages). A multidisciplinary approach is crucial for positive clinical outcomes. The lack of guidelines for rare double malignancies makes it more difficult to treat such cases.

KEYWORDS: Lymphoma, Non-Hodgkin; Neoplasms, Multiple Primary; Thyroid Cancer, Papillary

CR44

Poor SLCO1B1 Transport Activity and Statin-Associated Myopathy Risk: A Case Report

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INTRODUCTION: The initial step in hepatic uptake of most statins is mediated by the SLCO1B1 (OATP1B1) transporter. Genetic variants associated with reduced SLCO1B1 transport activity can increase systemic statin exposure, which may cause muscle weakness and myalgia, known as statin-induced myopathy. The aim of this abstract is to illustrate the role of pharmacogenetics in guiding therapy and preventing adverse effects.

CASE REPORT: A 19-year-old male patient was referred to an endocrinologist for the management of hypercholesterolemia. His medical history included prolonged QT interval syndrome, fatty liver disease, hypothyroidism and medulloblastoma in complete remission in early childhood. Considering his increased cardiovascular risk, rosuvastatin was initiated. At a 2-month follow-up, laboratory results showed elevated creatine kinase levels (712 U/L), as well as increased aspartate aminotransferase and alanine aminotransferase, without myalgia or muscle cramps. Therefore, rosuvastatin was discontinued, and patient underwent pharmacogenetic testing related to statin therapy. The results showed genetic predisposition to increased systemic statin exposure due to poor SLCO1B1 function, which may increase the risk of statin-associated myopathy and other adverse effects. Given these findings, the patient was prescribed a lower dose of fluvastatin in in combination with ezetimibe. He was also advised to reduce physical activity. At follow-up evaluation two months after fluvastatin was discontinued due to muscle pain, the patient showed a good response to ezetimibe with stable CK levels. Consequently, ezetimibe monotherapy was continued for the management of hypercholesterolemia.

CONCLUSION: Regular follow-ups are important when introducing new drug therapy to prevent and detect potential effects. Pharmacogenetics provides valuable insight into individual genetic variability affecting drug pharmacokinetics, enabling better personalization of therapy, reduction of adverse effects and improvement of patients' quality of life.

KEYWORDS: Hypercholesterolemia; Myalgia; Pharmacogenetics

CR45

Clozapine-Associated Myocarditis Presenting as Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS)

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INTRODUCTION: Clozapine is reserved for treatment-resistant psychosis but may cause life-threatening immune-mediated complications, including myocarditis and Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS). These reactions usually occur early in treatment, often with nonspecific flu-like or respiratory symptoms that can be mistaken for infection. This overlap often leads to a delay in establishing the correct diagnosis. This case describes clozapine-associated myocarditis occurring as part of DRESS and points to the importance of early cardiologic evaluation in unstable patients.

CASE REPORT: 41-year-old man with first-episode psychosis and no relevant medical history was admitted to a psychiatric ward and started on clozapine 300 mg daily. Within the first weeks he developed fever, cough, somnolence, hypotension, rhabdomyolysis, and raised inflammatory markers, leading to transfer to cardiology with a working diagnosis of right-sided pneumonia and suspected myocarditis. Laboratory tests showed elevated C-reactive protein, leukocytosis with eosinophilia, increased high-sensitivity troponin, and mildly impaired liver and kidney function. Echocardiography showed globally reduced left ventricular contraction, with ejection fraction of 25% and biventricular systolic dysfunction. He received broad-spectrum antibiotics, oxygen, vasopressor support, and heart failure therapy. Clozapine therapy was stopped, and additional diagnostic evaluation ruled out infectious, ischemic, and autoimmune origins. As inflammatory markers decreased, follow-up echocardiography showed recovery of ejection fraction to 56%, and he was discharged in stable condition with ongoing psychiatric care.

CONCLUSION: This case shows that fever, respiratory complaints, and unexplained inflammation shortly after starting clozapine should not be taken as infection alone. In such cases, myocarditis and DRESS should be considered early and cardiology consulted without delay. Clozapine needs to be discontinued and the patient followed closely to reduce the risk of permanent cardiac damage.

KEYWORDS: Clozapine; Drug Hypersensitivity Syndrome; Myocarditis; Psychotic Disorders

CR46

Persistent Fetal Sensations in a Postmenopausal Woman: At the Crossroads of Pseudocyesis and Somatic Symptom Disorder

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INTRODUCTION: Pseudocyesis, often termed false or phantom pregnancy, is a false belief of being pregnant and is rare among postmenopausal women. Currently, there are more reported cases in developing countries of Africa and Asia (1-5%) and very low in Western countries (0.00027%). Such cases often present as gynecological or urological disorders. Timely intervention, early diagnosis, psychiatric therapy, education, and support are required.

CASE REPORT: A 55-year-old married woman with one child was referred to the gynecology clinic reporting severe abdominal pain, cramping, and "fetal movements" occurring 6–7 times daily in the right lower quadrant, progressing to the left side, and accompanied by sleep disturbances. Her vital signs were normal (BP 148/88 mmHg, pulse 84 per minute); her weight was 55 kg. The gynecologic exam revealed an atrophic uterus with the following measurements: 7.5 x 2.4 x 1.6 cm, with endometrial thickness measuring 3.4 mm. No mass lesions were found. The per speculum and per vaginum exams were normal, with healthy vaginal mucosa, atrophic cervix. Further ultrasound revealed an atrophic uterus and mild hydronephrosis. Follow-up ultrasound revealed multiple kidney stones, the largest measuring 3mm.

Despite multiple reassurances of not being pregnant, the patient continued to report the fetal-like movement, maintaining her conviction. She was diagnosed with Somatic Symptom Disorder (pseudocyesis) and Delusion Disorder (somatic type) upon referral to psychiatry.

CONCLUSION: There is moderate heritability in these conditions (30-50%) with strong polygenic risk overlap with conditions such as anxiety, depression, and neuroticism. Supportive and Cognitive Behavioral therapy (CBT) are necessary in treating this condition, highlighting the importance of early referral and synergistic psychiatric intervention in other departments, where these somatic pathologies present first.

KEYWORDS: Delusions; Postmenopause; Pseudopregnancy; Psychiatry

CR47

Pharmacogenetic Insights In Psychiatric Care

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INTRODUCTION: The cytochrome P450 (CYP450) family comprises a large group of enzymes predominantly located in the liver that play a central role in the metabolism of numerous pharmacologic agents. Among them, CYP2D6 is critical for the metabolism of many psychiatric medications, antiarrhythmics, opioids, and others. Genetic polymorphisms of CYP2D6 result in poor, intermediate, extensive, and ultra-rapid metabolizer phenotypes, which influence drug response and tolerability. The aim of this report is to illustrate the clinical utility of CYP2D6 pharmacogenetic testing in optimizing antipsychotic treatment.

CASE REPORT: We report the case of a 45-year-old female patient diagnosed with schizophrenia since 2009. Initial treatment with fluphenazine and haloperidol, followed by olanzapine, was discontinued due to poor tolerability. Aripiprazole was subsequently initiated as a long-acting injectable at a guideline-recommended dose. Despite this, the patient developed significant autonomic and systemic adverse effects, including weight gain, metabolic disturbances, tremor, and insomnia. Pharmacogenetic analysis identified the patient as a CYP2D6 poor metabolizer and a normal CYP3A4 metabolizer, indicating the need for substantially reduced dosing of CYP2D6 substrate drugs. Accordingly, the aripiprazole dose was reduced to a regimen below standard recommendations, resulting in normalization of serum drug concentrations. However, tolerability remained suboptimal, and treatment was therefore switched to cariprazine, which is predominantly metabolized by CYP3A4. At present, the patient reports a marked reduction in adverse effects and stable control of psychotic symptoms.

CONCLUSION: This case illustrates that identifying CYP2D6 metabolizer status and integrating pharmacogenetics into psychiatric practice are key steps in "designing a good life." Even when dose adjustments of CYP2D6 substrates are limited by poor tolerability, genotyping can guide the selection of alternative therapies and support tailored treatment strategies that enhance long-term health and well-being.

KEYWORDS: Antipsychotic Agents; Cytochrome P-450 CYP2D6; Pharmacogenomic Testing; Schizophrenia

CR48

Hidden in Plain Sight: Adult Attention-Deficit Hyperactivity Disorder and Functional Recovery in Primary Care

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INTRODUCTION: Attention-deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder that typically begins in childhood but in some cases remains unrecognized until adulthood. In adults, it often presents with difficulties in attention, organization, interpersonal relationships, and occupational functioning, while symptoms are frequently misattributed to anxiety or depressive disorders. Family medicine, through its comprehensive and continuous care, plays a key role in the early identification of such patients and in coordinating further diagnostic evaluation and treatment. The aim of this case report is to highlight the role of family medicine in recognizing previously undiagnosed ADHD in adulthood and facilitating appropriate diagnostic evaluation and treatment.

CASE REPORT: A 26-year-old male patient consulted his family physician due to impaired concentration, fatigue, and reduced work performance. His medical history included treatment for a depressive episode with no significant therapeutic benefit. Developmental history and available documentation revealed dyslexia, dysgraphia, and multiple neurodevelopmental difficulties from early childhood. Physical examination and laboratory investigations were unremarkable. Given the suspicion of a neurodevelopmental disorder, the patient was referred to a psychiatrist, where a diagnosis of mixed-type ADHD with comorbid autism spectrum disorder was established. Treatment with methylphenidate was initiated, along with regular follow-up visits and telemedicine monitoring. The patient reported marked improvement in occupational functioning, daily organization, and overall quality of life.

CONCLUSION: This case highlights the potential long-term impact of unrecognized ADHD on adult functioning, particularly when symptoms are misinterpreted as mood disorders. Despite the delayed diagnosis, an individualized treatment approach, continuity of care, and a collaborative physician–patient relationship led to significant functional improvement. As the first point of contact and coordinator of continuous care, family medicine plays a crucial role in recognizing neurodevelopmental disorders, facilitating diagnostic pathways, and encouraging active patient participation in treatment, thereby contributing to sustained health and well-being across the lifespan.

KEYWORDS: Attention Deficit Disorder with Hyperactivity; Neurodevelopmental Disorders; Physicians, Family

CR49

Anorexia Nervosa in Twins: One Diagnosis, Two Lives

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INTRODUCTION: Anorexia nervosa is an eating disorder defined by restriction of energy intake relative to requirements, leading to significantly low body weight. This case follows a unique presentation of anorexia nervosa in twin sisters, focusing on the diagnostic and therapeutic course of one affected sister.

CASE REPORT: A 13-year-old girl was hospitalized for extremely low body weight; with a Body Mass Index (BMI) of 13.2. Her initial bloodwork showed signs of acute kidney injury (creatinine: 91 μmol/L). She was also suffering from bradycardia (40 beats per minute) and hypophosphatemia (0,81 mmol/L), pointing to refeeding syndrome. On admission, a nasogastric tube was placed, and enteral feeding was initiated. Her mother provided insight into her recent risk-taking behaviour, such as decreased food intake, calorie counting, and a strict exercise regimen. Her twin sister started exhibiting similar behaviour simultaneously. The twins were described as successful in both school and extracurricular activities (sport), with perfectionistic tendencies. Her sister's recent success in sport may have triggered disease progression. The patient was prescribed antidepressants to manage comorbid anxiety and depressive symptoms, and atypical antipsychotics to reduce the fear of weight gain. She gradually gained insight into her condition and started oral intake of fluids and foods. Despite showing fear of weight gain, her motivation to be discharged enabled cooperation with the team towards recovery. After a month of hospitalization, she met criteria for home care and was discharged with the plan of ongoing outpatient multidisciplinary follow-up. At their most recent follow-up, both girls were in remission.

CONCLUSION: This case highlights the importance of a multidisciplinary approach in complex conditions, such as anorexia nervosa, improving the chances of successful recovery.

KEYWORDS: Anorexia Nervosa; Bradycardia; Hypophosphatemia; Refeeding Syndrome

CR50

Transcranial Direct Current Stimulation in the Treatment of Alzheimer's Disease

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INTRODUCTION: Transcranial direct current stimulation (tDCS) is a non-invasive neuromodulation technique based on the use of a weak direct electrical current (1-2 mA) delivered to the brain through two electrodes positioned over the left and right prefrontal cortex. It changes neuronal membrane potentials, affects synaptic plasticity and indirectly modulates glutamatergic, Gamma-aminobutyric acid-ergic, serotonergic and dopaminergic systems. It is most commonly used in depressive disorders, especially in treatment-resistant depression and it is currently applied as an experimental therapy for depressive symptoms in Alzheimer's disease.

CASE REPORT: A 76-year-old female patient presented with depressive symptoms and a previously established diagnosis of Alzheimer's disease. For the past eight months, under the supervision of her daughter, she had been treated with escitalopram 10 mg/day and donepezil 10 mg/day, but without any significant improvement in depressive symptoms. She showed a reduction in spontaneous verbal production, lack of motivation and initiative, and episodes of aggression and agitation. The Mini-Mental State Examination (MMSE) score upon admission to the day hospital was 22 and the Cornell Scale for Depression in Dementia (CSDD) score was 17. The daughter received instructions for the home use of tDCS according to a specific protocol. After completing 20 sessions of tDCS (once a day, five times per week, each lasting 20-30 minutes), the patient continued with an additional 10 sessions, three times per week.

CONCLUSION: At the end of transcranial direct current stimulation treatment, depressive symptoms improved, including mood, motivation, and initiative, along with cognitive functions such as attention and working memory. Both the MMSE (24 points) and CSDD (12 points) scores improved, supporting the safety, clinical usefulness, and future potential of tDCS as a non-pharmacological therapy.

KEYWORDS: Alzheimer Disease; Depressive Disorder; Transcranial Direct Current Stimulation

CR51

Paradoxical Effect of Esketamine on Blood Pressure in Treatment-Resistant Depression

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INTRODUCTION: Esketamine is an antidepressant approved for the treatment of treatment-resistant depression. One of the most common adverse effects of esketamine is an increase in blood pressure. We present a patient whose initially elevated blood pressure decreased after initiation of esketamine.

CASE REPORT: A 57-year-old woman from Ukraine presented with a severe depressive episode accompanied by psychotic symptoms. The symptoms began after her son's death in 2018. Her mental health improved after antidepressant trazodone was prescribed. Due to the outbreak of the Russo-Ukrainian war in 2022 and the death of her brother in 2025, the severity of her depression increased and was followed by the onset of auditory hallucinations. During the same period, the patient gained 20 kg. Subsequently, an adrenal tumor was diagnosed and surgically removed. She also developed hypertension, which was treated with moxonidine 0.6 mg/day, perindopril tert-butylamine/indapamide 8/2.5 mg/day, and furosemide 40 mg/day with KCl once daily. Due to her clinical presentation of severe depression with psychotic symptoms, her treatment continued in the Day Clinic. Duloxetine 60 mg/day, aripiprazole 10 mg/day, and promazine 50 mg/day were introduced in addition to trazodone 150 mg/day; however, no adequate therapeutic response was observed. Therefore, her depression was classified as treatment-resistant, and esketamine was added despite elevated blood pressure (systolic 140 mmHg while on antihypertensive therapy). After prescribing esketamine, the patient's depressive symptoms subsided and were followed by a paradoxical normalization of blood pressure (systolic up to 120 mmHg).

CONCLUSION: This case presents a correlation between chronic stress, the development of treatment-resistant depression with psychotic symptoms, and hypertension. Esketamine administration reduced depressive symptoms, which was accompanied by a decrease in systolic blood pressure.

KEYWORDS: Antidepressive Agents; Depression; Hypertension

CR52

Trapped by Fear: A Case of Specific Phobia of Choking

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INTRODUCTION: Specific phobia is an anxiety disorder characterized by intense, persistent fear of a specific object or situation that poses little actual danger, often leading to avoidance and functional impairment. Exposure to the feared stimulus may provoke strong physical and emotional responses. Cognitive behavioral therapy (CBT) represents the gold-standard treatment, while untreated phobias often persist long-term. We present a patient with a specific phobia of choking.

CASE REPORT: A previously healthy 34-year-old male experienced his first fear episode several months ago while eating. He felt a sensation in his throat and misinterpreted it as food getting stuck, leading him to believe he might choke. This misinterpretation resulted in heightened attention to swallowing and progressive fear of choking. He eliminated solid foods from his diet, switching entirely to liquid nutrition, chewed excessively, swished food in his mouth, and drank water after every bite. He rapidly lost seven kilograms. He avoided eating in front of others and withdrew from social situations involving food, which increased anxiety and strained close relationships. He occasionally used alcohol to reduce distress. Gastroenterological, otorhinolaryngological, and neurological evaluations ruled out organic causes of symptoms. Treatment followed a CBT-based approach, including psychoeducation on anxiety and swallowing physiology, cognitive restructuring of catastrophic beliefs, behavioral experiments shifting attention from throat sensations to food taste, detached mindfulness, and gradual exposure to solid foods. After 21 sessions, the patient resumed normal eating, regained lost weight, and restored social functioning.

CONCLUSION: This case shows how mental health directly influences physical functioning, nutrition, and social well-being, highlighting the importance of a holistic approach. By redesigning maladaptive cognitive patterns through CBT, optimal functioning of the body and mind was successfully restored.

KEYWORDS: Airway Obstruction; Phobic Disorders; Psychotherapy; Weight Loss

CR53

When the Mind Becomes a Barrier to Well-being: A Case of Obsessive-Compulsive Disorder from a Cognitive-Behavioral Perspective

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INTRODUCTION: Obsessive–compulsive disorder (OCD) is characterized by intrusive thoughts (obsessions) and repetitive behaviors (compulsions) aimed at reducing distress, frequently resulting in functional impairment. First-line treatments include cognitive behavioral therapy (CBT) and selective serotonin reuptake inhibitors. We present a patient exhibiting the rare cognitive phenomenon of thought-object fusion.

CASE REPORT: A previously healthy 30-year-old woman presented for evaluation due to significantly impaired daily functioning caused by her illnes. Severe health anxiety had developed three years prior, focused on unrealistic fears of asbestos exposure. Her condition subsequently progressed to pronounced obsessive–compulsive symptoms. Standard assessment and clinical interview confirmed obsessive-compulsive disorder according to DSM-5 criteria. She believed certain thoughts could cause harm and attempted to neutralize them through compulsive behaviors, such as excessive hand washing. The most distinctive feature was the presence of thought-object fusion, in which she perceived thoughts and emotions as transferable to objects. For example, during showering, she believed thoughts of having cancer could contaminate the water, resulting in her body being covered in "cancerous water". Similarly, negative thoughts while preparing food led her to believe the food was dangerous and could cause illness if consumed. These beliefs caused significant anxiety, avoidance, and impaired daily functioning, including disruptions to sleep, nutrition, and social relationships. Treatment included CBT with exposure and response prevention, encouraging participation in feared activities without engaging in neutralizing rituals. Therapy also addressed dysfunctional metacognitive beliefs through cognitive restructuring, detached mindfulness, and impulse-delay techniques. The patient declined pharmacotherapy. Progress was slow, with only partial improvement reflected in reduced engagement in compulsive behaviors and improved tolerance of intrusive thoughts.

CONCLUSION: Thoughts shape individual reality and are central to how people experience themselves and the world. As such, they play a central role in overall well-being, influencing both mental and physical health. However, the subjective nature of thoughts complicates treatment, as patients often perceive intrusive thoughts as real and unquestionable, even when they appear bizarre to others.

KEYWORDS: Mental Health; Obsessive-Compulsive Disorder; Psychological Phenomena; Psychotherapy

CR54

Autoimmune Thyroid Disease as an Underlying Cause of Treatment-Resistant Anxiety and Depression

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INTRODUCTION: Autoimmune thyroid diseases result from the interaction between genetic predisposition and environmental factors. Relative risk studies have shown that first-degree relatives of patients with Hashimoto thyroiditis have a 4.5 to 32 times higher risk of developing the disease compared to the general population. Common manifestations include psychiatric symptoms such as depression, which are often overlooked or misattributed to other primary psychiatric disorders.

CASE REPORT: A 24-year-old female patient presented with symptoms within the anxiety-depressive disorder. Initially, her primary care doctor prescribed escitalopram, which worsened hver anxiety, so he switched her to sertraline and referred her to a psychiatrist. Family history revealed Hashimoto thyroiditis in the patient's mother. The psychiatrist introduced duloxetine and referred the patient for laboratory evaluation, including thyroid hormones. Laboratory findings were unremarkable, except for elevated thyroid-stimulating hormone (TSH) (5.7 mIU/L), with normal free triiodothyronine (fT3) and free thyroxine (fT4) levels. Despite six weeks of duloxetine therapy, her symptoms remained unchanged. Given the positive family history, clinical presentation, and lack of response to medications, it was important to assess thyroid peroxidase antibody (anti-TPO) titers which were found to be elevated. Consequently, it was decided to introduce levothyroxine along with anti-inflammatory interventions and selenium. Without changing the antidepressant therapy, the patient made an excellent recovery, with no progression of symptoms.

CONCLUSION: Although this patient would not typically meet standard criteria for hypothyroidism treatment, the combination of family history and treatment-resistant psychiatric symptoms justified therapeutic intervention. This case emphasizes the relevance of considering underlying thyroid dysfunction in patients with complex psychiatric symptoms and integrating family history and genetic risk factors into the clinical assessment, as well as tailoring interventions to modify underlying risk.

KEYWORDS: Anxiety; Depression; Hashimoto disease; Thyroxine

CR55

Not an Ordinary Pleural Effusion: Bronchogenic Cyst Mimicry

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INTRODUCTION: Bronchogenic cysts are rare congenital malformations, accounting for approximately 6% of mediastinal cysts. They may be detected incidentally or present with cough, chest pain, or dyspnea. This case highlights the diagnostic challenge of bronchogenic cysts, which can mimic malignant tumors.

CASE REPORT: We report a 50-year-old man with a long-standing left-sided encapsulated pleural effusion, first identified in 2012 during evaluation for pleuropneumonia. Initial thoracic computed tomography (CT) showed an encapsulated pleural collection. Pleural aspiration revealed an exudative effusion without malignant cells or identifiable pathogens. The patient was regularly followed without radiological progression until 2020, when CT demonstrated enlargement to 11 × 9 × 8.5 cm. Pleural puncture showed a hemorrhagic mesothelial-type effusion, while positron emission tomography CT (PET-CT) and cytology excluded malignancy. Following antibiotic therapy, the pleural effusion regressed.

In 2024, he re-presented with left-sided chest pain and recurrence of a cystic lesion measuring 12 × 9.5 cm. Thoracic drainage evacuated 700 mL of sanguinolent fluid, resulting in complete resolution of the pleural effusion. Follow-up imaging remained unremarkable until 2025, when, after a viral infection, he was admitted with severe chest pain, syncope, and hypotension requiring vasopressors. Multislice computed tomography confirmed recurrent left-sided pleural effusion, and ultrasound suggested a hemorrhagic cyst. Surgical exploration was indicated. Because extensive macroscopic findings were suggestive of malignancy, left lower lobectomy with mediastinal lymphadenectomy was performed. Histopathology confirmed a bronchogenic cyst. The patient recovered completely.

CONCLUSION: Bronchogenic cysts may radiologically and intraoperatively mimic malignant cystic tumors. Awareness of this diagnostic pitfall is essential to avoid unnecessarily extensive surgery, loss of lung function, and reduced quality of life. Publication of such cases remains important for improving recognition of this rare entity.

KEYWORDS: Bronchogenic Cyst; Diagnostic Errors; Pleural Effusion; Pulmonary Surgical Procedures

CR56

Adult-Onset Intralobar Pulmonary Sequestration: A Case of Mysterious Pneumonia

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INTRODUCTION: Pulmonary sequestration is a rare congenital lung anomaly characterized by non-functioning lung tissue that lacks communication with the normal bronchopulmonary tree and receives an anomalous systemic arterial supply. It most commonly presents with recurrent respiratory infections, chronic cough, hemoptysis, or remains asymptomatic. This case report aims to emphasize pulmonary sequestration as a potential cause of persistent respiratory symptoms unresponsive to conventional therapy.

CASE REPORT: A 31-year-old female is presented to the Clinic for Lung Diseases with a four-month history of fever of unknown origin accompanied by leukocytosis. The fever rises to 40°C and responds transiently to antipyretics. Three months earlier, she had been diagnosed with right basal pneumonia and treated sequentially with three cycles of amoxicillin-clavulanate, two cycles of azithromycin, and ceftriaxone. Despite treatment, she developed a productive cough with yellow-green sputum. Additional symptoms included fatigue, weakness and dyspnea accompanied by retrosternal pain during inspiration.

Laboratory evaluation revealed leukocytosis with neutrophilia. Blood cultures, urine analysis, respiratory and pneumobacterial panels were unremarkable. Chest X-ray, echocardiography, pulmonary function tests and arterial blood gas analysis all revealed normal findings. A chest computed tomography scan demonstrated a small hyperinflated area in the paramediastinal region of the right lower lobe with bronchial mucus plugging and no evident connection to the tracheobronchial tree. Findings were suggestive of intralobar pulmonary sequestration, which was confirmed by CT angiography showing an arterial branch originating from the thoracic aorta at the level of Th7 vertebra. Treatment options include surgical resection, transcatheter arterial embolization, or regular follow-up depending on patient status.

CONCLUSION: With today's prevalent antibiotic misuse, timely recognition of rare conditions in resistant cases is needed to provide correct and early diagnosis of anomalies such as pulmonary sequestration.

KEYWORDS: Angiography; Bronchopulmonary Sequestration; Fever of Unknown Origin; Pneumonia

CR57

Beyond the Chest Drain: A Case at the Crossroads of Surgical, Psychiatric, and Social Responsibility

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INTRODUCTION: This case illustrates that no medical specialty, including emergency surgery, is immune to ethical and social complications extending beyond standard clinical management. It shows one of those deontological dilemmas arising when acute thoracic pathology is treated in a patient with substance abuse and legal firearm ownership, all while responsibility for post-discharge safety is unclear.

CASE REPORT: A 44-year-old male with a history of Gilbert syndrome, tonsillectomy, spinal surgery, and right inguinal hernia repair presented to the emergency department with dyspnea and elevated inflammatory markers (leukocytes 18 ×10□ /L, C-reactive protein 136 mg/L). Physical examination revealed crepitations and diminished breath sounds over the left hemithorax. Chest radiography showed a left-sided liquidopneumothorax with complete lung collapse and mediastinal shift to the right. A left thoracic drain was inserted achieving lung re-expansion. Two days later, the surgical department received a letter from the family medicine physician reporting his daily use of cocaine, amphetamines, marijuana, and other substances, associated with paranoid episodes. The patient legally owned a firearm and was going through divorce proceedings, all while living with his wife and three children. Conciliary psychiatric evaluation revealed elevated mood but no indication for involuntary hospitalization. Repeat imaging demonstrated recurrent left pneumothorax, but the drainage remained effective. The patient was discharged in stable condition after social services were notified.

CONCLUSION: In this case, the surgical team faced a significant ethical dilemma regarding free discharge despite successful treatment. While no legal criteria mandated involuntary hospitalization or police involvement, and all required social services were notified according to protocol, the risk was still obvious. This shows the need for clearer interdisciplinary guidelines when patient safety concerns extend beyond purely somatic pathology.

KEYWORDS: Ethical Dilemmas; Firearms; Pneumothorax; Substance-Related Disorders; Thoracic Surgery

CR58

Biological Therapy With Mepolizumab: Improving Quality of Life in Severe Eosinophilic Asthma

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INTRODUCTION: Severe eosinophilic asthma (SEA) is a subtype of asthma characterized by persistent eosinophilic airway inflammation and poor disease control despite optimal standard therapy. Therefore, it often requires use of biological therapy targeting specific inflammatory pathways, specifically the interleukin-5 (IL-5) axis. Mepolizumab, an anti-IL-5 monoclonal antibody, inhibits eosinophil survival, thus reducing exacerbation frequency and improving asthma control.

CASE REPORT: We present a 71-year-old woman with severe eosinophilic asthma diagnosed in 2004. She is allergic to cat dander, weed pollen, and Blattella, and her asthma is triggered by multiple factors, including nuts, fog, humidity, cold, tobacco smoke, emotional stress, and food preservatives. She had experienced frequent exacerbations and required multiple emergency interventions despite appropriate therapy with inhaled corticosteroids (ICS), long-acting β2-agonists (LABA), antileukotrienes and oral corticosteroids. Spirometry showed reduced pulmonary function with a moderate obstructive ventilatory defect, while laboratory tests revealed elevated IgE levels and severe eosinophilia. As a result, therapy with mepolizumab was initiated in 2017. In the year before starting therapy, the patient required more than ten emergency interventions. Since starting therapy, she has experienced only one mild exacerbation, consisting of sneezing episodes without any respiratory compromise. Moreover, the patient has maintained improved pulmonary function, with a mild obstructive ventilatory defect, and normalized eosinophil levels throughout eight years of therapy.

CONCLUSION: Eosinophilic asthma is a chronic disease that requires effective long-term management. This case illustrates that mepolizumab can provide sustained control in severe eosinophilic asthma, leading to improved pulmonary function and laboratory markers, a marked reduction in asthma exacerbations and significant enhancement in patient's quality of life.

KEYWORDS: Antibodies, Monoclonal, Humanized; Asthma; Eosinophils; Interleukin-5; Treatment Outcome

CR59

Cystic Fibrosis - From Childhood Diagnosis to Life Without Limits

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INTRODUCTION: Cystic fibrosis (CF) is an autosomal recessive disorder most commonly caused by the ΔF508 mutation in the CFTR gene, which encodes the cystic fibrosis transmembrane conductance regulator (CFTR) protein. Defects or absence of this protein leads to production of thick mucus. CF is characterized by its progressive nature; however, advancements in treatment have significantly improved both quality of life and life expectancy for affected individuals, as illustrated in this case.

CASE REPORT: A 27-year-old female patient was diagnosed with CF at 4 months of age during an evaluation for inadequate weight gain (ΔF508/ΔF508). Her brother also has CF, while both parents are unaffected. Since diagnosis, she has been hospitalized multiple times due to exacerbations of the underlying disease, including two hospitalizations for severe hemoptysis. The patient has been diagnosed with bronchiectasis and chronic P. aeruginosa colonization. Additionally, she has undergone three surgical procedures for nasal polyps. Prior to CFTR modulator therapy, the patient's body mass index (BMI) was 21 kg/m², with pulmonary function tests showing forced expiratory volume in 1 second (FEV1) at 60%, forced vital capacity (FVC) at 76%, and FEV1/FVC at 0.69. After introduction of CFTR modulators, her BMI improved to 24 kg/m², with FEV1 at 73%, FVC at 88%, FEV1/FVC at 0.70 and she couldn't provide sputum. Throughout her life, she has shown exceptional ambition, remained highly academically engaged, participated in health campaigns and recently gave birth.

CONCLUSION: The introduction of CFTR modulators has transformed cystic fibrosis from a fatal, progressive disease into a chronic, lifelong condition that no longer limits patients in any aspect of life, enabling them to fully experience their journey through it.

KEYWORDS: Cystic Fibrosis; Cystic Fibrosis Transmembrane Conductance Regulator; Pulmonary Medicine; Quality of Life

CR60

Multidisciplinary Management of Severe Bronchopulmonary Dysplasia: A Case of Success

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INTRODUCTION: Bronchopulmonary dysplasia (BPD) is a chronic lung disease of prematurity affecting infants born before 28 weeks. Resulting from disrupted alveolar development and postnatal injury, it causes long-term respiratory morbidity. Diagnosis occurs at 36 weeks' postmenstrual age based on respiratory support requirements, confirmed by imaging and echocardiography. Management focuses on lung-protective ventilation, optimized nutrition, and pharmacological support to minimize injury and promote growth.

CASE REPORT: We report the case of a female infant born extremely preterm at 26+3 weeks of gestation with a birth weight of 995 g. After discharge from neonatal intensive care, her clinical course was dominated by severe BPD complicated by chronic respiratory failure and pulmonary hypertension. Long-term respiratory stability was achieved through tracheostomy. Pharmacological management included sildenafil for pulmonary hypertension, theophylline to support respiratory drive, and combined furosemide and spironolactone therapy reduce pulmonary edema. The clinical course was further complicated by recurrent severe bronchopneumonias caused by multidrug-resistant organisms, requiring repeated targeted intravenous antibiotic therapy and intensive chest physiotherapy. Multidisciplinary follow-up ensured cardiovascular and nutritional stability. A perimembranous ventricular septal defect was closely monitored and later deemed hemodynamically insignificant. Nutritional rehabilitation progressed from exclusive tube feeding to full oral intake using specialised formula and structured feeding therapy. By early 2025, the patient tolerated daytime tracheostomy capping and maintained stable oxygen saturation on room air.

CONCLUSION: This case illustrates that managing severe BPD requires a highly individualized, multidisciplinary approach. Tailored interventions, specialist involvement, and strong family support are essential to overcoming complex complications and achieving successful long-term respiratory and developmental outcomes.

KEYWORDS: Bronchopulmonary Dysplasia; Infant, Extremely Premature; Hypertension, Pulmonary; Tracheostomy

CR61

Acute Kidney Injury and Sarcoidosis – What Do They Have In Common?

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INTRODUCTION: Sarcoidosis is a multisystem inflammatory disorder characterised by the formation of noncaseating granulomas, most commonly affecting the lungs and lymph nodes. Hypercalcemia, caused by a dysregulated calcium metabolism due to increased production of 1,25-dihydroxyvitamin D by activated macrophages within the granulomas, may lead to renal impairment through vasoconstriction, dehydration and nephrocalcinosis.

CASE REPORT: A 27-year-old male presented to the Emergency department with acute kidney injury, weight loss and a persistent cough lasting five months. Initial laboratory testing revealed elevated serum creatinine (191 μmol/L), marked hypercalcemia (3.43 mmol/L), elevated angiotensin-converting enzyme (ACE) levels (180 U/L), and 24-hour urine protein of 0.32g. Beta-2 microglobulin levels, serum electrophoresis and immunoelectrophoresis were within normal limits. Multi-slice computed tomography (MSCT) detected a pronounced bilateral reticulonodular interstitial pattern in the perihilar regions, upper lobes and the superior segment of the right lower lobe, mediastinal and abdominal lymphadenopathy and multiple avascular nodular spleen lesions. Histopathological analysis of lymph nodes extirpated from the posterior cervical triangle was consistent with granulomatous inflammation without necrosis. Based on laboratory, radiology and histopathology findings the diagnosis of sarcoidosis was established. Hypercalcemia was attributed to uncontrolled production of 1,25-dihydroxyvitamin D within the granulomatous lesions, leading to calcium-mediated renal dysfunction and acute kidney injury. Treatment with oral prednisone at a dose of 40mg daily was initiated. At one-month follow-up, the patient was asymptomatic, normocalcemic and with no visible parenchymal infiltrates on X-ray.

CONCLUSION: This case highlights sarcoidosis as an important and potentially reversible cause of hypercalcemia and subsequent acute kidney injury in young patients. Awareness of this atypical presentation is crucial, as early diagnosis and prompt treatment can result in rapid clinical and biochemical improvement.

KEYWORDS: Acute Kidney Injury; Granuloma; Hypercalcemia; Sarcoidosis

CR62

Sarcoid-Like Reaction Induced by Immunotherapy in a Patient With Metastatic Melanoma: A Case Report

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INTRODUCTION: Immunotherapy with immuno checkpoint inhibitors has enabled significant progress in the treatment of patients with metastatic melanoma. Such therapy activates the immune system to attack tumor cells, but this increased reactivity can cause immune-related adverse events. Among the rarer are granulomatous reactions similar to sarcoidosis that can mimic tumor progression radiologically and clinically.

CASE REPORT: A 55-year-old man was diagnosed with nodular melanoma in 2022. Initially, he underwent surgical excision and was treated with pembrolizumab. After six cycles, he noticed red spots on his scars and developed new respiratory symptoms. A chest X-ray was performed and showed bilateral infiltrates. Based on CT findings, sarcoidosis was diagnosed. Treatment with oral prednisolone was started with clinical and radiological regression of changes. In 2025, due to melanoma relapse, treatment with nivolumab was started and later combined with ipilimumab. A few months later, thorax multislice computed tomography (MSCT) showed new infiltrates with differential diagnoses of metastasis and sarcoidosis. Immunotherapy was postponed and flexible bronchoscopy with transbronchial lung biopsy was performed. Histopathological specimens showed non-caseating granulomas without evidence of tumor. Histochemical stains (PAS, GMS, Ziehl-Neelsen) and microbiological cultures were negative. Laboratory findings showed elevated angiotensin converting enzyme (ACE) (103 U/L) and mildly elevated CRP, lung function showed mildly reduced diffusion capacity for carbon monoxide. Based on the granuloma morphology, temporal association with immunotherapy, and exclusion of infection, immunotherapy-induced sarcoid-like reaction was diagnosed. Treatment with prednisolone and discontinuation of immunotherapy led to clinical and radiological improvement.

CONCLUSION: In patients receiving immunotherapy with new-onset pulmonary infiltrates and lymphadenopathy, a sarcoid-like reaction should be suspected. Timely identification and treatment (administration of corticosteroids and adjustment of immunotherapy) enable symptom control and optimisation of oncological treatment.

KEYWORDS: Immunotherapy; Ipilimumab; Melanoma; Nivolumab; Sarcoidosis

CR63

Quality of Life Transformation After CFTR Modulator Therapy in Cystic Fibrosis- Case Report

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INTRODUCTION: Cystic fibrosis (CF) is an autosomal recessive multisystem disease characterized by impaired chloride transport and thick mucus in the respiratory and gastrointestinal tract. It is associated with reduced life expectancy and impaired quality of life. The aim of this report is to describe the course of advanced CF during pregnancy and the impact of modulator therapy on disease progression and functional status.

CASE REPORT: A 25-year-old woman with CF has been followed since early infancy. Her clinical course was characterized by severe lung disease with frequent exacerbations requiring repeated hospitalizations and intravenous antibiotic therapy, reduced lung function (forced expiratory volume in one second, FEV□ 33%), poor nutritional status (body mass index 19), and comorbid CF-related diabetes and celiac disease. Despite poor overall health, the patient became pregnant. During pregnancy, her condition deteriorated, requiring prolonged hospitalization, antibiotic treatment, systemic corticosteroids, and oxygen therapy. She gained only 8 kg during pregnancy, and due to clinical worsening, delivery occurred at 35 weeks of gestation. Postpartum, further decline in lung function was observed (FEV□ 29%) without recovery of body weight, resulting in inability to independently care for her child. Following approval of cystic fibrosis transmembrane conductance regulator (CFTR) modulator therapy in Croatia, treatment was initiated, leading to significant clinical improvement. The patient gained 10 kg, lung function improved (FEV□ 68%), pulmonary exacerbations and hospitalizations were markedly reduced, insulin therapy was discontinued, enabling full parental independence.

CONCLUSION: Advances in treatment can rapidly and significantly change not only the course of the disease but also the daily life of patients. In this case, CFTR modulator therapy produced improvements beyond clinical parameters, enabling the restoration of functional capacity, stability, and long-term life prospects.

KEYWORDS: Cystic Fibrosis; Nutritional Status; Pregnancy; Quality of Life

CR64

Severe Cystic Fibrosis in the Modulator Era: Hemoptysis Despite Improved Lung Function and Nutrition

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INTRODUCTION: Cystic Fibrosis (CF) is an autosomal recessive disorder caused by mutations in the Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) gene, leading to chronic airway infections, bronchiectasis, and respiratory failure. CFTR modulator therapy improves lung function, nutritional status, and quality of life. However, severe complications still occur in advanced disease. Case reports illustrate these ongoing clinical challenges.

CASE REPORT: A 17-year-old girl with sweat chloride(Cl) confirmed CF (Cl 134 mmol/L) has advanced bronchiectasis, chronic Pseudomonas aeruginosa colonization, CF-related diabetes, liver disease and osteoporosis. The disease was suspected prenatally at 28 weeks of gestation due to meconium ileus and confirmed after birth. Before initiation of CFTR modulators at the age of 13 she suffered from respiratory insufficiency (she was hypoxic and her forced expiratory volume in one second (FEV□) was 20% predicted), her body mass index (BMI) was 13.2 kg/m²(<1st percentile for age and sex), and she experienced 4–6 pulmonary exacerbations per year. Four years after starting modulators, FEV□ improved and stabilized at 42% predicted, BMI increased to 17.1 kg/m2(<5th percentile for age and sex), Percutaneous endoscopic gastrostomy support was discontinued. Exacerbations decreased to 1–2 per year, though chronic Pseudomonas colonization persisted. She was last hospitalised at 17 with mild hemoptysis during an exacerbation, afebrile and hemodynamically stable. Imaging confirmed chronic bronchiectasis with mucoid impaction. She received intravenous ceftazidime and tobramycin, tranexamic acid, intensive airway clearance, and continued CFTR modulators. Hemoptysis resolved without invasive intervention, and metabolic control of diabetes remained adequate.

CONCLUSION: CFTR modulators provide improvements in lung function, nutritional status, and exacerbation frequency in severe CF, yet structural lung disease and complications such as hemoptysis persist, emphasizing the need for continuous multidisciplinary care and transplant evaluation.

KEYWORDS: Bronchiectasis; Cystic Fibrosis; Transplantation

CR65

Uveitis as the First Manifestation of Sarcoidosis: A Case Report

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INTRODUCTION: Sarcoidosis is an idiopathic, multisystem, granulomatous disease that most commonly affects the lungs and lymph nodes. Its worldwide incidence is 1-15 per 100,000. Clinical manifestations are nonspecific therefore diagnosing the disease can be challenging. The purpose of this case is to emphasize uveitis as possible first sign of systemic disease. Uveitis is the second most common extrathoracic manifestation and the first one in 20–40% of patients.

CASE REPORT: A previously healthy 41-year-old woman presented to the ophthalmology clinic in October 2025 due to eye redness. The ophthalmologist diagnosed uveitis, and the patient was referred for chest radiography, tuberculosis testing, and measurement of angiotensin-converting enzyme (ACE). ACE levels were 134 U/L, and chest radiography showed a prominent right hilum (46 × 26 mm). During pulmonology evaluation, she reported fatigue and chest discomfort. Based on these findings, she underwent a chest computed tomography, which revealed multiple bilaterally enlarged lymph nodes in the paratracheal, subcarinal, paraaortic, and hilar regions, with maximal dimensions of 18 mm. Additionally, there were pronounced pleuropulmonary fibrotic changes bilaterally, as well as small nodular and reticular interstitial changes. Microbiological testing of bronchial aspirate showed no pathological findings. Bronchoscopy with endobronchial ultrasound demonstrated numerous enlarged lymph nodes measuring up to 18.7 × 10.8 mm. Cytological analysis of aspirates revealed granulomatous inflammation consistent with sarcoidosis. Therapy with prednisone 20 mg daily was initiated with gradual dose reduction together with pantoprazole 20 mg daily. The patient responded well to treatment.

CONCLUSION: This case shows that uveitis can be the only and first sign of sarcoidosis, sometimes indicating more extensive intrathoracic disease. Systematic evaluation, multidisciplinary approach and appropriate therapy are crucial to prevent complications and achieve disease remission.

KEYWORDS: Granuloma; Lymph Nodes; Methylprednisolone; Sarcoidosis; Uveitis

CR66

Delayed Diagnosis of Malignant Epithelioid Pleural Mesothelioma After Two Video-Assisted Thoracoscopic Surgery Biopsies

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INTRODUCTION: Malignant pleural mesothelioma is strongly associated with asbestos exposure. Diagnosis may be delayed because pleural plaques and small effusions are common in asbestos-related disease, cytology is inconclusive and early biopsies can be false-negative. This case demonstrates that persistent clinical suspicion, long-term imaging and repeated video-assisted thoracoscopic biopsies are crucial for confirming malignancy.

CASE REPORT: A 73-year-old male ship electrician, with prolonged occupational asbestos exposure, presented with long-lasting right-sided pleuritic pain and exertional dyspnea. The initial positron emission tomography-computed tomography (PET/CT) scan in October 2022 showed focal increased fluorodeoxyglucose (18F-FDG) uptake in the right diaphragmatic pleura. Subsequently, uniportal video-assisted thoracoscopic pleural biopsy in November 2022 identified hyalinized fibrous tissue with small calcifications and preserved mesothelium, without evidence of malignancy. Over the following year, serial CT scans from May 2023 to October 2024 demonstrated bilateral pleural plaques, mild subpleural fibrosis, and a minimal right pleural effusion, interpreted as asbestos-related pleural disease. In June 2025, new CT findings revealed multiple biconvex, loculated pleural fluid collections without new pleural thickening. Thoracentesis in July 2025 was again paucicellular and non-diagnostic. A repeated PET/CT in August 2025 then demonstrated new metabolic foci within morphologically stable right pleural thickening and a small paraaortic lymph node. Following a multidisciplinary tumor board review, a re-biopsy was recommended. Subsequently, uniportal video-assisted thoracoscopic surgery (UVATS) decortication with parietal pleural biopsy in December 2025 confirmed low-grade epithelioid malignant mesothelioma. Postoperative recovery was uneventful, and oncology therapy with nivolumab and ipilimumab was planned, with CT follow-up.

CONCLUSION: In asbestos-exposed patients, evolving 18F-FDG activity on PET/CT scan or recurrent effusions necessitate repeated video-assisted thoracoscopic biopsies, regardless of previous negative findings, to minimize the risk of delayed mesothelioma diagnosis.

KEYWORDS: Asbestosis; Mesothelioma; Pleural Effusion; Thoracic Surgery, Video-Assisted

CR67

Incidental Detection of Metastatic Neuroendocrine Pancreatic Tumor During the 99MTC-Sestamibi Parathyroid Scan

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INTRODUCTION: The radiopharmaceutical 99mTc-sestamibi ([99mTc]Tc-MIBI) is a standard imaging agent for the localization of hyperfunctioning parathyroid glands, but its affinity for different malignant tumors confers additional value. Tumor cells' affinity for [99mTc]Tc-MIBI can be explained by increased vascular supply, cytoplasmic and mitochondrial membrane potentials, as well as an increased number of mitochondria in these tumors. However, apart from medullary thyroid cancer, neuroendocrine neoplasms have rarely been reported to accumulate this radiopharmaceutical. We present an exceptionally rare case of metastatic neuroendocrine tumor of the pancreas detected by [99mTc]Tc-MIBI.

CASE REPORT: A 43-year-old woman with a history of left adrenal adenoma underwent a [99mTc]Tc-MIBI scan because of biochemically confirmed primary hyperparathyroidism. A subtle accumulation of radiopharmaceutical was detected behind the left thyroid lobe, suggesting a possible hyperfunctioning parathyroid gland. In addition, two large mediastinal masses were identified that also accumulated [99mTc]Tc-MIBI. They were cytologically suspicious for a neuroendocrine tumor of unknown origin. Subsequent workup identified a pancreatic neuroendocrine tumor with mediastinal metastases and a pituitary adenoma, establishing the diagnosis of multiple endocrine neoplasia type 1 (MEN1).

CONCLUSION: This case demonstrates that a [99mTc]Tc-MIBI scan can be highly useful for establishing an accurate diagnosis in some patients with MEN syndromes, as it not only identifies hyperfunctional parathyroid lesions but may also detect neuroendocrine tumors. This case also underscores the importance of carefully reviewing the entire field of view during parathyroid scintigraphy, as incidental findings may uncover an underlying syndromic disease such as MEN 1.

KEYWORDS: Hyperparathyroidism; Multiple Endocrine Neoplasia Type 1; Neuroendocrine Tumors; Technetium Tc 99m Sestamibi

CR68

Complex Fontan Anatomy and Late Hepatic Complications in Double-Inlet Left Ventricle: A Case Report

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INTRODUCTION: Double-inlet left ventricle (DILV) represents a rare congenital heart defect within the spectrum of single-ventricle hearts, where both atria are connected with a dominant morphologic left ventricle. This condition coexists with a hypoplastic right ventricle (RV) and transposition of the great arteries (TGA). Management involves staged surgery, culminating in the establishment of Fontan circulation, which is fundamentally non-physiological and predisposes patients to long-term complications.

CASE REPORT: We present a 34-year-old female patient with DILV, pulmonary atresia, TGA, and a ventricular septal defect. Due to dextrocardia, surgery necessitated the formation of an L-shaped Fontan conduit connecting the inferior vena cava (IVC) to the main pulmonary artery (PA). At the age of 25, she was admitted with progressive dyspnea, peripheral edema, and ascites. Diagnostics evaluation revealed severe stenosis of a highly calcified, angulated Fontan conduit. Three bare metal stents were implanted, restoring adequate blood flow. Furthermore, multiple regenerative nodules of the liver were observed as a manifestation of Fontan-associated liver disease (FALD). At the age of 34, during regular follow-up, hepatocellular carcinoma (HCC) was diagnosed. It developed due to a severe conduit restenosis and elevated pressures in the Fontan circulation, leading to prolonged hepatic congestion. Surgical resection of the HCC was considered high risk because of potential bleeding complications. Therefore, locoregional transarterial chemoembolization was performed with an excellent result. Afterwards, three additional bare metal stents were implanted at the site of conduit restenosis, resulting in the resolution of the elevated pressure gradient.

CONCLUSION: This case illustrates potential late complications of a unique L-shaped Fontan conduit anatomy due to dextrocardia. Lifelong surveillance is essential to detect complications early, including FALD and potentially fatal HCC.

KEYWORDS: Carcinoma, Hepatocellular; Dextrocardia; Fontan Procedure; Univentricular Heart

CR69

From Low Ejection Fraction to High Mountaintops: Rebuilding a Good Life Despite Heart Failure

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INTRODUCTION: Dilated cardiomyopathy (DCM) is defined by progressive left ventricular (LV) dilatation and systolic dysfunction, leading to heart failure (HF). In end-stage HF, some patients are candidates for advanced treatment options - mechanical circulatory support or heart transplantation (HTx). Another important therapeutic goal is quality of life (QoL), including physical and psychological well-being.

CASE REPORT: A 27-year-old female patient was diagnosed with idiopathic DCM, initially well controlled with medication for seven years. After getting pregnant, she developed dry cough and dyspnoea. Echocardiography showed reduced left ventricular ejection fraction (LVEF) (25%), global hypokinesia, and significant mitral regurgitation. The pregnancy was terminated and HF medication was optimized. Two years later, she was hospitalized with severe congestive HF, presenting with fatigue, paroxysmal nocturnal dyspnoea, and peripheral oedema. Magnetic resonance imaging showed severely reduced LVEF (12%), while right heart catheterization (RHC) verified low cardiac index (CI) and elevated pulmonary vascular resistance (PVR), contraindicating HTx. Consequently, a left ventricular assist device (LVAD) was implanted. Over the following eight years, LVEF, CI and PVR improved and the patient gradually advanced her physical fitness: from short walks to hiking without symptoms. Two "ramp weaning" protocols were attempted, but invasive haemodynamic data indicated the patient could not be successfully weaned from LVAD. Six months later, she underwent HTx. Four years later, as a 48-year-old woman, the patient is asymptomatic, with preserved graft function and without graft rejection, still enjoying mountain hiking.

CONCLUSION: Recent studies show significant improvement in physical QoL after LVAD implantation and further improvement after HTx. The presented case supports those findings, proving that it is possible to design a good life - even within the limits of a disease.

KEYWORDS: Cardiomyopathy, Dilated; Heart Failure; Heart Transplantation; Quality of Life

CR70

A Hidden Heartbreak: Incidental Detection of a Giant Left Ventricular Pseudoaneurysm Following Myocardial Infarction

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INTRODUCTION: Left ventricular pseudoaneurysm is a rare but life-threatening complication of myocardial infarction. Owing to its often clinically silent presentation, early diagnosis is crucial to prevent rupture and associated mortality.

CASE REPORT: We report the case of a 48-year-old man who was initially hospitalized for a subacute myocardial infarction. Five days prior to admission, the patient experienced back pain radiating to the interscapular region and left shoulder. Coronary angiography revealed occlusion of the right coronary artery (RCA). Given the subacute course and absence of ongoing ischemic symptoms, urgent revascularization was not indicated. Subsequent myocardial single-photon emission computed tomography (SPECT) imaging demonstrated preserved myocardial viability within the ischemic territory of the inferior wall. The patient therefore underwent percutaneous coronary intervention for a chronic total occlusion of the RCA using combined anterograde and retrograde approaches. The procedure was unsuccessful due to inadequate visualization of the occluded arterial course. Following the failed intervention, multislice computed tomography (MSCT) was performed to further assess coronary anatomy. Although primarily performed for anatomical coronary evaluation, MSCT incidentally revealed progression of a previously small myocardial aneurysm—documented on echocardiography—into a large, life-threatening left ventricular pseudoaneurysm measuring 51 × 47 mm. In light of this critical finding, the patient was urgently rehospitalized and assessed by the cardiac surgery team. Given the size and nature of the pseudoaneurysm, urgent surgical repair with Dor-type ventricular reconstruction was performed. The postoperative course was uneventful, and the patient recovered successfully.

CONCLUSION: Incidental detection of a giant left ventricular pseudoaneurysm on MSCT significantly altered clinical management in this post-infarction patient. Early identification through advanced imaging enabled timely surgical intervention and prevention of catastrophic rupture, underscoring the importance of advanced imaging modalities in selected post-infarction patients.

KEYWORDS: Aneurysm, False; Cardiac Surgical Procedures; Myocardial Infarction; Percutaneous Coronary Intervention;

CR71

Durable Biventricular Support in Chemotherapy-Induced Cardiomyopathy

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INTRODUCTION: Cardiotoxicity is a well-recognized complication of contemporary oncological therapy. These patients may develop terminal heart failure, which in selected cases requires mechanical circulatory support. Rarely, durable biventricular ventricular assist devices are used as a bridge to potential heart transplantation.

CASE REPORT: A 43-year-old woman with invasive breast carcinoma received neoadjuvant chemotherapy with doxorubicin and cyclophosphamide, followed by left-sided mastectomy with axillary lymph node dissection. During regular follow-up, transthoracic echocardiography demonstrated normal cardiac function. Adjuvant treatment was initiated, including hormonal therapy (goserelin, tamoxifen), chemotherapy (pertuzumab, trastuzumab), and radiotherapy. Exactly one year after the diagnosis of breast carcinoma, the patient was hospitalized due to her first episode of congestive heart failure with a severely reduced left ventricular ejection fraction of 30%. Diagnostic work-up indicated toxic biventricular cardiomyopathy. During hospitalization, the patient's condition deteriorated, necessitating the insertion of acute paracorporeal circulatory support with venoarterial extracorporeal membrane oxygenation (VA-ECMO). Subsequently, a durable left ventricular assist device (LVAD) and a temporary paracorporeal right ventricular assist device (RVAD) were implanted, followed by durable RVAD placement due to failure to wean the patient from the temporary RVAD. Five years later, there were no signs of malignancy relapse, making the patient eligible for heart transplant evaluation.

CONCLUSION: Chemotherapy-induced cardiomyopathy can lead to advanced heart failure and a need for short- and long-term mechanical circulatory support. In selected biventricular heart failure patients, durable support for both ventricles may be used as long-term treatment, enabling subsequent heart transplantation.

KEYWORDS: Cardiotoxicity; Heart-Assist Devices; Heart Failure

CR72

Extracorporeal Membrane Oxygenation in Congenital Diaphragmatic Hernia

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INTRODUCTION: Congenital diaphragmatic hernia (CDH) is a developmental defect of the diaphragm, causing the protrusion of the abdominal organs into the thoracic cavity. Intrathoracic herniation of abdominal organs restricts the available space within the thoracic cavity, leading to pulmonary hypoplasia and impaired development of the pulmonary vasculature. Venoarterial extracorporeal membrane oxygenation (VA-ECMO) is crucial for the stabilization of these patients. Herein, we describe its clinical necessity.

CASE REPORT: The patient is a preterm infant, born at 33 + 5 weeks of gestation, following a routinely monitored pregnancy. A prenatal diagnosis of Bochdalek-type CDH was established at 27 weeks of gestation, and the pregnancy has been heavily monitored. At birth, the patient was cyanotic and, despite maximal oxygenation, ventilatory support, and pharmacologic cardiovascular support, suprasystemic pulmonary pressures persisted, accompanied by ongoing hypoxemia and hypercapnia. At this stage, VA-ECMO became necessary to stabilize the cardiopulmonary parameters. The venous cannula was placed in the right internal jugular vein, and the arterial cannula was positioned in the right common carotid artery. This created a perfect window of opportunity for the complete correction of the CDH. An incision was made beneath the left costal arch, the diaphragmatic defect was identified and subsequently enlarged to facilitate the reduction of herniated abdominal organs. The patient remained on VA-ECMO support for four days and was extubated on day 26 of life.

CONCLUSION: Infants with severe CDH who do not respond to conventional therapies typically face near-certain mortality. ECMO now delivers essential cardiopulmonary support, providing these patients with their greatest opportunity for survival.

KEYWORDS: Extracorporeal Membrane Oxygenation; Hernias, Diaphragmatic, Congenital; Infant, Premature; Respiratory Insufficiency

CR73

Drug-Coated Balloon Therapy for Ostial Circumflex Stenosis: A Stentless PCI Approach

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INTRODUCTION: Ostial stenosis of the circumflex artery (Cx) is a relatively rare and technically challenging target for percutaneous coronary intervention (PCI), as it may involve the artery's origin from the left main coronary artery (LMCA). Due to its complexity, carefully tailored treatment is essential to minimize complications and optimize outcomes.

CASE REPORT: A 51-year-old male came to the emergency room with sepsis secondary to pneumonia. During hospitalization, his troponin levels were elevated up to 8000. He reported effort-induced angina for the past 6 months, but did not feel chest pain during admission. Transthoracic echocardiogram revealed a preserved left ventricular ejection fraction of 55%, grade I diastolic dysfunction, and no regional wall motion abnormalities. Electrocardiogram showed sinus rhythm without ischemic signs. After the recovery from pneumonia and sepsis, coronary angiography revealed a significant stenosis of the ostial Cx, while other vessels were unobstructed. Intravascular ultrasound (IVUS) confirmed that the ostial Cx lesion was significant (3.3 mm2 area) and without severe calcification, while LMCA was disease-free. Given the possible complications that come with stent implantation at this location (LMCA dissection, stent protrusion, in-stent restenosis...), the interventional team chose a stent-free option. The lesion was predilatated using scoring balloons (3.0 × 13 mm and 3.5 × 20 mm, both inflated to 10 atm) followed by application of a paclitaxel-coated drug balloon. The final angiographic result showed optimal blood flow in the Cx and the patient was asymptomatic after the procedure.

CONCLUSION: This case highlights the achievability and effectiveness of a drug-coated balloon strategy in treating ostial Cx stenosis, when stenting poses high anatomical and procedural risks.

KEYWORDS: Angioplasty; Coronary Stenosis; Paclitaxel; Percutaneous Coronary Intervention

CR74

When Sinus Tachycardia Isn't What It Seems: A Case of Neonatal Sinoatrial Nodal Reentrant Tachycardia

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INTRODUCTION: Sinoatrial nodal reentrant tachycardia (SANRT) is a rare form of paroxysmal supraventricular tachycardia, characterized by the sudden onset and termination of tachycardia due to microreentry circuits within the sinus node. It is often associated with congenital heart disease. This report aims to present a rare case of SANRT in a newborn with congenital heart disease and to highlight the diagnostic challenges and management of this condition.

CASE REPORT: A male newborn, born from a spontaneously conceived pregnancy and first delivery at 39+1 weeks of gestation, was transferred at 4.5 hours of age to the pediatric department due to a postnatally diagnosed congenital heart defect – D-transposition of the great arteries. Prostaglandin E1 therapy was initiated. The infant remained respiratory stable with adequate urine output and spontaneous peristalsis. Following discussion at the cardiac surgery meeting, complete surgical correction was performed using the arterial switch procedure via median sternotomy with cardiopulmonary bypass. During the first two postoperative days, the patient developed multiple episodes of tachycardia. Electrocardiographic findings showed narrow QRS complex tachycardia with P waves similar to sinus rhythm and abrupt onset and termination, consistent with SANRT, four of which required adenosine administration. Due to the frequency of the episodes, landiolol was temporarily initiated on the second postoperative day. The patient was extubated on postoperative day two and respiratory support was continued with high-flow nasal cannula. The infant remained hemodynamically and respiratory stable, with good feeding tolerance and normal peristalsis, and was discharged home in good general condition.

CONCLUSION: SANRT is a rare and often misdiagnosed form of SVT due to its similarity to sinus tachycardia and other supraventricular tachycardias. Timely recognition and appropriate management are crucial for optimal patient outcomes.

KEYWORDS: Adenosine; Heart Defects, Congenital; Tachycardia, Sinoatrial Nodal Reentry

CR75

Redesigning the Beginning: The Importance of Early Diagnosis and Treatment of Life-Threatening Congenital Heart Defects in Neonates

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INTRODUCTION: Congenital heart defects (CHDs) are among the most common malformations in children and represent a significant cause of neonatal morbidity and mortality. However, many critical and life-threatening forms do not present with obvious symptoms early after birth, making them challenging to diagnose. This case highlights the importance of prenatal detection and timely intervention in improving long-term outcomes for affected children.

CASE REPORT: At 33 weeks of gestation, fetal echocardiography revealed a combination of duct-dependent congenital heart defects in a female fetus, indicating a potentially life-threatening condition. Based on these findings, delivery was planned and eventually performed by an elective cesarean section at 39 weeks of gestation. Immediately after birth, the female neonate was transferred to the pediatric intensive care unit, where she received a 10% glucose infusion, aminophylline and prostaglandin therapy. Postnatal echocardiography revealed a 4–5 mm subaortic ventricular septal defect (VSD) with left-to-right shunting, hypoplasia of the aortic arch distal to the origin of the left common carotid artery accompanied by coarctation, and a wide patent ductus arteriosus (PDA) with bidirectional flow. On the seventh postnatal day, surgical correction was performed, including ligation of the PDA, resection of the aortic coarctation with reconstruction of the aortic arch and closure of the VSD with the bovine pericardial patch. The operation was completed as planned, with successful correction of all identified cardiac anomalies.

CONCLUSION: Despite the advances in prenatal and neonatal screening, a large number of life-threatening CHDs still remain undiagnosed until severe manifestations occur. Early diagnosis plays a crucial role in optimizing neonatal care and surgical timing, therefore improving both survival and quality of life.

KEYWORDS: Aortic Coarctation; Ductus Arteriosus, Patent; Early Medical Intervention; Heart Defects, Congenital; Heart Septal Defects, Ventricular

CR76

An Unusually Late Presentation of Double Aortic Arch: A Case Report

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INTRODUCTION: Double aortic arch is one of the malformations that form a true (complete) vascular ring and belongs to the group of vascular-related aerodigestive syndromes. These typically present in early infancy with respiratory symptoms (stridor, cough, recurrent upper respiratory tract infections), esophageal symptoms (dysphagia, aspiration), and even sudden death. This case is notable for an exceptionally late presentation, positive family history, and predominantly esophageal symptoms with a relative lack of respiratory symptoms.

CASE REPORT: A 14-year-old female patient presented with intermittent dysphagia, cough, and spontaneous chest pain. In the family history, a 9-year-old male cousin has a left-dominant double aortic arch. Magnetic resonance angiography showed a right-dominant double aortic arch, giving rise independently to the subclavian and common carotid arteries and a smaller left aortic arch. On esophageal passage, a stenosis in the second third of the esophagus was seen. Echocardiography showed a right-dominant double aortic arch with a normal aortic valve. Surgical division of the double aortic arch was done through a left muscle-sparing thoracotomy. Intraoperatively, the left aortic arch was visualized, giving rise to the left common carotid and left subclavian artery, together with the distal right aortic arch forming a vascular ring around the trachea and esophagus. The surgery and postoperative course went well, the only complication being left vocal cord paresis resulting in hoarseness, with recovery noted at follow-up two months later. She was discharged with enalapril maleate, furosemide, and spironolactone as therapy.

CONCLUSION: It is important to consider vascular rings in the differential diagnosis of dysphagia and atypical thoracic symptoms even in late adolescence.

KEYWORDS: Esophageal Stenosis; Heart Defects, Congenital; Tracheal Stenosis; Vascular Ring

CR77

Peritoneal Dialysis as a Patient-Centered Alternative to Hemodialysis in End-Stage Renal Disease

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INTRODUCTION: Patients with end-stage renal disease (ESRD) can be started on hemodialysis (HD) or peritoneal dialysis (PD), in which the patient's peritoneum acts as a semi-permeable membrane, having a role comparable to that of a hemodialysis filter. PD requires motivation and patient education since most of the work is done by the patients themselves. We present a case of a patient's journey to PD.

CASE REPORT: Patient, a 69-year-old male with the history of chronic kidney disease, coronary artery disease, heart failure and hypertension, was referred to a nephrologist due to ESRD. He was afraid to start with dialysis and considered rejecting it due to fear that he might not be able to travel. His serum creatinine levels reached 720 μmol/l with hyperkaliemia and signs of volume overload, increased by heart failure (left ventricular ejection fraction 30%). He was offered to start with PD instead of HD. We showed him written materials and also introduced him to a few PD patients, allowing him to observe them performing PD and speak with them. Dedicated PD nurse educated him and a family member. Patient agreed to start PD. He had a peritoneal catheter implanted and began his supervised PD with daily education. After 2 weeks, he began to do it alone at home, and after 3 months, he travelled to the coast. He expressed that he felt good and that he got his life back. He is still on PD.

CONCLUSION: With appropriate education and patient support, peritoneal dialysis enables patients to lead a life of nearly the same quality as before their diagnosis.

KEYWORDS: Heart Failure; Peritoneal Dialysis; Renal Dialysis

CR78

When the Heart Speaks Late: Late-Gestation Revelation of Tetralogy of Fallot in a High-Risk Pregnancy

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INTRODUCTION: Fetal echocardiography (FE) is an ultrasound technique essential for detecting congenital heart defects (CHD) such as Tetralogy of Fallot (TOF), a malformation of the ventricular septum, outflow tracts, and pulmonary valve, with maternal diabetes, obesity, and advanced age recognized as risk factors for CHD.

CASE REPORT: We report a 37-year-old pregnant woman with morbid obesity (BMI 42), managed in a tertiary center for chronic hypertension, type 2 diabetes mellitus, and hypothyroidism. Fetal biometry, morphology, and Doppler were normal until late gestation. At 36 weeks, routine ultrasound provided poor heart visualization due to low image resolution, prompting referral for FE. The initial FE was limited by position of the placenta, maternal obesity and a pronounced abdominal panniculus, preventing reliable assessment of septal continuity and pulmonary artery dimensions. A repeat prolonged FE performed three days later, with focused assessment of the outflow tracts, revealed TOF with a 7 mm subaortic ventricular septal defect, 50% overriding aorta, a smaller pulmonary artery, mild right ventricular hypertrophy, and a mildly hypoplastic pulmonary valve (7 mm; Z-score 0.79) with preserved flow indicating mild postnatal obstruction, findings relevant for perinatal and surgical planning. Vaginal delivery occurred at 36+1 weeks; the macrosomic male neonate (53 cm, 3900 g) was cyanotic, in respiratory distress (SpO□ 80%), and required immediate transfer to tertiary neonatal intensive care, where postnatal echocardiography confirmed the prenatal diagnosis.

CONCLUSION: This case illustrates the limitations of late-gestation FE, particularly in maternal obesity, which increase both the risk and detection difficulty of CHD due to ultrasound attenuation by adipose tissue. Sequential discrepancies emphasize repeated, targeted outflow tract assessment in high-risk pregnancies, as late prenatal identification of TOF still enables parental counseling and multidisciplinary care.

KEYWORDS: Fetal Heart; Obesity; Tetralogy of Fallot; Ultrasonography

CR79

The Great Masquerade: Stanford Type A/Debakey Type I Aortic Dissection

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INTRODUCTION: Aortic dissection is a rare and life-threatening condition caused by an intimal tear of the aorta, resulting in the formation of a false lumen into which blood penetrates, dissecting the aortic wall. The typical presentation includes sudden-onset, severe, tearing chest pain radiating to the back. Mortality increases by approximately 1–2% per hour during the first 48 hours if treatment is delayed.

CASE REPORT: A 66-year-old male with a history of uncontrolled hypertension was brought to the emergency department after experiencing sudden-onset, severe, sharp occipital pain radiating to the parietal region while preparing for work. This was followed by acute bilateral lower extremity weakness, initially involving the feet and progressing proximally to the knees, resulting in an inability to bear weight. The patient was treated with analgesics and initially evaluated by a urologist due to suspected renal colic, followed by neurological assessment. Brain computed tomography (CT) showed no acute pathological findings. On detailed clinical examination, a significant blood pressure discrepancy between the right (84/46 mmHg) and left arm (69/44 mmHg) was noted, along with absent peripheral pulses in the left upper and lower extremities. Laboratory analysis revealed markedly elevated D-dimer levels (35.20 mg/L; reference <0.50 mg/L). Contrast-enhanced CT aortography subsequently confirmed a Stanford type A aortic dissection. The patient underwent urgent surgical treatment, including resection of the ascending aorta and reconstruction with a Dacron graft.

CONCLUSION: As illustrated in this case, aortic dissection can mimic other conditions due to non-specific symptoms, highlighting the importance of a thorough clinical examination and high index of suspicion. The life-threatening and rapidly progressing nature of aortic dissection makes prompt diagnosis and treatment crucial to optimize a patient's chances of survival and recovery.

KEYWORDS: Aortic Dissection; Computed Tomography Angiography; Hypertension

CR80

The Importance of Basic Life Support in Out-of-Hospital Cardiac Arrest in a Child

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INTRODUCTION: Cardiac arrest is the sudden cessation of cardiac activity confirmed by the absence of signs of circulation. Sudden cardiac arrest is rare in the paediatric population. Basic life support (BLS) and early defibrillation are crucial for survival. We present a case of a nine-year-old boy with successful out-of-hospital cardiac arrest (OHCA) cardiopulmonary resuscitation (CPR) following a ventricular pacemaker lead fracture.

CASE REPORT: A nine-year-old boy with complex congenital heart defects, who had undergone four cardiac surgeries, experienced OHCA caused by ventricular fibrillation (VF) due to a complete ventricular lead fracture, causing subsequent hypoxia. Immediate BLS was initiated by his school teacher, who received dispatcher guidance for 15 minutes. Upon arrival of the emergency medical services (EMS), CPR was continued, and defibrillation of a shockable VF rhythm was performed. On hospital admission, chest radiography confirmed a complete lead fracture. The patient was analgosedated, supported by transcutaneous pacing and inotropic therapy with adrenaline, and remained haemodynamically stable. Prior to definitive surgical management, a temporary transvenous ventricular pacing lead was inserted via the right internal jugular vein. A surgical procedure was indicated, and a neurological assessment was performed. After the discontinuation of sedation, he awakened, responded, and moved all extremities. Implantation of an implantable cardioverter-defibrillator/pacemaker with replacement of all epicardial leads was performed. The patient was extubated postoperatively and transferred to the cardiology ward.

CONCLUSION: This case highlights the crucial role of timely layperson-initiated BLS in paediatric OHCA. International Liaison Committee on Resuscitation reports favourable neurological outcomes after OHCA in 2.8% to 18.2% of patients worldwide. Prompt action by the teacher maintained vital functions until the EMS arrived, allowing definitive treatment and an excellent neurological outcome at discharge.

KEYWORDS: Cardiopulmonary Resuscitation; Emergency Medical Services; Out-of-Hospital Cardiac Arrest; Ventricular Fibrillation

CR81

Paraneoplastic Oligoarthritis as the First Manifestation of Underlying Lung Neoplasm

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INTRODUCTION: Paraneoplastic arthritis (PA) is a paraneoplastic syndrome that may precede, coincide with, or follow the diagnosis of malignancy and has been described in both solid tumors and hematological cancers. It can mimic any rheumatologic disease, frequently presenting as mono- or oligoarthritis, and among solid tumors, lung cancer is reported as the most common malignancy associated with PA.

CASE REPORT: A 65-year-old female presented to the rheumatology clinic with severe, progressive polyarthralgia refractory to non-steroidal anti-inflammatory drugs over the previous six weeks. The patient's medical history included surgically treated invasive breast carcinoma, ongoing hormonal therapy, osteoporosis with multiple vertebral compression fractures, and adnexectomy for a benign ovarian mass. Family history was positive for breast and colon cancer. Physical examination and diagnostic ultrasound revealed bilateral wrist and shoulder synovitis. Laboratory evaluation showed markedly elevated inflammatory markers and leukocytosis, with low-positive rheumatoid factor and anti-cyclic citrullinated peptide antibodies. Radiographs of the hands and feet showed no erosions. The patient reported severe pain, with a visual analogue score of 10/10. Functional assessment using the SARC-F questionnaire indicated sarcopenia, and nutritional supplementation was initiated. Given the atypical clinical presentation, additional diagnostic workup was performed. Chest radiography revealed right lower lobe consolidation. Computed tomography demonstrated a heterogeneous mass infiltrating the visceral pleura with enlarged regional lymph nodes, consistent with advanced lung cancer. The patient initially responded well to systemic glucocorticoid therapy. However, pain worsened when the prednisone dose was tapered below 0.2 mg/kg.

CONCLUSION: This case emphasizes that an atypical presentation of inflammatory arthritis should prompt an expanded diagnostic workup to exclude alternative etiologies, including occult malignancy. Persistent clinical suspicion is crucial, and appropriate evaluation may enable earlier diagnosis of the underlying neoplastic process.

KEYWORDS: Anti-Citrullinated Protein Antibodies; Arthritis; Lung Neoplasms; Paraneoplastic Syndromes; Rheumatoid Factor

CR82

Leriche Syndrome Beyond Atherosclerosis: An Unusual Case of Antiphospholipid Syndrome

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INTRODUCTION: Aortoiliac occlusive disease, or Leriche syndrome, is a form of peripheral artery disease caused by the blockage of the abdominal aorta and iliac arteries. It is characterised by a triad of symptoms: lower limb claudication, erectile dysfunction and reduced or absent femoral pulses. Antiphospholipid syndrome (APS) is an autoimmune disorder defined by the presence of antiphospholipid antibodies that lead to arterial or venous thrombotic events and obstetric complications.

CASE REPORT: A 55-year-old male patient experienced two episodes of deep vein thrombosis, first in 2011 and again in 2021. Symptoms of Leriche syndrome appeared in late 2021 with gluteal claudication. The patient underwent a Multislice Computed Tomography angiography, which demonstrated occlusion of the distal aorta and both common iliac arteries up to the iliac bifurcations. In 2024, the patient was admitted due to worsening walking distance for further evaluation and consideration of surgical revascularisation. He also reported numbness in the fingers of the left hand. Laboratory tests revealed impaired renal function with a creatinine level of 297 μmol/L. The etiology of the vascular disease remained unclear, as the patient had been a non-smoker for 20 years and had no history of hypertension, diabetes mellitus, or hyperlipidaemia. MSCT angiography performed in 2022 demonstrated arterial occlusion without evidence of atherosclerotic changes or plaque formation. Immunological testing revealed high-titer anticardiolipin and beta-2 glycoprotein I antibodies, findings later confirmed on repeat testing, consistent with antiphospholipid syndrome. Warfarin was initiated instead of rivaroxaban, previously prescribed for deep vein thrombosis, along with aspirin, glucocorticoids and hydroxychloroquine.

CONCLUSION: This report illustrates how antiphospholipid syndrome, a rare autoimmune disease, can mimic common conditions such as atherosclerosis, while prognosis, treatment, and clinical outcomes differ substantially.

KEYWORDS: Antiphospholipid Syndrome; Leriche Syndrome; Thrombosis; Warfarin

CR83

Growing Pains or Something More? A Case of Chronic Recurrent Multifocal Osteomyelitis

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INTRODUCTION: Chronic recurrent multifocal osteomyelitis (CRMO) is a rare pediatric autoinflammatory bone disease resulting from an imbalance in the innate immunity system's functioning. Delayed diagnosis of this condition, resulting from its rarity and nonspecific symptoms, is typically followed by inadequate treatment, which can have severe long-term effects, including skeletal abnormalities, uneven limb lengths, and persistent pain.

CASE REPORT: A 12-year-old boy was admitted to the hospital for a diagnostic evaluation of recurring, intermittent pain in his left knee and thigh. Any form of activity, such as walking, made the pain worse, resulting in occasional limping in the left leg. Following inconclusive laboratory tests, ultrasound examinations, X-ray results, and scintigraphy findings, magnetic resonance imaging showed an inflammatory process affecting the left distal femur and proximal tibia's growth plate. A diagnosis of infectious osteomyelitis was suspected, prompting the initiation of parenteral antibiotic therapy. Treatment decreased inflammatory parameters and resulted in the complete resolution of leg pain. Three years later, following a period of total clinical and laboratory remission, the patient's symptoms reappeared. Multiple antibiotic treatments yielded no significant long-term reductions in symptoms. Based on X-ray images showing multifocal osteolytic and osteosclerotic bone lesions in the left distal femur and proximal tibia, along with biopsy results indicating chronic non-specific inflammatory changes and mild systemic inflammation, and ruling out infection and malignancy, CRMO was diagnosed. The initiation of tumor necrosis factor inhibitor therapy ultimately led to satisfactory disease control.

CONCLUSION: Due to the insidious development of various symptoms and the lack of diagnostic criteria, CMRO is primarily a diagnosis of exclusion. Early diagnosis and adequate treatment prevent long-term complications with a substantial improvement in affected individuals' quality of life and psychological development.

KEYWORDS: Magnetic Resonance Imaging; Osteomyelitis; Tumor Necrosis Factor Inhibitors

CR84

From Incidental Splenomegaly to Genetic Diagnosis: A Case of Familial Autoimmune Lymphoproliferative Syndrome (ALPS)

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INTRODUCTION: Autoimmune Lymphoproliferative Syndrome (ALPS) is a rare inherited disorder caused by a defect in lymphocyte apoptosis, leading to their accumulation. The primary clinical features of ALPS include non-malignant lymphadenopathy, splenomegaly, and autoimmune cytopenias. The diagnosis is established based on clinical criteria and confirmed by genetic testing. Although the disease typically follows a benign course, it carries an increased risk of developing lymphoma.

CASE REPORT: We present the case of a girl in whom mild splenomegaly was incidentally discovered at the age of two during diagnostic work-up for Guillain-Barré syndrome. At the age of five, she was first evaluated by a hematologist, and extensive hematologic, gastroenterologic, and metabolic testing was performed. All results were within normal limits. In addition to splenomegaly, cervical lymphadenopathy was also noted on examination. Since birth, the patient had been prone to anemia and frequently received oral iron supplementation. Six months later, extended laboratory evaluation revealed the following abnormalities: normocytic anemia with reticulocytosis, leukopenia (with detectable antileukocyte antibodies), hypergammaglobulinemia, an immeasurably high B12 concentration, and an increased portion of double-negative T lymphocytes (CD4□ CD8□ TCRαβ□) in peripheral blood, raising suspicion of ALPS. Her older sister was also found to have splenomegaly but without other laboratory abnormalities. Genetic testing of both sisters revealed a heterozygous mutation in the FAS gene (c.536T>G; p.Leu179Arg) classified as likely pathogenic, thereby confirming the diagnosis of ALPS.

CONCLUSION: Due to the variable penetrance and heterogeneous clinical presentation, ALPS should be considered even in cases with atypical manifestations. Timely diagnosis is essential for guiding further management, particularly in the presence of immune cytopenias. Given the predisposition to lymphoma development among all mutation carriers, genetic testing of family members is recommended.

KEYWORDS: Cytopenia; Lymphoma; Mutation; Splenomegaly

CR85

Microsurgical Foot Replantation Following Complete Traumatic Amputation: A Case Report

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INTRODUCTION: Traumatic foot amputation is a rare but severe condition because it often results in functional limitations and demands complex reconstructive treatment. The respective condition is treated by microsurgical replantation. This report describes a rare presentation of complete traumatic amputation of the right foot followed by excellent functional recovery of the affected limb. The goal of this report is to present the surgical approach, postoperative care and early functional outcomes.

CASE REPORT: A 44-year-old male patient was transferred from a regional hospital after complete traumatic amputation of the right foot. When the patient arrived, he was examined by an anesthesiologist, plastic and trauma surgeons. Emergency radiographs of the right lower leg showed a spiral multifragmentary fracture of the distal third of the tibia. Radiographs of the amputated foot segment showed congruent distal tibial and fibular ends. The patient was admitted for surgery, which included intramedullary tibial fixation and tibiotalocalcaneal transfixation combined with microsurgical foot replantation. Postoperatively, the patient was treated with intravenous antibiotics, analgesics, and thromboprophylaxis. Wounds were examined daily and healed properly. Early physiotherapy was recommended, including limb mobilisation and muscle strengthening exercises. The patient remained hemodynamically stable and afebrile with no evidence of infection or necrosis. On discharge, minor distal necrosis was noticed but treated conservatively. The patient was transferred to a rehabilitation centre for further treatment.

CONCLUSION: This case shows that microsurgical replantation can be a successful treatment option after complete traumatic amputation. Early treatment and rehabilitation are crucial for restoring limb function and preventing complications. This report highlights that complex lower limb reconstruction is not only possible but also delivers clinically meaningful results.

KEYWORDS: Amputation, Traumatic; Foot; Microsurgery; Reconstructive Surgical Procedures; Replantation

CR86

From Primary Repair to Revision: Reconstructing the Thumb Radial Collateral Ligament in an Adolescent Athlete

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INTRODUCTION: The radial collateral ligament (RCL) is increasingly recognized as a key stabilizer of the thumb metacarpophalangeal (MCP) joint, accounting for approximately 10% of thumb ligament injuries. RCL disruption results in unopposed adductor and flexor muscle forces, leading to pain, instability, and recurrent active subluxation. While conservative management has historically been the standard of care, surgical repair and reconstruction using tendon grafts are now more frequently employed in symptomatic cases. However, data regarding revision RCL reconstruction remain extremely limited, with only isolated cases reported in the literature.

CASE REPORT: A 17-year-old male competitive handball player presented with progressive pain and instability of the thumb MCP joint over three months following an acute sports injury. Ultrasound demonstrated a complete RCL rupture. Initial treatment consisted of cast immobilization for four weeks. Despite the initial treatment, his symptoms worsened over six months, prompting surgical RCL reconstruction using a palmaris longus autograft with suture augmentation and Arthrex SwiveLock fixation. Return to sport was permitted at three months after surgery. One year postoperatively, the patient sustained a reinjury and reported recurrent pain and instability. Magnetic resonance imaging (MRI) revealed graft rupture and early degenerative joint changes. Revision reconstruction was performed using a partial flexor carpi radialis tendon with suture augmentation. Postoperative recovery was uneventful, and the patient is currently pain-free and undergoing rehabilitation.

CONCLUSION: Although uncommon, RCL injuries can lead to pronounced lateral instability and functional impairment if inadequately treated, particularly in high-demand athletes. Revision thumb ligament reconstruction is technically demanding due to limited bone stock, altered anatomy, and constraints on graft selection. Moreover, it remains a largely unexplored field, with scarce clinical guidance available.

KEYWORDS: Athletic Injuries; Ligaments; Rupture; Thumb

CR87

Eyes Wide Open: Unusual Initial Presentation of Severe Childhood Disease

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INTRODUCTION: For children presenting with various symptoms, leukaemia should also be considered as a potential underlying cause. Diagnosing this condition early, particularly in cases of Acute Lymphoblastic Leukaemia (ALL), results in a more favourable outcome, with current survival rates for children standing at approximately 95%.

CASE REPORT: A 4-year-old boy presented to the paediatric emergency department with worsening, severe back and leg pain that had been present for several weeks. Over the past 24 h, the patient experienced severe neck pain with restricted head movements. His parents reported no fever, trauma, joint swelling, or morning stiffness.

Clinical examination revealed paler skin, several bruises on his legs, reduced range of motion in his right hip and both knees, and limping.

Laboratory tests revealed increased inflammatory markers, anaemia, and lymphocytosis. X-rays of the knees showed soft tissue swelling, while ultrasound scans of the hips and knees found no joint fluid accumulation or thickened synovium.

After being admitted to the paediatric rheumatology department, a bone marrow aspiration (BMA) was performed due to an unusual clinical presentation. A diagnosis of ALL was made, with 82% blast cells found in the bone marrow. Immunophenotyping showed that the leukaemia was of the B phenotype.

The patient was treated according to the "ALL IC-BFM 2022" protocol. By day 33 of treatment, control BMA demonstrated complete remission with no evidence of minimal residual disease on flow cytometry.

CONCLUSION: This case highlights the importance of thorough diagnostic evaluation in children who present with unclear and diverse initial symptoms of an acute illness. Early diagnosis and treatment of ALL cases are crucial and associated with a more favourable disease prognosis.

KEYWORDS: Arthralgia; Bone Marrow Examination; Leukemia, B-cell

CR88

Reconstruction of Oronasal Fistula With Buccal Myomucosal Flap

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INTRODUCTION: Oronasal communication represents an abnormal communication between the oral and nasal cavities. It affects multiple aspects of patients' lives, including speech and oral intake, and often results in nasal regurgitation. It can occur after trauma, congenital defects, or as a complication of surgical procedures of the hard palate.

CASE REPORT: A 71-year-old patient with a history of smoking underwent surgical excision of a lesion on the palate as the lesion had shown progressive growth. After histopathological examination, no malignancy was identified. Postoperatively, a 5 mm oronasal fistula occurred as a late complication and allowed the passage of food, liquids, and secretions between the oral and nasal cavities.

Two-stage reconstruction was planned in order to close the defect. The first surgical procedure included a circumferential incision around the fistula with eversion of palatal mucosa toward the nasal cavity as an inner mucosal layer. As an overlying layer, a buccal myomucosal flap was elevated. The flap was rotated and sutured to the reconstructed outer layer of the palate. The donor site was closed primarily.

One month later, the second procedure was performed when the flap pedicle was detached. An excellent outcome was observed, flap was fully viable, and the patient had no signs or symptoms of palatal fistula.

CONCLUSION: Palatal fistula represents a significant problem that interferes with oral intake and therefore negatively affects the quality of life. This case report highlights the complexity and clinical importance of palatal fistula reconstruction.

KEYWORDS: Mouth Mucosa; Oral Fistula; Palate, Hard; Surgery, Plastic

CR89

Advanced Type 2 Diabetes Without Insulin? Quadruple Therapy in a Challenging Patient with Extreme Weight Fluctuations and Cognitive Impairment

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INTRODUCTION: Type 2 diabetes mellitus (T2DM) is a progressive metabolic disorder that often requires individualized therapeutic strategies in patients with pronounced insulin resistance, major weight fluctuations, and multiple comorbidities. In such cases, treatment goals extend beyond glycemic control and must also address safety, cognitive function, and quality of life. We present a patient with T2DM in whom neurocognitive impairment and extreme weight variability significantly influenced therapeutic decision-making.

CASE REPORT: A 59-year-old male with T2DM since 2015 exhibited marked weight fluctuations, including a 35kg gain, a 30kg loss, and a 12kg regain within one year. His comorbidities included paroxysmal atrial fibrillation, dyslipidemia, degenerative musculoskeletal disease, a hepatic lesion, and a history of multiple surgical procedures. He also reported long-standing alcohol consumption. During follow-up, the patient developed neurocognitive impairments affecting memory, attention, executive function, activities of daily living, and gait, confirmed by neuropsychological assessment. Given these deficits, insulin therapy was considered unsafe due to the high risk of dosing errors. Consequently, combination pharmacotherapy with metformin, sitagliptin, glimepiride, and the glucagon-like peptide-1 receptor agonist semaglutide was initiated, administered sequentially in oral and subcutaneous formulations, achieving satisfactory glycemic control without requiring insulin. Additional evaluation of cognitive deterioration, including laboratory testing and brain magnetic resonance imaging, was requested to identify potential contributory factors.

CONCLUSION: This case highlights the importance of individualized, multidisciplinary management of T2DM in patients with complex clinical profiles. Careful selection of combination therapy allowed effective glycemic control while avoiding insulin initiation in the context of cognitive impairment, weight instability, and safety concerns. Such an approach supports metabolic stability while preserving patient safety and quality of life.

KEYWORDS: Diabetes Mellitus, Type 2; Executive Function; Glucagon-Like Peptide-1 Receptor Agonists; Obesity

CR90

Autoimmune Encephalitis in a 3-Year-Old Child: A Case Report

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INTRODUCTION: Encephalitis is an inflammatory condition of the brain caused by a broad spectrum of potential etiological agents. Although an infectious etiology is identified in the majority of pediatric encephalitis cases, alternative causes – including immune-mediated ones – should not be overlooked. Autoimmune encephalitides are disorders characterized by diverse clinical manifestations, among which the most commonly observed are seizures, behavioral and psychiatric disturbances, movement disorders, and dysautonomia. Autoantibody testing, brain magnetic resonance imaging (MRI), electroencephalography (EEG), and lumbar puncture are key diagnostic tools for establishing the diagnosis of autoimmune encephalitis.

CASE REPORT: A 3-year-old patient was hospitalized with a clinical suspicion of meningoencephalitis. Several days prior to hospital admission, the patient developed fever, urinary incontinence, and seizures. While hospitalized, these symptoms were followed by the onset of aggression, psychomotor agitation, and insomnia. Initial laboratory evaluation revealed leukocytosis and normal inflammatory markers in peripheral blood. Cerebrospinal fluid analysis obtained via lumbar puncture demonstrated pleocytosis. Empiric therapy with ceftriaxone, acyclovir, azithromycin, and oseltamivir was administered but subsequently discontinued following negative microbiological testing. Further diagnostic evaluation with brain MRI, including T2-weighted and BLADE sequences, revealed symmetric hyperintense signals involving the basal ganglia (including the putamen, globus pallidus, and caudate nuclei) bilaterally. As part of the extended diagnostic workup, serum antibodies directed against contactin-associated protein-like 2 (CASPR2) were detected, supporting the diagnosis of autoimmune encephalitis. Following plasmapheresis and high-dose corticosteroid pulse therapy, the patient demonstrated both psychiatric and neurological improvement.

CONCLUSION: Maintaining a broad differential diagnosis is essential when assessing patients with neurological symptoms. Prompt recognition of autoimmune encephalitis and early initiation of immunotherapy are associated with improved outcomes, whereas diagnostic delays increase morbidity.

KEYWORDS: Autoantibodies; Autoimmune Diseases of the Nervous System; Encephalitis; Seizures

CR91

Synchronous Primary Breast Cancer and Glioblastoma: A Case Report

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INTRODUCTION: Breast cancer is the most common type of cancer diagnosed in women, while high-grade gliomas are a rare but aggressive group of primary brain tumors. This uncommon and therapeutically challenging combination occurring simultaneously in a single patient is presented in this case report.

CASE REPORT: A 73-year-old patient with a positive family history of the disease was diagnosed with breast cancer invading both skin and areola after detecting a palpable lump in the left breast. Pathohistological analysis confirmed it to be a triple-negative breast carcinoma, and no skeletal metastases were detected on scintigraphy. During diagnostic workup, the patient experienced persistent dizziness and difficulty walking, which warranted a head computerised tomography scan that showed a left frontal lobe white matter infiltrative, poorly demarcated calcified lesion. During this period, the patient started neoadjuvant chemotherapy. A stereotactic brain biopsy was performed and revealed a high-grade IDH(isocitrate dehydrogenase)-negative glioma infiltrating the left frontal lobe with extension into adjacent cortical and deep midline structures of the brain. Upon finishing chemotherapy, a bilateral mastectomy and dissection of the left axilla were performed, followed by the excision of the glioblastoma. The patient is continuing treatment and is currently undergoing further oncologic and neurosurgical follow-up.

CONCLUSION: In conclusion, this case highlights the importance of a thorough diagnostic algorithm in complex patients and the timely surgical approach in conjunction with required chemotherapy. Notably, it demonstrates the necessity of histopathological confirmation of intracranial lesions, as not all brain tumors in patients with some other malignancy represent metastatic disease.

KEYWORDS: Breast Neoplasms; Glioblastoma; Neoplasms, Multiple Primary

CR92

The Paradox of "Natural" Healing: (Un)Safety of Homemade Topical Preparations

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INTRODUCTION: Herbal treatments have gained significant popularity for both systemic and dermatological conditions, often used topically as "safe" alternatives to conventional pharmacotherapy. However, the prevalence of contact sensitization against various plants, particularly those of the Compositae family, is notably high in Europe. Compromised skin barriers, such as those seen in chronic venous insufficiency and stasis dermatitis, significantly increase the risk of developing allergic contact dermatitis following exposure to unregulated herbal topical preparations.

CASE REPORT: An 83-year-old male patient with chronic venous insufficiency presented with eczematous lesions on his lower legs, appearing several days after applying a homemade ointment containing yarrow, olive oil, and beeswax, which he used to treat stasis dermatitis. Clinical examination revealed erythematous, infiltrated, and scaly plaques accompanied by intense pruritus, without signs of secondary infection. Based on the clinical presentation and history, allergic contact dermatitis was suspected. Patch testing with the baseline allergen series demonstrated a positive reaction to plants from the Compositae family, consistent with known cross-reactivity, including yarrow (Achillea millefolium). The patient was advised to immediately discontinue the herbal preparation. Following a 10-day regimen of medium-potency topical corticosteroids and regular emollient use, a significant resolution of the cutaneous lesions and subjective symptoms was observed at the two-week follow-up.

CONCLUSION: While the beneficial effects of herbal substances are frequently questionable or limited, the side effects are often more evident. Adverse reactions to herbal medicines are an important, yet neglected subject in dermatology, requiring further systematic investigation to ensure patient safety within the expanding framework of holistic and complementary therapies.

KEYWORDS: Dermatitis, Allergic Contact; Erythema; Herbal Medicine; Pruritus

CR93

Chronic Posttraumatic Osteomyelitis With Recurrent Surgical Management: A Case Report

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INTRODUCTION: Chronic osteomyelitis is a persistent inflammatory bone disease associated with trauma, orthopaedic implants, and postoperative complications. It represents a major therapeutic challenge due to recurrent infections and need for repeated surgical interventions. In addition to its medical complexity, chronic osteomyelitis significantly impairs patients' quality of life through prolonged treatment, chronic pain, functional limitations and psychological burden.

CASE PRESENTATION: A 54-year-old man presented with a long-standing history of chronic post-traumatic osteomyelitis of the right ankle, which developed after a comminuted ankle fracture treated by osteosynthesis in 2002. Over the years, the patient experienced recurrent wound infections, persistent drainage and wound dehiscence leading to multiple hospital admissions and surgical procedures. In November 2025, he was admitted due to clinical exacerbation characterized by increased pain, swelling, erythema and purulent discharge. Surgical treatment included complete removal of retained osteosynthesis material, radical debridement of necrotic and infected tissue, extensive irrigation and placement of suction drainage. Due to a large residual soft tissue defect of the distal lower leg, reconstruction was performed using a free latissimus dorsi muscle flap with microvascular anastomosis, covered with a split-thickness skin graft. Postoperative management included intensive free flap monitoring, targeted antimicrobial therapy, daily wound care, thromboprophylaxis, pain control and structured rehabilitation. The patient demonstrated satisfactory wound healing, effective infection control and gradual functional recovery.

CONCLUSION: This case emphasizes the complexity of chronic osteomyelitis management and the importance of a multidisciplinary approach. Advanced reconstructive surgery is crucial not only for infection control and wound healing but also for restoring function and improving quality of life. Comprehensive and patient-centered care thus remains essential in achieving both optimal clinical outcomes and meaningful improvements in everyday living.

KEYWORDS: Osteomyelitis; Surgical Flaps; Microsurgery; Quality of Life

CR94

Omalizumab in the Treatment of Cold Urticaria: A Case Report

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INTRODUCTION: Cold urticaria (CU) is a chronic condition characterized by recurrent episodes of cold-induced wheals and/or angioedema following direct or indirect exposure to low temperatures. The severity of symptoms varies from mild localized reactions to severe systemic responses, which may progress to life-threatening anaphylaxis. It results from cold-triggered activation of mast cells, leading to the release of histamine and other inflammatory mediators. CU most commonly affects young adults.

CASE REPORT: A 23-year-old male presented with the sudden onset of urticarial wheals triggered by cold exposure. In addition to cutaneous symptoms, he reported episodes of throat tightness and dysphagia following the consumption of cold beverages. Routine hematological, biochemical, and immunological investigations were within normal limits. Further evaluation revealed Hashimoto thyroiditis with euthyroid hormone status, for which no thyroid-specific therapy was required. CU was confirmed by a positive cold stimulation test. The patient was treated with multiple second-generation H1-antihistamines, including loratadine, cetirizine, and bilastine, administered at standard and up to fourfold doses, without achieving adequate clinical improvement. Due to persistent symptoms and poor response to conventional therapy, treatment with omalizumab was initiated. Significant clinical improvement was observed after only two doses, with significant reduction of symptoms and improved tolerance to cold exposure.

CONCLUSION: This case highlights omalizumab as a potentially effective and safe treatment option for patients with severe, antihistamine-refractory CU. Although its use in CU remains off-label, this case further supports its role in the management of selected patients with physical urticarias.

KEYWORDS: Cold Urticaria; Histamine Antagonists; Omalizumab

CR95

Psychodermatologic Manifestations of Body-Focused Repetitive Behaviors – Diagnostic Challenges: A Case Report

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INTRODUCTION: Psychodermatologic disorders are conditions that involve an interaction between mental and physical health. There are three major groups of these disorders: psychosomatic, primary, and secondary psychiatric disorders. This case report analyzes a patient suffering from a body-focused repetitive disorder manifested by intentional excoriations of the skin and scalp caused by self-harm. By presenting this patient's case, we aim to clarify the complex differential diagnosis.

CASE REPORT: A 13-year-old girl presented to the pediatric clinic with skin abnormalities localized on the forehead, extremities, and scalp. The abnormalities had appeared a year ago following a COVID-19 infection and were allegedly caused by mosquito bites. Heteroanamnestically, it was determined that the girl had previously experienced hypersensitive reactions to insect bites. The ulcerations were scratched, painful, and healed slowly. A pathohistological examination of a skin biopsy revealed a histological picture of a secondary skin lesion, confirming the diagnosis of dermatitis artefacta. Following the diagnosis of excoriation disorder affecting the forehead, extremities, and scalp, treatment included both dermatological therapy aimed at accelerating the healing process and psychodermatological therapy focused on education and emotional regulation. This combined treatment resulted in complete healing of the affected skin areas.

CONCLUSION: The diagnosis of excoriation disorder, one of many body-focused repetitive disorders, along with trichotillomania, nail and lip biting, thumb sucking, and nose picking, requires a holistic approach to the patient. This case highlights the importance of interdisciplinary cooperation among a dermatologist, a psychologist, and a psychiatrist.

KEYWORDS: Excoriation Disorder; Self-Injurious Behavior; Skin Diseases

CR96

When Clinical Reasoning Outperforms Artificial Intelligence: A Rare Case Report of Primary Umbilical Endometriosis

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INTRODUCTION: Umbilical endometriosis, also known as Villar's nodule, is an uncommon condition that may occur either as a primary lesion or secondary to previous abdominal or pelvic surgery. Primary umbilical endometriosis arises spontaneously and is considered particularly rare with an overall incidence of 0.5% to 1% among all endometriosis cases. Because of its appearance, umbilical endometriosis can be mistaken for malignant lesions, including melanoma or metastatic disease. This diagnostic overlap can cause significant patient anxiety, especially when patients seek information from nonvalidated online sources or artificial intelligence (AI) generated medical content.

CASE REPORT: An 18-year-old female presented to a dermatologist with a several-month history of a slowly enlarging umbilical nodule that intermittently bled spontaneously. The surrounding skin was erythematous, swollen, and tender. The patient was extremely anxious, reporting that an AI-based online consultation had suggested the possibility of melanoma or metastatic gastric carcinoma.

Clinical examination revealed a small, homogeneously grey, smooth-surfaced nodule within the umbilicus. Dermoscopy demonstrated a blackbrown amorphous structure. Mild, poorly demarcated periumbilical erythema was present. The patient denied any weight loss and was otherwise healthy. Detailed history taking revealed that episodes of spontaneous bleeding were temporally correlated with the patient's menstrual cycle. This cyclic pattern strongly suggested endometriosis as underlying cause. The patient was reassured that the lesion was likely benign. Complete surgical excision of the nodule was performed. Histopathological analysis confirmed diagnosis of umbilical endometriosis. To date, the patient has shown no evidence of recurrence.

CONCLUSION: This case underscores the enduring importance of detailed history taking, including the recognition of menstrual cyclicity, in guiding clinicians toward the correct diagnosis. It also highlights the potential psychological impact of AI-generated medical misinformation on patients.

KEYWORDS: Artificial Intelligence; Endometriosis; Umbilicus

CR97

Primary Aldosteronism With Non-suppressed Renin: A Diagnostic Challenge in a Young Patient Planning Pregnancy

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INTRODUCTION: Primary aldosteronism (PA) is defined by autonomous aldosterone production with suppressed renin levels. However, atypical presentations with non-suppressed renin can complicate diagnostic protocols and challenge standard clinical algorithms. Recognizing these variants is essential, particularly in young patients where surgical intervention offers a definitive cure and avoids contraindicated medications during pregnancy.

CASE REPORT: A 26-year-old female presented with hypertension (150/100 mmHg), headaches, and a 2.6 cm left adrenal adenoma. Biochemical workup confirmed PA despite an atypically non-suppressed renin profile (renin 43.8 mIU/L; PRA 2.1 ng/mL/h) and severe hypokalemia (K 2.8 mmol/L) treated with 120 mmol of potassium daily. Due to pregnancy plans, adrenal venous sampling (AVS) was performed. Successful catheterization was confirmed on the left side (selectivity ratio [SR] 14.5), while the right side was unsuccessful (SR 2.64). The left adrenal vein aldosterone/cortisol (A/C) ratio was 11.03, and the left adrenal vein-to-peripheral A/C ratio was 2.49. Despite the unsuccessful right adrenal vein cannulation, clinical correlation and significant left-sided secretion pointed to left unilateral PA. Preoperatively, the patient required 150 mg of eplerenone and 5 mg of amlodipine. Left partial adrenalectomy was performed in November 2025. Histopathology confirmed an adrenal adenoma. Postoperatively, potassium and blood pressure levels normalized, and the patient achieved clinical remission without pharmacotherapy.

CONCLUSION: This case underscores that PA should not be excluded solely based on the absence of renin suppression. Furthermore, it demonstrates that when selectivity on one side is unsuccessful, an alternative approach considering the successfully cannulated adrenal vein with calculating A/C ratios in the adrenal vein and between adrenal vein and periphery can guide successful surgical management. In young patients, surgical remission provides a medication-free solution, ensuring a safer clinical profile for future pregnancy.

KEYWORDS: Adrenalectomy; Adrenocortical Adenoma; Hyperaldosteronism, Primary; Hypokalemia; Pregnancy

CR98

Holistic Approach to Obesity: Biological, Psychological and Social Dimensions – A Case Report

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INTRODUCTION: Obesity is a chronic metabolic disease closely related to insulin resistance, glucose metabolism disorders and significant hormonal imbalance. Prevention programs fail to reduce the trend of increasing obesity in the population, although a new generation of drugs combined with a proactive approach to treatment significantly changes the situation for the better.

CASE REPORT: A 29-year-old patient presents due to postpartum progressive weight gain over the past 5 years with irregular menstrual cycles. Her medical history includes a body mass index (BMI) of 49 kg/m^2 and a positive family history for diabetes. Due to obesity, she developed depression, fear of being judged by others for her appearance, and poor self-perception, which is why she avoids socializing and physical activity. Treatment with semaglutide did not have an adequate effect. In the meantime, a new anti-obesity medication, tirzepatide, became available on the market and was substantially more expensive than semaglutide. After learning about this new therapy, the patient's grandmother insisted that the patient consult an endocrinologist and initiate treatment with tirzepatide. She also agreed to cover the costs of the therapy. The patient was provided with adequate nutritional re-education, which enabled better adherence to the new lifestyle. During 8 months of regulated diet and regular exercise with the use of tirzepatide, the patient lost 33 kg, achieved a reduction in BMI from 49 to 39 kg/m^2, improved menstrual cycles, and alleviated social distress.

CONCLUSION: This case highlights the critical role of family support—both emotional and financial—in facilitating lifestyle and therapeutic changes that can significantly improve quality of life. In addition to reducing the risk of developing type 2 diabetes, weight loss improves psychophysical well-being and facilitates social reintegration.

KEYWORDS: Body Image; Health Education; Insulin Resistance; Obesity; Tirzepatide

CR99

Nutritional Ketogenic Therapy to Support Brain Energy and Neurodevelopment in GLUT1 Deficiency Syndrome

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INTRODUCTION: Glucose transporter type 1 deficiency syndrome (GLUT1DS) is a rare neurological disorder caused by impaired glucose transport across the blood–brain barrier, leading to cerebral energy depletion that disrupts neuronal function and brain development. Clinical presentation is variable, but commonly includes drug-resistant epilepsy and movement disorders, such as paroxysmal eye–head movements, ataxia, dystonia, and dyskinesia. The ketogenic diet provides ketone bodies as an alternative energy substrate for the brain, thereby compensating for impaired cerebral glucose metabolism. This report aims to highlight the importance of early diagnosis and to emphasize the effectiveness of the ketogenic diet.

CASE REPORT: A 2-month-old male patient was hospitalized due to two episodes of generalized epileptic seizures. The electroencephalogram (EEG) was abnormal, and valproate therapy was initiated. The patient also exhibited episodes of involuntary hand twitching and vertical eye movements, which did not improve with treatment. A cobalamin deficiency was detected, and he received vitamin B12 supplementation. Brain MRI was normal. After seizures recurred, valproate was replaced with levetiracetam, leading to seizure freedom; however, EEG remained abnormal, and the patient continued to show generalized hypotonia and global developmental delay. A gene panel for epilepsy identified a heterozygous likely pathogenic variant c.1141dup, p.Val381Glyfs*13, in the Solute Carrier Family 2 Member 1 (SLC2A1) gene. GLUT1DS was confirmed following lumbar puncture, which revealed hypoglycorrhachia. At ten months of age, the ketogenic diet was introduced, and levetiracetam was gradually discontinued. The patient remained seizure-free, without any side effects from the diet, and over the following two years achieved all age-appropriate neurodevelopmental milestones.

CONCLUSION: The ketogenic diet is the only effective therapy for GLUT1DS. Early diagnosis is a prerequisite for timely treatment, which prevents irreversible neurological complications and supports normal neurodevelopment.

KEYWORDS: Diet, Ketogenic; Epilepsy; Glucose Transporter Type 1

CR100

Reversible Hypertrophic Cardiomyopathy Caused by Cobalamin Deficiency in a Child With Autism Spectrum Disorder

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INTRODUCTION: Autism spectrum disorder (ASD) is characterized by impairments in social interaction and communication, as well as restricted and repetitive patterns of behavior. Due to these behaviors, children may develop food selectivity, which can lead to micronutrient deficiencies. Cobalamin deficiency typically presents with megaloblastic anemia and myeloneuropathy but may also represent an unusual cause of hypertrophic cardiomyopathy. We present the case of a child with ASD who developed severe nutritional cobalamin deficiency, resulting in hypertrophic cardiomyopathy that completely reversed with cobalamin supplementation.

CASE REPORT: A six-year-old boy with ASD presented with progressive paraparesis. He had unusual eating habits, preferring red-colored foods, with very low consumption of red meat and dairy products since the age of two years. Laboratory evaluation revealed macrocytic anemia and cobalamin deficiency. Tissue transglutaminase antibodies were normal, and there were no other signs of intestinal malabsorption, pointing to poor cobalamin intake due to a highly selective diet. Nerve conduction studies demonstrated a combined sensory-motor peripheral neuropathy. Echocardiography revealed hypertrophic cardiomyopathy with pericardial effusion and preserved systolic function. Parenteral cobalamin supplementation was initiated together with nutritional support and physiotherapy. After one month of treatment, anemia, pericardial effusion, and neurological deficits had completely resolved, and the child was discharged with oral cobalamin supplementation. At the three-month follow-up, echocardiography showed marked regression of cardiac hypertrophy.

CONCLUSION: Although rare, cobalamin deficiency should be considered in the differential diagnosis of hypertrophic cardiomyopathy, especially when combined with other signs of cobalamin deficiency. Children with ASD are particularly prone to micronutrient deficiencies, which can lead to various complications, including cardiac manifestations. Therefore, they should be monitored for nutritional deficiencies and appropriately supplemented when needed.

KEYWORDS: Anemia, Megaloblastic; Autism Spectrum Disorder; Cardiomyopathy, Hypertrophic; Vitamin B 12 Deficiency

CR101

Long-Chain 3-Hydroxyacyl-Coa Dehydrogenase Deficiency Presenting as Acute Cardiac Decompensation in a Neonate: Favourable Outcome With Dietary Treatment

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INTRODUCTION: Beta-oxidation of fatty acids is a key metabolic pathway for energy production, particularly during periods of fasting or increased energy demand. Long-chain 3-hydroxyacyl-CoA dehydrogenase (LCHAD) catalyzes a critical step in this process. Its deficiency compromises energy metabolism with the accumulation of toxic intermediates, which results in systemic organ dysfunction, including cardiomyopathy.

CASE REPORT: A 3-week-old male neonate was brought to the emergency department with one-day history of poor feeding and vomiting. On admission, the patient showed signs of circulatory shock, including tachycardia, unmeasurable blood pressure, dyspnea, cyanosis, and impaired consciousness. Initial laboratory tests detected severe metabolic lactic acidosis. Following resuscitation, the patient was admitted to the intensive care unit. Further evaluation revealed cardiomegaly with reduced myocardial contractility, leading to the diagnosis of dilated cardiomyopathy. The patient required mechanical ventilation and received inotropic support and diuretics, with subsequent hemodynamic stabilization. Metabolic investigations identified dicarboxylic aciduria and elevated long-chain hydroxyacylcarnitines in plasma, suggesting LCHAD deficiency, which was ultimately confirmed by enzyme testing. A low-fat diet with medium-chain triglycerides was initiated. Over the following weeks, cardiac function improved significantly and patient demonstrated appropriate growth and development. During a ten-year follow-up, cardiac function remained stable and there were no further episodes of acute metabolic decompensation. However, episodes of mild rhabdomyolysis after intense physical effort and pigmentary retinal changes occurred, both known complications of LCHAD deficiency.

CONCLUSION: This case report emphasizes the importance of early recognition and treatment of metabolic disorders. Although LCHAD deficiency may have serious, even fatal consequences, timely diagnosis and individualized dietary treatment can lead to a favourable outcome.

KEYWORDS: Acidosis; Cardiomegaly; Rhabdomyolysis; Shock; Triglycerides

CR102

The Weight of Obesity: Lifting Cardiovascular Risk

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INTRODUCTION: Obesity is commonly defined by a Body Mass Index (BMI) of 30 kg/m2 or higher. This condition significantly increases the risk of chronic diseases, including type 2 diabetes mellitus, cardiovascular disease, and certain cancers. NICE (National Institute for Health and Care Excellence) obesity guidelines recommend maintaining a Waist-Height ratio (WHtR) below 0.5, meaning the waist should be less than half one's height. A WHtR of 0.6 or more indicates high central adiposity and significantly increased health risks.

CASE REPORT: We present the case of a 52-year-old female patient with obesity, hypertension and dyslipidaemia. During a regular check-up with her family physician in September 2025, her waist circumference was measured at 160 cm. Her weight could not be measured, as a scale with adequate capacity was not available. With a last known weight of 175 kg and a height of 169 cm, her BMI was approximated at 61.27 kg/m2 and her WHtR was 0.95. She was advised to initiate weight loss pharmacotherapy in order to decrease cardiovascular risk and enhance quality of life. Treatment with tirzepatide in the starting dose of 2.5 mg weekly was initiated in September 2025. During her most recent consultation, in January 2026, her waist circumference was 145 cm (a decrease of 15 cm within four months of treatment). With the current dose of tirzepatide being 10 mg weekly, her WHtR had decreased to 0.86. In addition to that, her hunger tolerance has improved and her affect became visibly more positive.

CONCLUSION: In obese patients with weight-related comorbidities, use of tirzepatide can achieve significant improvement in metabolic control and overall well-being. Furthermore, this case illustrates a connection between physical health and quality of life.

KEYWORDS: Body Mass Index; Heart Disease Risk Factors; Obesity; Quality of Life; Waist-Height Ratio

CR103

Biotin-Related Immunoassay Interference Imitating Thyroid Pathology

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INTRODUCTION: Biotin supplements are widely used to promote hair and nail growth. These supplements may interfere with streptavidin-biotin-based immunoassays commonly used for thyroid function testing. As a result, they can cause misleading thyroid-stimulating hormone (TSH), free T3 and free T4 results, potentially mimicking thyroid dysfunction. We present a case of falsely elevated TSH associated with biotin supplement intake.

CASE REPORT: A 35-year-old female first presented with hypothyroidism during pregnancy in 2024, for which levothyroxine (Euthyrox) was started. At a routine follow-up at the beginning of 2025, TSH was reported as 125 mIU/L, suggesting undertreatment, which led to an increase in the levothyroxine dose. One month later, repeated testing showed a significant decrease in TSH to 7.69 mIU/L, without a corresponding change in clinical presentation. Given the hormone fluctuations and the absence of symptoms, the patient's medical history was reviewed, revealing that she had been taking a biotin supplement due to hair and nail loss after pregnancy. Subsequently, her levothyroxine dose was reduced and she discontinued biotin supplementation one week before repeated testing. Repeated thyroid function testing showed a normal TSH of 2.26 mIU/L, supporting biotin-related immunoassay interference as the most probable explanation for the falsely elevated TSH result suggesting worsening hypothyroidism.

CONCLUSION: This case emphasizes the role of biotin supplements in patients with thyroid disease. Unexplained TSH fluctuations that do not match thyroid hormone concentrations and clinical presentation should raise suspicion of biotin-immunoassay interference. Targeted questioning about biotin use, with repeated testing after temporary cessation of biotin, can prevent unnecessary levothyroxine dose adjustments and avoid inappropriate treatment changes.

KEYWORDS: Biotin; Hypothyroidism; Immunoassay; Thyrotropin

CR104

Phenotype or Genetics: Boy With a CCDC22 Variant of Uncertain Significance and Features Suggestive of Ritscher–Schinzel Syndrome Type 2

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INTRODUCTION: Ritscher–Schinzel syndrome-2 (RTSC2) is a rare X-linked recessive disorder associated with syndromic intellectual disability, posterior fossa malformations, congenital heart defects, skeletal abnormalities, and specific facial features. However, clinical presentation varies and genetic testing is necessary for diagnosis. Testing may identify a variant of uncertain significance (VUS): a genetic variant without definitive clinical significance, creating challenges in diagnosis and management.

CASE REPORT: We present an 11-year-old boy with attention deficit hyperactivity disorder, epileptiform electroencephalogram, mild intellectual disability, verbal cognitive impairment and learning and reading disability consistent with organic central nervous system dysfunction. He also has dysmorphic facial features and multiple musculoskeletal abnormalities, including camptodactyly of the right hand, kyphoscoliosis, hip contractures, bilateral metatarsus adductus and pes cavus and minor neuromotor dysfunction manifested by clumsiness and recurrent falls with fractures. Due to phenotypic characteristics and multiple developmental difficulties, whole exome sequencing was performed. The patient was found to be hemizygous for a CCDC22 variant (c.1765G>C; p.Glu589Gln), currently classified as a VUS. Pathogenic variants in CCDC22 have been associated with RTSC2. Of the 36 clinical features of the syndrome described in the literature, our patient presents with 16, while several remain uncertain and require further evaluation. Previously performed magnetic resonance imagining of the brain showed no structural abnormalities, despite neurodevelopmental impairment. Given the known association of RTSC2 with congenital heart defects, the student was referred for a complete cardiological assessment, which is ongoing.

CONCLUSION: This case highlights the importance of phenotype-driven, multidisciplinary management in children with multiple developmental and congenital findings, regardless of genetic testing results. Careful documentation of clinical features in patients with VUSes is essential, as future reclassification of such variants may improve diagnosis, surveillance and genetic counselling.

KEYWORDS: Genetics, Medical; Genetic Testing; Phenotype; Syndrome

CR105

Synchronous Adenocarcinoma of the Head and Body of the Pancreas

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INTRODUCTION: Pancreatic adenocarcinoma is a major diagnostic and therapeutic challenge and is frequently associated with poor outcomes due to its aggressive biological behavior and late clinical presentation. Synchronous multifocal pancreatic adenocarcinoma is exceptionally rare and poses additional diagnostic and therapeutic challenges.

CASE REPORT: A 64-year-old female patient with a medical history of arterial hypertension and hyperlipoproteinemia was admitted for evaluation of dull epigastric pain radiating to the right upper quadrant, accompanied by nausea and progressive obstructive jaundice. Abdominal ultrasonography followed by contrast-enhanced computed tomography revealed an expansive mass in the pancreatic head measuring 2.0 cm in diameter and a second lesion in the pancreatic body measuring 1.2 cm. Regional lymphadenopathy was present, with secondary dilatation of the common bile duct, intrahepatic bile ducts, and gallbladder. Endoscopic ultrasound-guided fine-needle biopsy (22-G needle) confirmed the diagnosis of pancreatic adenocarcinoma. The patient was referred for surgical management and underwent total pancreatectomy with splenectomy, followed by gastroenteric and hepaticojejunal anastomoses. The intraoperative and postoperative courses were uneventful. After adequate postoperative recovery, adjuvant systemic therapy was initiated. At the three-month follow-up, clinical and imaging assessments showed no signs of recurrent pancreatic cancer.

CONCLUSION: This case describes a rare presentation of synchronous pancreatic adenocarcinoma, emphasizing the need for a multidisciplinary approach to diagnosis and treatment. To our knowledge, this represents the first reported case of synchronous solid adenocarcinoma involving both the head and body of the pancreas.

KEYWORDS: Adenocarcinoma; Neoplasms, Multiple Primary; Pancreatectomy; Pancreatic Neoplasms; Splenectomy

CR106

Diabetes Mellitus and Diabetic Nephropathy – Case Report

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INTRODUCTION: Diabetic nephropathy is a common microvascular complication of diabetes and a leading cause of chronic and end-stage kidney disease, characterized by albuminuria, hypertension, and progressive renal function decline. Here, we present a rapid decline in kidney function with development of nephrotic syndrome after radioiodine therapy with thyroid hormone withdrawal, without recombinant human TSH (rhTSH) supplementation.

CASE REPORT: A 45-year-old man was diagnosed with type 1 diabetes mellitus in 2011 and had a history of poor adherence to diabetes management, including irregular blood glucose monitoring and dietary noncompliance. In April 2024, the patient underwent total thyroidectomy for papillary thyroid carcinoma, followed by radioactive iodine (I-131) ablation twice without rhTSH supplementation. During a period of 6 months, a rapidly progressive decline in kidney function with nephrotic range was noted; creatinine rose to 426 μmol/L with proteinuria of 4 g/dU. Due to the clinical course, a kidney biopsy was performed to detect whether, in addition to the expected diabetic nephropathy, another diagnosis could be identified in the kidney histology. Renal biopsy revealed advanced diabetic nephropathy, classified as class III glomerular lesions with chronic tubulointerstitial and arteriolar changes. The subsequent treatment plan is to list him for simultaneous cadaveric kidney and pancreas transplantation.

CONCLUSION: This case illustrates how long-standing type 1 diabetes mellitus, compounded by additional systemic stressors can contribute to the progression of advanced kidney disease. Poor glycemic control and thyroidectomy with subsequent radioactive iodine therapy likely accelerated renal function decline. Therefore, it is important to make all measures in order to prevent kidney insufficiency, in this case, application of rhTSH.

KEYWORDS: Diabetes Mellitus; Diabetic Nephropathies; Thyroidectomy

CR107

A Case of Porphyria Cutanea Tarda - Skin Changes or Something More?

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INTRODUCTION: Porphyria cutanea tarda (PCT) is the most common form of porphyria, caused by impaired hepatic uroporphyrinogen decarboxylase activity, often triggered by iron overload and oxidative stress. It presents with skin fragility, blistering, hyperpigmentation, and hypertrichosis on sun-exposed areas and is frequently associated with hyperferritinemia and elevated liver enzymes.

CASE REPORT: A 52-year-old man was referred to a hepatologist for persistently elevated liver enzymes and chronic blistering skin lesions on the hands and forearms. His medical history included arterial hypertension, type 2 diabetes mellitus, and dyslipidemia. A deceased family member had previously exhibited similar skin changes without a confirmed diagnosis. Laboratory testing revealed severe hyperferritinemia (2500 ng/mL), elevated aspartate transaminase (97 U/L), alkaline phosphatase (244 U/L), and gamma-glutamyl transferase (93 U/L), with normal bilirubin. Viral hepatitis markers were negative, and genotyping for homeostatic iron regulator (HFE) demonstrated a wild-type genotype. Porphyrin analysis showed markedly elevated uroporphyrin (6657.3), heptacarboxyporphyrin (144.2), coproporphyrin III (496.6), and total porphyrins (7575.8). Abdominal ultrasound demonstrated mild hepatic steatosis. A skin biopsy showed subepidermal cell-poor bullae, festooning of dermal papillae, and PAS-positive deposits around upper dermal vessels, confirming the diagnosis of PCT. After 10 therapeutic phlebotomies over six months with strict photoprotection, porphyrin levels markedly improved compared with baseline. Ferritin and transaminases normalized, and the patient reported significant improvement in pruritus, pain, hyperpigmentation, and overall quality of life.

CONCLUSION: This case emphasizes that elevated liver enzymes may be directly associated with PCT and that such patients may present in a gastroenterology setting. Early recognition and iron-depleting therapy are essential to prevent progressive liver damage and achieve clinical remission.

KEYWORDS: Blister; Hyperferritinemia; Phlebotomy; Porphyria Cutanea Tarda; Transaminases

CR108

Big, Quiet and Contained: A Case Report of a Giant Gastrointestinal Stromal Tumor With Late-Onset Symptoms

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INTRODUCTION: Gastrointestinal stromal tumors (GISTs) are rare, slow-growing mesenchymal neoplasms driven by c-KIT mutation that arise from the interstitial cells of Cajal. Their malignant potential increases with size and mitotic index. Most GISTs measure less than 7 cm, whereas tumors exceeding 25 cm are sporadic and reported in isolated case reports. We present a patient with a massive GIST who remained asymptomatic for an extended period.

CASE REPORT: A 66-year-old male was brought to the emergency department due to upper gastrointestinal bleeding. Patient reported black, foul-smelling stools and generalized weakness starting one day before admission. Physical examination was unremarkable, except for melena detected on digital rectal examination. Laboratory findings revealed normocytic anemia. Esophagogastroduodenoscopy identified a small mass on the antral side of the greater gastric curvature without active bleeding. Computed tomography scans showed a large tumor, originating from the greater curvature, filling the left hemiabdomen, suggestive of a GIST. There was no radiological evidence of metastases. Histopathological findings of the biopsy showed CD117-positive cells without mitotic activity, confirming the diagnosis of GIST. The patient underwent surgery, during which a tumor measuring 27 × 23 cm was resected en bloc with the distal pancreas, spleen, and a segment of the colon. Final histopathology demonstrated extensive hemorrhage within the tumor, without tumor necrosis or infiltration of adjacent structures, corresponding with an intermediate risk for disease progression. The patient was discharged 10 days postoperatively in good general condition.

CONCLUSION: This case highlights that an abdominal mass can stay clinically silent despite its size and only present with late-onset gastrointestinal bleeding. Moreover, even a giant GIST can occur without metastatic disease, emphasizing the importance of an individualized treatment approach.

KEYWORDS: Abdominal Neoplasms; Gastrointestinal Stromal Tumors; Melena; Proto-Oncogene Proteins c-kit

CR109

Ménétrier Disease in Emergency Department: Case Presentation

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INTRODUCTION: Ménétrier disease (MD) is a rare, acquired gastric disorder diagnosed mostly between the fourth to sixth decades of life. Males are affected more than females and present with progressive abdominal pain and vomiting often with peripheral edema due to protein-losing enteropathy. The diagnosis of MD is based on a combination of clinical, endoscopic, and histopathological findings. The aim of this abstract is to raise awareness of Ménétrier disease as a rare differential diagnosis in emergency settings, particularly in young patients.

CASE REPORT: A 33-year-old male was admitted to the hospital due to epigastric pain, nausea, vomiting, and early satiety with marked weight loss and hypoalbuminemia. He had no significant medical history and was not taking any medications, but reported a history of heavy smoking.

A gastroduodenoscopy was performed and revealed thickened and enlarged gastric folds covered by foamy exudative fluid, predominantly affecting the body and fundus of the stomach while sparing the antrum. Contrast-enhanced computed tomography (CT) showed diffuse mucosal thickening of the stomach with a differential diagnosis of lymphoma.

Gastric biopsies revealed foveolar hyperplasia along with a complete absence of oxyntic and parietal glands. Based on the clinical presentation, endoscopic findings and histopathology, the patient was diagnosed with Ménétrier disease. The patient received supportive treatment consisting of a high-protein diet, albumin infusions and a proton pump inhibitor, resulting in a substantial reduction of symptoms. He continues to undergo regular follow-up at the outpatient clinic.

CONCLUSION: MD remains a rare but clinically significant disorder in which management is based on the severity of the symptoms. Early diagnosis is crucial for determining the optimal therapeutic approach and better patient outcomes.

KEYWORDS: Emergency Service, Hospital; Gastritis, Hypertrophic; Hypoalbuminemia; Protein-Losing Enteropathies

CR110

Against All Odds: Successful Pregnancy After Liver Transplantation in a Woman With Primary Sclerosing Cholangitis and Ulcerative Colitis

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INTRODUCTION: Ulcerative colitis (UC) is an autoimmune disease that affects the colon and often overlaps with other immune-mediated diseases, such as primary sclerosing cholangitis (PSC). Inflammatory bowel diseases may reduce fertility and increase the risk of adverse pregnancy outcomes, especially in patients with comorbidities. Treating such patients requires individualized therapy as well as a multidisciplinary, holistic approach.

CASE REPORT: We present the case of a 37-year-old woman with UC and PSC who also has longstanding type 1 diabetes mellitus managed with intensive insulin therapy. Remission of UC was maintained with aminosalicylates. In 2021, she underwent orthotopic liver transplantation with hepaticojejunostomy due to progression of PSC and decompensated liver cirrhosis. She has been on chronic immunosuppressive therapy with tacrolimus and shows no signs of PSC recurrence. Two years after transplantation, infliximab was initiated at an induction dose of 5 mg/kg due to an exacerbation of UC. Because of persistently active disease, the dose was increased to 10 mg/kg every six weeks, achieving clinical and biochemical remission with mild endoscopic activity (Mayo endoscopic score 1). After a positive pregnancy test in July 2024, a treatment strategy was devised. Infliximab therapy was continued with regular gastroenterology, gynecology, and diabetology follow-up. In the third trimester, infliximab was discontinued, and live vaccination of the newborn was advised to be postponed. Disease remission was successfully maintained throughout pregnancy, and delivery was performed by cesarean section in March 2025. Both mother and child are healthy, and infliximab therapy was resumed following delivery.

CONCLUSION: This case report demonstrates that pregnancy can be safe for both mother and child, even in women with complex comorbidities, if disease remission is maintained through careful therapeutic management and close multidisciplinary collaboration.

KEYWORDS: Cholangitis, Sclerosing; Colitis, Ulcerative; Liver Transplantation; Pregnancy

CR111

Microscopic Colitis: The Role of Lifestyle in Disease Control

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INTRODUCTION: Microscopic colitis is a chronic inflammatory disease of the colon characterized by persistent watery diarrhea and a normal endoscopic appearance. The diagnosis is often delayed due to nonspecific clinical presentation and unremarkable macroscopic findings. Histological examination of colonic biopsies is essential for diagnosis. This case report presents a patient with microscopic colitis and highlights the diagnostic difficulties and the role of lifestyle factors in disease management.

CASE REPORT: A 61-year-old woman with arterial hypertension and a history of sarcoidosis presented with several months of chronic watery diarrhea. The patient reported up to six bowel movements daily, accompanied by tenesmus and intermittent traces of blood. Laboratory findings were within normal limits, including inflammatory markers. Abdominal imaging showed no significant abnormalities. Colonoscopy revealed a macroscopically normal colonic mucosa. However, histopathological examination of colonic biopsies demonstrated an increased number of intraepithelial lymphocytes with preserved crypt architecture, consistent with lymphocytic colitis.

Treatment with oral budesonide resulted in significant clinical improvement. However, therapy was temporarily discontinued due to elevated blood pressure, after which symptoms recurred. Reintroduction of treatment with adjustment of antihypertensive therapy led to symptom control. The patient was also advised on lifestyle modification and avoidance of potential triggering medications.

CONCLUSION: Microscopic colitis should be considered in patients presenting with chronic watery diarrhea despite normal endoscopic findings. Histological analysis remains the cornerstone of diagnosis. Early recognition and appropriate treatment, combined with lifestyle modifications such as smoking cessation and avoidance of medications associated with microscopic colitis, including nonsteroidal anti-inflammatory drugs, proton pump inhibitors, statins, selective serotonin reuptake inhibitors, and H2 receptor antagonists, as well as dietary adjustments, can significantly improve symptom control and patient outcomes.

KEYWORDS: Biopsy; Budesonide; Colitis, Microscopic; Colonoscopy; Diarrhea

CR112

Designing a Better Life With Laparoscopic Three-Dimensional Mesh Hernioplasty in Bilateral Inguinal Hernia

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INTRODUCTION: Inguinal hernias represent the most common form of hernia, often causing pain, reducing mobility and all the while possessing a significant risk of complications such as incarceration or strangulation, leading to severe consequences. This condition is most frequently associated with white males engaged in physically demanding occupations. Laparoscopic three-dimensional (3D) mesh hernioplasty aims to minimise surgery and recovery time, thereby shortening hospital stays while improving patients' quality of life.

CASE REPORT: We present a case of a 72-year-old male admitted in 2025 with bilateral inguinal hernia, interfering with his everyday life. Clinical examination revealed a left-sided indirect and a right-sided direct hernia, accompanied by pain without signs of gangrene or obstruction. After disinfection, a ten millimetre trocar was used to create the camera port, followed by two five millimetre trocars for working ports. Both hernias were accessed with a peritoneal incision, followed by preparation and hernia repositioning utilising a personalised polyethylene 3D printed mesh. This delicate approach enabled minimal blood loss with greater hemostasis capability. Surgical wounds left by the trocars are significantly smaller than those that would be made by a scalper, allowing finer suturing, reduced scarring and an overall better outcome. The patient was discharged the following day and sutures were removed after two weeks, leading to a full recovery.

CONCLUSION: This case illustrates preshaped 3D mesh benefits such as superior placement, lower recurrence rate, shorten operating time and little fixation. The weakened abdominal wall was reinforced through integration of body tissues with the 3D mesh allowed the patient to return to a full daily life without restricted mobility or fear of hernia recurrence.

KEYWORDS: Hernia, Abdominal; Hernia, Inguinal; Laparoscopy; Surgical Mesh

CR113

When Red Flags Aren't Red: A Missed Diagnosis of Severe Bleeding in a Color Blind Patient

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INTRODUCTION: Esophageal varices are venous collaterals developing in patients with portal hypertension, affecting up to 85% of those with liver cirrhosis. It typically presents as acute variceal bleeding, often associated with hemodynamic instability and high mortality rates, even when promptly recognized and treated. However, prompt recognition of such bleeding relies heavily on the clinician's or patient's ability to identify hematemesis or hematochezia, a warning sign easily overlooked in color-blind patients.

CASE REPORT: A 60-year-old male patient, with no prior history of bleeding, presented with three days of what he perceived as severe diarrhea accompanied by dizziness and vomiting. He was found by family members in a debilitated state, covered in blood, and thus quickly transferred to the hospital. Upon admission, he was diagnosed with hemorrhagic shock, caused by hematemesis and hematochezia. During the initial examination, the patient explained he was unaware of his life-threatening rectal bleeding because he was color-blind and therefore unable to distinguish the red color of blood from the brown color of stool. This resulted in him not seeking medical assistance immediately. The patient was admitted to the intensive care unit, and following stabilization, emergency upper gastrointestinal endoscopy identified ruptured esophageal varices as the source of bleeding. Hemostasis was successfully achieved via endoscopic band ligation, and he subsequently underwent a transjugular intrahepatic portosystemic shunt (TIPS) placement. After a successful recovery, the patient was discharged in stable condition.

CONCLUSION: In conclusion, while color-blindness itself does not pose direct health risks, it may inadvertently lead patients into dangerous situations. Therefore, to prevent delayed recognition of life-threatening conditions in these patients, we need to implement inclusive strategies, including targeted screening and provider education, tailored to the individual.

KEYWORDS: Color Vision Defects; Esophageal and Gastric Varices; Gastrointestinal Hemorrhage; Hemorrhage

CR114

Progressive Familial Intrahepatic Cholestasis: Excellent Long-term Outcome Following Stepwise Management and Liver Transplantation

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INTRODUCTION: Progressive familial intrahepatic cholestasis (PFIC) is a group of rare genetic liver diseases characterized by impaired intrahepatic bile transport. Symptoms usually start in infancy as recurrent jaundice and pruritus, and the disease progresses to liver cirrhosis.

CASE REPORT: The patient presented at 5 months of age with cholestasis, pruritus, and diarrhea. After an extensive workup, PFIC type 1 was diagnosed. At the age of 8, a partial external biliary diversion (choledochostomy) was performed due to severe pruritus. Due to stoma complications at the age of 16, conversion to internal biliary diversion was performed. Unfortunately, she developed progressive cholestasis and intractable pruritus, requiring liver transplantation at the age of 18. Preoperatively, the skin was icteric with visible excoriations. Ultrasound revealed an enlarged liver without dilated intrahepatic structures. Total bilirubin was 594 μmol/L, with mildly elevated liver enzymes. A liver from a cadaveric donor was transplanted, after which she experienced numerous complications. On the fourth post-transplant day, she developed acute graft rejection that was treated with high-dose immunosuppressants. In the third week, a Doppler ultrasound detected hepatic artery stenosis, and a stent was placed. Her course was further complicated by significant gastrointestinal bleeding from a duodenal ulcer, pneumonia with respiratory failure requiring mechanical ventilation, acute renal failure necessitating hemodialysis, and steroid-induced hyperglycemia requiring insulin therapy. Five months after transplant, she was discharged home. Despite her complicated course, she delivered a healthy child at 27 years of age and is currently doing well.

CONCLUSION: This report illustrates that although PFIC is a progressive and potentially fatal disorder, stepwise management with increasingly invasive interventions, culminating in liver transplantation, may achieve excellent long-term outcomes.

KEYWORDS: Choledochostomy; Cholestasis, Intrahepatic; Liver Transplantation; Pruritus

CR115

Complex Clinical Course of Primary Sclerosing Cholangitis After Multiple ERCP Procedures

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INTRODUCTION: Primary sclerosing cholangitis (PSC) is a chronic cholestatic liver disease, often associated with ulcerative colitis (UC). Endoscopic retrograde cholangiopancreatography (ERCP) is an important diagnostic and therapeutic method for PSC, but it carries a risk of complications, particularly acute pancreatitis. The family physician plays a crucial role in recognizing complications and coordinating treatment. We present a case of PSC in which multiple ERCP procedures resulted in severe complications, with the aim of illustrating the challenges in the management of high-risk patients.

CASE REPORT: A 42-year-old man was diagnosed with PSC and UC nine years ago. The patient was regularly followed by a gastroenterologist and a family physician. The disease remained stable until three years ago, when obstructive jaundice developed. ERCP was performed and was complicated by post-procedural pancreatitis and acute abdomen with pneumoperitoneum. Treatment included Kocher maneuver and cholecystectomy, followed by choledochotomy with placement of a T-tube, multiple relaparotomies due to necrotic collections and hematomas. An enterocutaneous fistula developed and was surgically treated. Several months later, a Schloffer tumor developed in the area of the medial laparotomy and was also surgically treated. Three months ago, the patient was hospitalized because of acute cholangitis, and an absolute indication for ERCP was established despite severe previous complications. The procedure was again complicated by acute pancreatitis. An additional ERCP was required after which the patient again developed acute pancreatitis. The patient is currently stable.

CONCLUSION: This case highlights the high risk associated with repeated ERCP in patients with PSC and emphasizes the importance of careful assessment of indications. Continuous follow-up in primary health care and good collaboration with specialists are essential for recognition of complications and optimal management.

KEYWORDS: Cholangiopancreatography, Endoscopic Retrograde; Cholangitis, Sclerosing; Colitis, Ulcerative; Primary Health Care

CR116

IGG4-Related Disease of the Hepatobiliary System: A Rare Cause of Obstructive Jaundice in Young Patient

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INTRODUCTION: IgG4-related disease is a rare systemic immune-mediated condition characterized by dense infiltration of IgG4-positive plasma cells leading to chronic inflammation, fibrosis, and organ dysfunction. In the gastrointestinal tract, it most commonly affects the pancreas and hepatobiliary system, where it may be indistinguishable from pancreatic malignancy, primary sclerosing cholangitis (PSC), or cholangiocarcinoma, making timely and accurate diagnosis essential.

CASE REPORT: A previously healthy 25-year-old male presented with painless jaundice, pale stools, dark urine, and generalized pruritus. Laboratory assessment revealed a cholestatic liver pattern with marked hyperbilirubinemia (T-BIL 354 μmol/L), preserved synthetic function, no evidence of active inflammation, and negative autoimmune antibodies with serum IgG4 levels mildly elevated (>3.3 g/L). Magnetic resonance cholangiopancreatography (MRCP) demonstrated segmental intrahepatic bile duct strictures and dilatations, raising suspicion for PSC. Gastroscopy and colonoscopy were unremarkable. Endoscopic ultrasound–guided fine-needle aspiration cytology of the pancreatic head and periportal lymph node were non-diagnostic. Subsequent endoscopic retrograde cholangiopancreatography (ERCP) incorporating cholangioscopy and targeted biopsy was performed, with biliary decompression by placement of two biliary stents and a prophylactic pancreatic stent. Histopathological analysis confirmed IgG4-related sclerosing cholangitis, after which prednisone (40mg) was initiated. Following stent removal, serum bilirubin levels continued to improve (T-BIL 115 μmol/L), and the patient remains in the outpatient follow-up.

CONCLUSION: Although rare, IgG4-related sclerosing cholangitis should be considered in the differential diagnosis of biliary obstruction and inflammatory cholangiopathies. Accurate diagnostic evaluation is essential, as early recognition and corticosteroid therapy can lead to clinical improvement and may prevent irreversible liver damage and unnecessary invasive procedures.

KEYWORDS: Bile Ducts, Intrahepatic; Cholangiopancreatography, Endoscopic Retrograde; Cholangitis, Sclerosing; Cholestasis; Immunoglobulin G4-Related Disease

CR117

When the Spleen Roams: A Case of Recurrent Abdominal Pain in a Child With Wandering Spleen

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INTRODUCTION: Wandering spleen is a rare condition characterized by the spleen's abnormal mobility, where it shifts from its normal position in the upper left abdomen to other areas within the abdomen or pelvis. It is caused by laxity or absence of splenic ligaments, predisposing to pedicle elongation, torsion and venous stasis. We report a pediatric case successfully managed with splenopexy.

CASE REPORT: An 8-year-old boy presented with a one-year history of recurrent postprandial abdominal pain described as a "heavy brick pressure". He hadn't lost any weight but experienced chronic poor appetite and fatigue that affected his concentration. Following a bicycle fall, he developed a febrile episode and his symptoms recurred with greater intensity. Laboratory tests revealed mild thrombocytopenia (143 × 10□ /L), while an abdominal ultrasound demonstrated an enlarged, ectopic spleen in the central abdomen and pelvis. He was later referred to University Hospital Centre Zagreb for further evaluation. Physical examination disclosed a firm, painless mass in the lower abdomen, which imaging confirmed to be an enlarged spleen (17.3 x 5.6cm) located in the pelvis. "Whirlpool" vascular appearance suggested splenomegaly secondary to venous congestion, without significant hypersplenism. Following multidisciplinary consultation, operative exploration was undertaken with the intent of splenopexy or splenectomy, depending on intraoperative viability. A triple-twisted splenic pedicle was successfully detorsed, and the spleen was preserved and fixed in a supramesocolic pocket. Postoperative findings showed the spleen had reduced in size and the patient recovered well.

CONCLUSION: When recurrent pain is paired with an abdominal mass and thrombocytopenia, a wandering spleen must be suspected. Early clinical recognition allows for successful organ preservation, sparing the patient from the significant complications and lifelong infectious risks of a total splenectomy.

KEYWORDS: Abdominal Pain; Thrombocytopenia; Wandering Spleen

CR118

Celiac Disease Presenting with Growth Failure and Iron-Deficiency Anemia in a Child: A Case Report

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INTRODUCTION: Celiac disease is a chronic immune mediated enteropathy triggered by gluten ingestion in genetically predisposed individuals. In children, it often presents with non-specific gastrointestinal and extraintestinal symptoms, including growth failure, iron-deficiency anemia and fatigue, which may delay diagnosis. Early recognition is essential to prevent long-term complications. This case report highlights the importance of early recognition of subtle clinical signs in primary care.

CASE REPORT: A 7.5-year-old girl, born at term from an uncomplicated pregnancy, presented with chronic fatigue, poor appetite, weight loss, abdominal pain, and recurrent diarrhea. She had consistently been on the 10th percentile for height and weight. Her medical history was notable for recurrent iron-deficiency anemia over the previous two years, treated intermittently with oral iron. Family history revealed celiac disease in a maternal aunt. Physical examination showed pallor and abdominal examination revealed mild epigastric tenderness. Laboratory results showed microcytic hypochromic anemia (Hb 98 g/L, MCV 70.5 fL), low serum iron (5 μmol/L), and normal inflammatory markers and liver enzymes. Stool analysis was negative for parasites but positive for fat and starch. Serological testing revealed elevated anti-gliadin IgG and elevated IgA anti-endomysial antibodies, confirming the diagnosis of celiac disease. Given the child's age and highly positive serology, intestinal biopsy was not required. A gluten-free diet was initiated, and the patient was referred to a pediatric gastroenterologist for follow-up.

CONCLUSION: This case emphasizes that celiac disease should be considered in children with unexplained anemia, growth delay and chronic gastrointestinal symptoms, particularly with a positive family history. Early recognition, together with a healthy lifestyle, appropriate nutritional management and family education is essential for optimal growth, symptom resolution and long-term well-being.

KEYWORDS: Anemia; Celiac Disease; Diarrhea; Fatigue

CR119

Amyand's Hernia Complicated by Acute Appendicitis and Abdominal Wall Abscess: A Rare Case Report

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INTRODUCTION: Amyand's hernia is a rare variant of inguinal hernia characterized by the presence of the vermiform appendix within the hernia sac. It accounts for approximately 1% of all inguinal hernias, while cases complicated by acute appendicitis are reported in fewer than 0.1%. Although computed tomography (CT) plays an important role in the preoperative diagnosis (particularly in differentiating Amyand's hernia from an incarcerated inguinal hernia), this condition is most often identified intraoperatively. The coexistence of Amyand's hernia with acute appendicitis and an intra-abdominal abscess represents an exceptionally rare clinical entity, described in only a small proportion of reported cases.

CASE REPORT: A 66-year-old man with a known right inguinal hernia presented with a five-day history of burning pain, swelling, and erythema in the right groin. He was febrile but denied abdominal pain, nausea, or bowel obstructive symptoms. Physical examination revealed an irreducible right inguinoscrotal hernia with overlying skin phlegmon. Laboratory tests showed elevated inflammatory markers. Ultrasonography was inconclusive, whereas contrast-enhanced CT demonstrated the appendix within the hernia sac with surrounding inflammation and fluid collection, consistent with appendicitis. Urgent surgery revealed an inflamed cecum adherent to the internal inguinal ring and a perforated appendix with purulent content within the hernia sac. Appendectomy and abdominal lavage were performed, followed by abscess drainage. The patient received intravenous cefazolin and metronidazole for five days, had an uncomplicated recovery, and was discharged on postoperative day five.

CONCLUSION: This case highlights the importance of early recognition and incisional drainage in complicated Amyand's hernia to prevent infection and ensure recovery. Heightened clinical suspicion is therefore necessary, particularly in elderly patients with groin swelling and systemic signs of infection.

KEYWORDS: Appendicitis; General Surgery; Hernia, Inguinal; Tomography; X-Rays

CR120

A Diagnostic Challenge: Late Presentation of Crigler–Najjar Syndrome Type II

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INTRODUCTION: Crigler–Najjar syndrome is a rare inherited disorder of bilirubin metabolism caused by mutations in the UGT1A1 gene, which encodes the enzyme UDP-glucuronosyltransferase 1A1 (UGT1A1). In the liver, UGT1A1 conjugates bilirubin with glucuronic acid, increasing its water solubility and biliary excretion. In Crigler–Najjar syndrome type I, UGT1A1 activity is completely absent, whereas in type II it is reduced and may be further impaired by infection or surgical stress.

CASE REPORT: Following a recent appendectomy, a 25-year-old patient was hospitalized several times due to icterus and hyperbilirubinemia. Cholecystolithiasis was confirmed, and a cholecystectomy was performed, with histopathology revealing chronic cholecystitis. Despite surgery, the patient continued to experience jaundice and pruritus. Genetic testing identified a mutation consistent with Gilbert syndrome, but laboratory tests demonstrated uncharacteristically elevated indirect bilirubin levels (139,2 μmol/L). Magnetic resonance imaging and magnetic resonance cholangiopancreatography revealed no abnormalities. Liver elastography showed no fibrosis or steatosis. Routine laboratory investigations and an extended liver screen, including a viral hepatitis panel, autoimmune liver screen, metabolic tests, tumor markers, and liver function tests revealed no clinically significant abnormalities except for elevated indirect bilirubin (225,5 μmol/L) and liver enzymes above the normal range (AST 46 U/L, ALT 82 U/L, GGT 101 U/L, ALP 144 U/L). Symptomatic treatment with ursodeoxycholic acid and cholestyramine was initiated without clinical improvement. The patient was subsequently started on phenobarbital, resulting in symptomatic relief and a marked reduction in bilirubin levels and liver enzymes. Genetic testing for Crigler–Najjar syndrome type II is currently underway to confirm the diagnosis.

CONCLUSION: In the absence of immediate genetic testing, and after ruling out other possible causes of recurrent jaundice, empirical phenobarbital treatment may serve as a diagnostic tool.

KEYWORDS: Cholecystectomy; Crigler-Najjar Syndrome; Hyperbilirubinemia; Phenobarbital

CR121

Hidden in the Mesentery: A Symptomatic Mesenteric Cyst Treated with Laparoscopy in an Adult Female

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INTRODUCTION: Mesenteric cyst is a rare benign intra-abdominal tumor with an incidence of 1 in 250 000 hospital admissions, presenting with pain or a palpable abdominal mass. They are most commonly discovered incidentally through abdominal radiological imaging or during surgery performed to resolve complications of the cyst, such as torsion, rupture and obstruction. The gold standard of treatment is complete surgical excision. The aim of this abstract is to present the clinical presentation of this rare diagnosis.

CASE REPORT: A 56-year-old female presented with periumbilically localized pain, which subsequently shifted to the right lower quadrant. Physical examination was unremarkable and the abdomen showed no signs of guarding. As part of the radiological evaluation, a computed tomography scan of the abdomen was performed, revealing a thin-walled multicystic mass in the right hemiabdomen adjacent to the wall of the ascending colon, with no connection with the colon. A laparoscopic extirpation of the cyst was performed along with an appendectomy and the excised material was sent for pathohistological analysis. The patient was discharged on the second postoperative day in good general condition. Pathohistological findings confirmed a multilocular peritoneal inclusion cyst. Re-excision was suggested in the event of recurrence to prevent further abdominal complications.

CONCLUSION: This case emphasizes that mesenteric cyst is a rare clinical entity with only 820 cases reported since 1507. It is of exceptional clinical importance to consider mesenteric cyst within the differential diagnosis of abdominal pain to prevent torsion, rupture or intestinal obstruction which can be avoided through timely diagnosis.

KEYWORDS: Abdominal Pain; Appendectomy; Laparoscopy; Mesenteric Cyst

CR122

Infliximab-Associated Liver Injury in Patients With Crohn's Disease

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INTRODUCTION: Infliximab is a tumor necrosis factor (TNF)-α inhibitor used in the management of inflammatory bowel disease and is generally considered safe. However, it has been implicated in rare cases of drug-induced liver injury (DILI) with autoimmune-like features, a distinct and serious form of hepatocellular injury. Infliximab-induced hepatotoxicity can present a few months after initiating therapy in two patterns: asymptomatic rise in liver enzymes, or an immune-mediated hepatitis that mimics idiopathic autoimmune hepatitis (AIH). Differentiating primary AIH from drug-induced autoimmune-like hepatitis (DI-ALH) is clinically important due to differences in management and prognosis.

CASE REPORT: A 41-year-old male patient with Crohn disease (Simple Endoscopic Score for Crohn Disease [SES-CD] 6) and no prior liver disease was treated with infliximab. Baseline liver biochemistry and viral hepatitis screening were normal. Following intravenous induction, therapy was switched to subcutaneous infliximab. Four months later, mild aminotransferase elevation progressed to abrupt severe hepatocellular injury: peak alanine aminotransferase 1660 U/L, aspartate aminotransferase 776 U/L, bilirubin 25 μmol/L, and alkaline phosphatase 132 U/L. Therapeutic drug monitoring revealed an infliximab concentration of >24 μg/mL, accompanied by low anti-drug antibody levels. The patient was asymptomatic, reporting only mild pruritus. Abdominal ultrasound was unremarkable. Extensive evaluation excluded viral, metabolic, and biliary causes. Autoimmune testing demonstrated positive soluble liver antigen/liver–pancreas antibodies, with normal immunoglobulin G levels. Infliximab was discontinued, and high-dose corticosteroids were initiated, resulting in rapid biochemical improvement.

CONCLUSION: This case highlights DI-ALH, the pathogenesis of which remains incompletely understood. It is believed to involve the loss of immune tolerance induced by TNF-α blockade, which initiates autoreactive immune responses against hepatocytes. Careful monitoring of liver enzymes and consideration of drug level assessment are essential in patients receiving biologic therapy.

KEYWORDS: Chemical and Drug Induced Liver Injury; Crohn Disease; Hepatitis, Autoimmune; Immunosuppressive Agents; Infliximab

CR123

From Acute Abdomen to a Hidden Diagnosis: Right-Sided Colon Cancer

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INTRODUCTION: Acute abdomen is a surgical emergency characterized by sudden onset of severe abdominal pain, commonly occurring with fever, nausea, and vomiting. Among its various etiologies, colorectal cancer, particularly right-sided tumors, may present acutely due to obstruction or perforation. Colorectal cancer is the second most common malignancy worldwide, with right-sided colon cancers often diagnosed at at advanced stages due to nonspecific symptoms.

CASE REPORT: A 58-year-old woman was admitted to the emergency department with 10-day history of progressive abdominal pain, vomiting, and general weakness, followed by absolute constipation during the last 48 hours. On physical examination, abdominal distention and diffuse tenderness, without peritoneal signs, were shown. Laboratory test revealed microcytic anemia and hypokalemia secondary to persistent vomiting. A computed tomography of the abdomen demonstrated irregular circumferential wall thickening of the cecum and ascending colon about 6.2 cm in length with marked proximal small bowel and colonic dilatation, consistent with mechanical large bowel obstruction. No radiological evidence of liver metastases or peritoneal carcinomatosis was detected. Emergency surgery was performed, and due to pronounced bowel distension with an increased risk of anastomotic failure, a right hemicolectomy with terminal ileostomy was undertaken. Intraoperatively, a firm obstructing cecal tumor was identified without macroscopic metastatic disease. Histopathology revealed a moderately differentiated adenocarcinoma of the ileocecal region. The postoperative course was uneventful, and following multidisciplinary discussion, stage III colon cancer was diagnosed, with adjuvant CAPOX chemotherapy recommended.

CONCLUSION: Colorectal cancer should be considered an important cause of acute abdomen. Prompt surgical intervention and imaging are essential for symptom relief and appropriate oncologic management. Multidisciplinary evaluation and adjuvant chemotherapy play key role in improving long-term patient outcomes.

KEYWORDS: Abdomen, Acute;Colectomy;Colorectal Neoplasms;Ileostomy;Intestinal Obstruction

CR124

From Liver Transplantation to Post-Transplant Lymphoproliferative Disorder: A Tale of Defiance Against All Odds

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INTRODUCTION: Epstein-Barr virus (EBV) is a ubiquitous virus belonging to the Gammaherpesvirinae family and is one of the underlying causes of the post-transplant lymphoproliferative disorders (PTLD). The aim of this case report is to present a pediatric case of this rare and dangerous complication of solid organ transplantation characterized by monomorphic diffuse large B-cell lymphoma.

CASE REPORT: A female patient suffering from biliary atresia underwent the Kasai procedure at the age of 43 days. After initial postoperative success, at the age of 16 months, she developed portal hypertension due to the progression of liver disease and had several episodes of variceal bleeding. Subsequently, she developed ascites and became jaundiced, which marked the beginning of liver decompensation; therefore liver transplant was performed at 19 months of age. The first posttransplant year was unremarkable, but then she developed anemia and hypoalbuminemia. The fecal occult blood test was repeatedly positive; therefore, esophagogastroduodenoscopy was performed. Also, a high EBV load was noted in peripheral blood (41,300 copies/ml). A stomach biopsy showed B-lymphocytic infiltrate consistent with PTLD diagnosis. Positron emission tomography–computed tomography (PET-CT) showed accumulation in the nasopharynx, nodular form in the anterior mediastinum, right upper lung lobe, right adrenal gland, gastric wall, mediastinal, and retroperitoneal lymph nodes. Immunosuppression was reduced, and rituximab treatment was administered. Endoscopic remission and PCR negativization occurred after two doses; complete remission after four. Rituximab treatment was terminated after eight cycles, with a control PET-CT showing no signs of disease. Four years later, the patient is in stable remission with good liver function.

CONCLUSION: Although being a rare and deadly disease, this article emphasizes the need for the early recognition of PTLD in patients with solid organ transplants because current treatment provides an effective therapeutic solution.

KEYWORDS: Biliary Atresia; Gastroenterology; Herpesvirus 4, Human; Liver Transplantation; Pediatrics

CR125

Case Report: Severe Malnutrition Due to Untreated Celiac Disease: A Rare Outcome Despite Widespread Diagnostic Availability

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INTRODUCTION: Celiac disease is an immune-mediated disorder triggered by gluten, primarily localized in the digestive tract, resulting in villous atrophy. Today, the typical clinical presentation featuring malabsorption syndrome is rare; symptoms are frequently attributed to intestinal infections or post-enteric syndrome, especially in children attending daycare.

CASE REPORT: A 4-year-old girl presented with malabsorption and malnutrition due to prolonged symptoms before diagnosis. The girl was hospitalized for abdominal pain and distension, with significant weight loss. Following a viral infection a month prior, she had daily stools with mucus and poor appetite. Upon admission, she presented a moderately ill patient, irritable, pale, with prominent dark circles under eyes, sparse subcutaneous fatty tissue with pronounced skin folds, protruding ribs and vertebrae, and meteoristic abdomen without organomegaly. Measurements: weight 14.6 kg (16th centile, -0.98z), height 98 cm (8th centile, -1.42z), Body Mass Index (BMI) 15.2 (46th centile, -0.09z). Emergency abdominal ultrasound showed distended intestinal loops but was otherwise normal. Laboratory findings revealed iron-deficiency anemia, hypoproteinemia, hypovitaminosis D and E, zinc and folate deficiencies. With normal immunoglobin A level, high titers of anti-tissue transglutaminase antibodies (anti-tTG>4996 Chemiluminescent Units (CU)) were detected, confirming celiac disease and secondary malnutrition. A gluten free, easily digestible diet was initiated, alongside vitamin and gradual mineral supplementation. Through regular follow-ups over one year, she achieved significant clinical recovery with measurements: weight 22.6 kg (76th centile, 0.72z), height 112.5 cm (33rd centile, -0.45z), BMI 17.9 (90th centile, 1.91z) alongside normalized nutrient levels and decrease in anti-tTG to 33 CU.

CONCLUSION: Despite developing healthcare systems and accessible diagnostics in urban areas, celiac disease can still be overlooked, leading to clinically significant complications. Diagnostic availability is ineffective without timely clinical suspicion.

KEYWORDS: Celiac Disease; Glutens; Malabsorption Syndromes; Malnutrition

CR126

Alcoholic Liver Cirrhosis Complicated by Obstructive Jaundice and Post-endoscopic Retrograde Cholaniopancreatography Bleeding: A Case Report

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INTRODUCTION: Alcohol-related liver disease remains a major cause of chronic liver morbidity often complicated by cholestasis and portal hypertension. Differentiating between hepatic and extrahepatic causes of jaundice in patients with advanced liver disease is clinically challenging but important for appropriate management.

CASE REPORT: A 54-year-old male presented to the gastroenterology department with severe epigastric pain and progressive jaundice. On admission, physical examination revealed epigastric and subcostal tenderness without peritoneal signs. Laboratory tests showed marked hyperbilirubinemia, elevated liver enzymes, anemia, and thrombocytopenia. Imaging revealed hepatomegaly with steatosis, splenomegaly, cholelithiasis with a large gallstone, and biliary sludge without clear choledocholithiasis. Endoscopic ultrasound and subsequent endoscopic retrograde cholangiopancreatography (ERCP) identified biliary sludge and microlithiasis within the distal common bile duct. Endoscopic sphincterotomy with balloon extraction resulted in clinical improvement. Several days later, the patient developed post-procedural bleeding in the region of the papilla of Vater, clinically manifested by melena and a decrease in hemoglobin levels. Urgent esophagogastroduodenoscopy (EGDS) with endoscopic hemostasis was performed, alongside transfusion therapy and administration of octreotide acetate. A follow-up ERCP showed no evidence of active bleeding or residual biliary obstruction. The final diagnosis was alcoholic liver cirrhosis after extensive viral, autoimmune, and metabolic workup excluded alternative causes of liver injury. Strict alcohol abstinence, dietary modifications, and close outpatient follow-up were advised.

CONCLUSION: This case highlights the importance of recognizing reversible biliary causes of clinical deterioration in patients with chronic liver disease. Prompt endoscopic intervention and multidisciplinary management are essential to optimize outcomes in complex cases involving alcoholic liver disease complicated by obstructive jaundice and post-ERCP bleeding.

KEYWORDS: Cholangiopancreatography, Endoscopic Retrograde; Cholestasis; Jaundice, Obstructive; Liver Diseases, Alcoholic

CR127

Tailored in Vitro Fertilization Protocol in a Patient With Hypogonadotropic Hypogonadism Following Pituitary Adenoma

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INTRODUCTION: Hypogonadotropic hypogonadism (HH) is a condition characterized by inadequate production of sex hormones due to insufficient secretion of gonadotropins, typically caused by hypothalamic or pituitary dysfunction. Pituitary adenomas, although benign, can lead to hypopituitarism either directly by compressing pituitary tissue, or indirectly via treatment-related damage. When HH occurs in women, it represents a challenging cause of female infertility, often requiring individualized ovarian stimulation protocols with prolonged and high-dose exogenous gonadotropins.

CASE REPORT: A 41-year-old female patient presented with infertility due to secondary hypopituitarism following pituitary adenoma surgery and subsequent gamma knife radiosurgery. The patient was on stable hormone replacement therapy under regular endocrinological supervision. Ovarian reserve was preserved (Anti-Müllerian Hormone (AMH) ~10-15pmol/L), but spontaneous ovulation was absent. The first in vitro fertilization (IVF) attempt involved controlled ovarian stimulation with recombinant follicle-stimulating and luteinizing hormone (FSH/LH; Pergoveris 187.5 IU daily) starting on cycle day two. On cycle day 18, seven follicles were aspirated, but no oocytes were recovered. The second IVF attempt used a modified stimulation protocol with gradually escalating Pergoveris doses, starting on cycle day 11 (12.5 IU) up to 150 IU daily. Follicular development was achieved (serum estradiol 2829 pg/mL) and final maturation was triggered with 250 g human chorionic gonadotropin (hCG) on cycle day 46. Four oocytes were retrieved. Three were fertilized via intracytoplasmic sperm injection (ICSI), and two blastocysts were transferred, resulting in a twin pregnancy. At 37+3 weeks' gestation, an elective cesarean delivery was performed, delivering two healthy neonates.

CONCLUSION: This case demonstrates IVF as an effective treatment option for women with hypogonadotropic hypogonadism due to hypopituitarism. With individualized stimulation protocols and multidisciplinary collaboration, a favorable obstetric outcome is possible even in endocrinologically complex cases.

KEYWORDS: Fertilization in Vitro; Hypogonadism; Hypopituitarism; Infertility, Female; Pituitary Neoplasms

CR128

Fear Is the Mind Killer: Helping Patients Fight the Fear of Starting Hemodialysis

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INTRODUCTION: End-stage renal disease (ESRD) is the final stage of chronic kidney disease (CKD) in which kidney function is irreversibly impaired. Patients with ESRD require renal replacement therapy such as hemodialysis. As this case highlights, despite its life-saving effects, some patients experience considerable fear and hesitation when it comes to starting hemodialysis treatment.

CASE REPORT: Female patient, aged 72, with a history of chronic kidney disease, type 2 diabetes, and arterial hypertension, was referred to a nephrologist. Over a period of 2 years, her CKD progressed to ESRD. Her glomerular filtration rate declined to <7 mL/min/1,73m2, and she developed hyperkalemia, uremia, and lower extremity edema. She was initially afraid to start hemodialysis treatment, citing her husband's death while on dialysis, concerns about loss of personal autonomy, limitations in mobility and travel, and fear of social prejudice. Consequently, a multidisciplinary approach was implemented, including repeated discussions with the nephrologist about the dialysis treatment, nurses showing her around the dialysis department, and interactions with other patients. She also received several supportive sessions with a psychiatrist. Her renal function further deteriorated over the ensuing weeks, but ultimately she became willing to initiate treatment. Following only a few hemodialysis sessions, the patient experienced marked clinical improvement. She became more active (as uremia decreased), and even traveled for the holidays. Her self-reported quality of life improved substantially.

CONCLUSION: Patients may experience fear, not only of the disease itself but also of its treatment. Such apprehension can lead to treatment refusal or delay. A dedicated, systematic, multidisciplinary approach can help patients overcome their fears and encourage them to become active participants in their treatment, thereby significantly improving their quality of life.

KEYWORDS: Fear; Kidney Failure, Chronic; Renal Dialysis

CR129

The Power of Meningococcus: Fulminant Meningococcal Sepsis With Complications – A Case Report

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INTRODUCTION: Meningococcal sepsis is an acute, life-threatening infection caused by Neisseria meningitidis. It most commonly affects adolescents and is characterized by high fever, petechial rash on the extremities, and rapid progression to shock. Early recognition and treatment are essential for survival.

CASE REPORT: A 16-year-old boy was admitted to the University Hospital for Infectious Diseases in November 2024 with high fever (up to 39°C), vomiting, leg pain, as well as petechiae and ecchymoses on the extremities. On examination, he appeared pale, with cold, cyanotic extremities, non-palpable radial pulses, and prolonged capillary refill (5 seconds). Blood testing confirmed Neisseria meningitidis serogroup B, establishing the diagnosis of fulminant meningococcal sepsis with shock. He was immediately transferred to the Intensive Care Unit (ICU), where norepinephrine was started for circulatory support, alongside ceftriaxone as antimicrobial therapy. During his ICU stay, he developed respiratory and renal failure, requiring intubation, mechanical ventilation, and dialysis. After one erythrocyte transfusion, he suddenly became hypotensive and cyanotic, with a rapid drop in oxygen saturation, suggesting transfusion-related acute lung injury (TRALI). Progressive necrosis of the extremities led to his transfer to the Children's Hospital Zagreb for surgical treatment. He underwent bilateral transtibial amputations, amputation of several fingers, and debridement of necrotic tissue on the left thigh and forearm. During rehabilitation, he experienced phantom limb pain. The patient is now well and continuing therapy.

CONCLUSION: This case illustrates the destructive potential of meningococcal sepsis and emphasizes the importance of rapid diagnosis, prompt intensive care, and coordinated rehabilitation in achieving a favorable outcome.

KEYWORDS: Amputation, Surgical; Necrosis; Neisseria meningitidis, Serogroup B; Shock, Septic

CR130

Unmasking the Cause of Post-Transplant Nephrotic Syndrome in WT1-Associated FSGS

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INTRODUCTION: Genetic WT1-associated focal segmental glomerulosclerosis (FSGS) rarely recurs after kidney transplantation. Therefore, nephrotic-range proteinuria may suggest an initial misdiagnosis rather than true recurrence, making accurate differentiation between recurrence and secondary causes essential for management and prognosis.

CASE REPORT: A 25-year-old woman was diagnosed with focal segmental glomerulosclerosis (FSGS) at the age of 10. She underwent two kidney biopsies over four years, both confirming the diagnosis. Initial treatment with cyclosporine and corticosteroids was ineffective, and therapy was subsequently transitioned to an ACE inhibitor. Genetic testing in 2016 revealed a mutation in the WT1 gene. The patient was a candidate for preemptive kidney transplantation and underwent transplantation at age 25 from a living donor (her mother) with favorable HLA matching. Maintenance immunosuppression included tacrolimus, mycophenolate mofetil, and prednisone. In the days following transplantation, subnephrotic-range proteinuria was observed. Renal biopsy demonstrated acute T cell-mediated rejection with moderate to severe acute tubular injury, prompting treatment with intravenous methylprednisolone boluses. Electron microscopy showed no signs of FSGS recurrence. The clinical course was complicated by a rise in serum creatinine and the development of nephrotic-range proteinuria, accompanied by lower-limb edema, minimal pleural effusion, and moderate ascites on ultrasonography. Imaging also demonstrated progressive hydronephrosis, and urological evaluation confirmed stenosis of the transplanted ureter. An antegrade double-J stent was inserted, with additional nephrostomy placement. Subsequently, serum creatinine levels declined, with restoration of excellent urine output.

CONCLUSION: : In this case, nephrotic-range proteinuria was most likely attributable to ureteral obstruction rather than FSGS recurrence. The clinical course confirmed that recurrence of the genetic form of FSGS is extremely rare, as described in the published literature. In our case, timely intervention allowed recovery of graft function.

KEYWORDS: Glomerulosclerosis, Focal Segmental; Kidney Transplantation; Nephrotic Syndrome; Proteinuria; WT1 Proteins

CR131

Small Renal Mass, Big Risk: ccRCC-R After Da Vinci Robotic Partial Nephrectomy- A Case Report

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INTRODUCTION: Clear cell renal cell carcinoma with rhabdoid component (ccRCC-R) is a rare, highly aggressive subtype with poor prognosis, often metastatic at diagnosis and a median survival under one year. Da Vinci robotic partial nephrectomy (RPN) is a minimally invasive, high-precision, kidney-sparing approach with faster recovery. This case report highlights the importance of early recognition and timely RPN.

CASE REPORT: We present a case of a 46-year-old patient with renal cell carcinoma (RCC) who successfully underwent RPN using the Da Vinci surgical system in International Medical Center (IMC) Priora. On October 7th, 2025, the patient was admitted to the Department of urology of IMC Priora, after an incidental finding of a hypoechoic mass in the lower pole of the left kidney during an ultrasound examination. CT urography revealed an exophytic, solid, hypervascular mass, measuring 4.9 × 4.4 cm, highly suspicious for RCC. The patient denied any pain or urination problems. Blood tests showed normal urea and creatinine levels, while microscopic urinalysis revealed microhematuria. On October 8th, the day after surgery, the patient complained of abdominal pain, which was assumed to be reactive gastropathy. The fourth postoperative day patient was discharged from the hospital. Afterwards, the patient was referred to an oncologist for an opinion on adjuvant immunotherapy as pathohistological analysis suggested ccRCC-R with lymphovascular invasion.

CONCLUSION: At IMC Priora, robotic surgery is mainly used in urology. Although it represents a major step forward in minimally invasive care, surgeon expertise remains essential, as every robotic movement is directly controlled and supervised. In this case, early diagnosis was crucial given the tumor's aggressive behavior and poor prognosis, while robotic assistance improved efficiency and enabled faster recovery.

KEYWORDS: Carcinoma, Renal Cell; Neoplasm Metastasis; Urologic Surgical Procedures

CR132

When Proteinuria Unmasks Multiple Myeloma: A Case Report

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INTRODUCTION: Multiple myeloma (MM) is a malignant bone marrow disorder characterized by uncontrolled proliferation of plasma cells. It is a monoclonal gammopathy that predominantly affects older men. The most common clinical manifestations include anemia, weight loss, and bone pain, while less frequent manifestations include increased susceptibility to infections and renal impairment.

CASE REPORT: A 47-year-old man with no previous comorbidities presented to family physician (FP) with a persistent respiratory infection lasting two weeks prior to his visit. Physical examination revealed pain in the right costal margin (RCM), and no liver and spleen enlargement. There was no reported weight loss. Laboratory evaluation showed normal complete blood count and liver function tests, with preserved renal function. C-reactive protein was mildly elevated at 8.6 mg/L. Urinalysis revealed proteinuria (+). Pain in the RCM persisted over the following two months, and due to proteinuria the patient was referred for nephrological evaluation. Serum analysis demonstrated abnormal kappa and lambda free light chain ratios, and subnephrotic-range proteinuria without albuminuria was detected. The patient subsequently underwent hematological treatment and received four cycles of chemotherapy according to the VRd protocol (bortezomib, lenalidomide, dexamethasone), achieving complete remission. Two months after completion of chemotherapy, autologous hematopoietic stem cell transplantation was performed without complications. The patient remains under regular hematological and FP follow-up and is on continuous lenalidomide maintenance therapy.

CONCLUSION: This case highlights the crucial role of the FP in the early detection and monitoring of malignant hematological diseases. Subnephrotic proteinuria, combined with musculoskeletal pain and younger-than-expected age at presentation, represents a rare initial manifestation of MM. Any degree of proteinuria should be taken seriously and requires thorough evaluation to determine its underlying cause, including potential non-nephrological etiologies.

KEYWORDS: Multiple Myeloma; Physicians, Family; Primary Health Care; Proteinuria

CR133

Risking It for the Good Life: A Step Too Far?

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INTRODUCTION: Anemia is a common complication of chronic kidney disease (CKD), primarily resulting from insufficient erythropoietin production by the kidneys. One therapeutic approach is the administration of recombinant human erythropoietin. We report a case of a patient with CKD-related anemia and the challenges associated with such treatment.

CASE REPORT: A 67-year-old female with the history of heart transplant, CKD and arterial hypertension was referred to nephrologist due to CKD progression. Her serum creatinine (SCr) was 250-320 μmol/L, and her hemoglobin was 78-81 g/L. She received blood transfusions. Normocytic anemia was diagnosed as nephrogenic and with adequate ferritin, vitamin B12 and folic acid levels, EPO therapy was initiated. Her hemoglobin subsequently increased to 100-105 g/L, and she reported feeling more energetic and being able to walk longer distances, while her CKD remained stable. During the follow-up visit, the patient's daughter reported a progressively enlarging mass behind her mother's ear, which she had been hiding. The lesion was identified as a parotid gland tumor. Since erythropoietin is a growth factor, it is contraindicated in patients with tumors, as it may stimulate their growth. Therefore, EPO therapy was discontinued, leading to a decrease in hemoglobin, requiring blood transfusions and reducing patient's quality of life. This outcome was exactly what she had feared, prompting her to hide the tumor from her nephrologist. Finally, she was referred for surgery, the tumor was removed, and EPO therapy was resumed, resulting in an increase in hemoglobin levels.

CONCLUSION: To conclude, recombinant human erythropoietin is an effective treatment for CKD-related anemia. However, its use requires careful consideration of potential risks, and patients with any suspected tumor must inform their nephrologist.

KEYWORDS: Anemia; Erythropoietin; Neoplasms; Renal Insufficiency, Chronic

CR134

IgA Nephropathy or ANCA – Associated Glomerulonephritis: Diagnostic and Treatment Challenge

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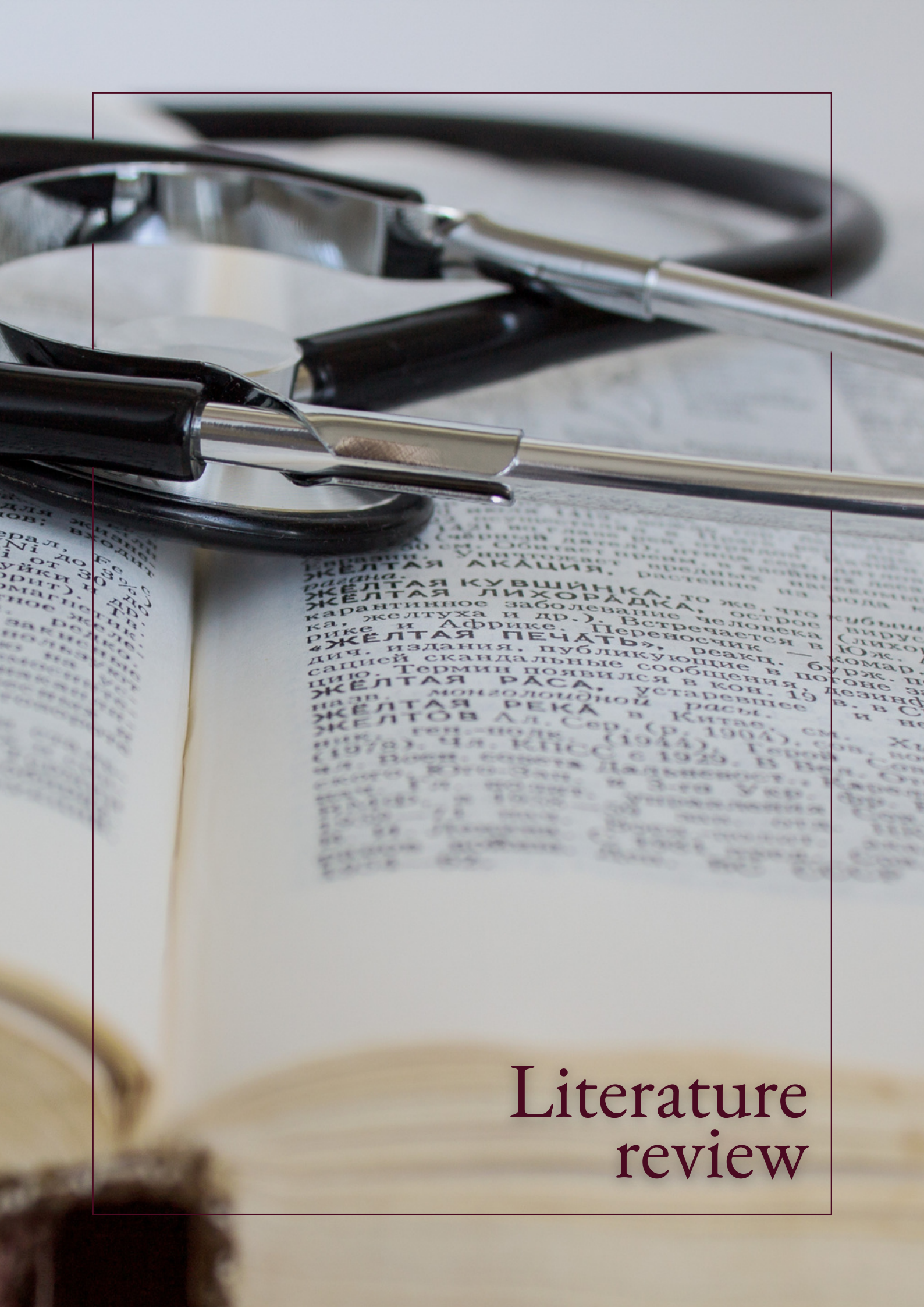
INTRODUCTION: Immunoglobulin A nephropathy (IgAN) is the most common primary glomerulonephritis, characterized by mesangial IgA-dominant immune complex deposition. It often progresses to chronic kidney disease and may lead to kidney failure requiring renal replacement therapy.

CASE REPORT: A 27-year-old female patient with a past medical history of juvenile arthritis presented with suprapubic pressure and urinary frequency in the absence of dysuria. Laboratory workup revealed preserved kidney function with an estimated glomerular filtration rate (eGFR) of 122 mL/min/1.73 m2, dysmorphic erythrocyturia, and subnephrotic proteinuria (1.8 g/day). An immunological workup revealed positivity for both anti-myeloperoxidase (anti-MPO, 8 U/mL; ref.<5 U/mL) and anti-proteinase 3 (anti-PR3, 38 U/mL; ref.<5 U/mL) anti-neutrophil cytoplasmic antibodies (ANCA). The patient denied constitutional symptoms (fever, myalgia, nausea) and showed no extra-renal manifestations, such as rashes or periorbital or pretibial edema. She had been taking thiamazole for hyperthyroidism for two years. Given the clinical presentation, an ultrasound-guided biopsy of the left kidney was performed. The biopsy revealed active IgAN (Oxford score M1E1S1T0C1) with cellular crescents in 20% of the glomeruli. Despite the dual ANCA positivity, she was treated for IgAN (methylprednisolone and perindopril), and not for ANCA-associated vasculitis. After discontinuing thiamazole, the anti-MPO titer became negative, and the anti-PR3 titer significantly dropped. The steroid course led to complete remission of the IgAN after a 9-month follow-up.

CONCLUSION: In this case, we consider dual ANCA positivity to be drug-induced and not pathogenic in the development of glomerulonephritis. Distinguishing between IgAN and ANCA-associated vasculitis is crucial to avoid unnecessary, prolonged immunosuppressive therapy.

KEYWORDS: Anti-Neutrophil Cytoplasmic Antibody-Associated Vasculitis; Arthritis, Juvenile; Glomerulonephritis, IGA



Literature review

LR1

Best abstract in the category Literature Review

The Gut-Brain Axis in Parkinson's Disease: Microbiota as a Therapeutic Target

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INTRODUCTION: Patients with Parkinson's disease (PD) often suffer from motor dysfunction, cognitive decline, and gastrointestinal (GI) disorders. Studies have revealed a connection between the brain and gut, known as the gut-brain axis. This review aims to provide an overview of studies examining the impact of gut microbiota on Parkinson's disease.

MATERIALS AND METHODS: A PubMed search was conducted (2019–2024) using the keywords "gut microbiota" and "Parkinson's disease". Original studies on gut microbiota and PD symptoms or interventions were included, while reviews and non-clinical studies were excluded. Ten studies were analyzed using narrative synthesis.

RESULTS: One study reported improvement in motor symptoms in PD patients after a 14-day ovo-lacto vegetarian diet with fecal enemas. Another administered fecal microbiota transplantation orally as capsules, improving GI disorders. Two studies reported reduced non-motor symptoms with prebiotic fibers, while another found the same effect with prebiotics and probiotics. A separate study showed similar results with a multi-strain probiotic. One study improved intestinal flora and suppressed inflammatory factor expression using berberine hydrochloride. Another highlighted alterations in taurine-conjugated bile acids linked to symptom severity and disease onset. The Dutch Parkinson Cohort study focused on the gut microbiome as a factor, aiming to identify biomarkers for early diagnosis and treatment. Finally, one study emphasized GI symptoms as an early biomarker of cognitive decline in PD. However, the included studies were limited by small sample sizes, short follow-up periods, and heterogeneous study designs.

CONCLUSION: These findings present a promising strategy for improving motor and non-motor symptoms of PD. Emerging evidence suggests that GI symptoms may serve as early biomarkers for cognitive decline in PD. This evidence supports further research into microbiome-targeted therapies as approaches for disease management and diagnosis.

KEYWORDS: Brain-Gut Axis; Cognition Disorders; Gastrointestinal Microbiome; Neurodegenerative Diseases; Parkinson Disease

LR2

Therapeutic Combination Strategies Aimed at Improving Immunotherapy Efficacy in Medulloblastoma

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INTRODUCTION: Medulloblastoma is an aggressive malignant brain tumor comprising four molecular subgroups (Wingless-WNT, Sonichedgehog-SHH, Group 3, and Group 4). Despite multimodal treatment, relapse rates remain high, and long-term toxicity is substantial. Immunotherapy has emerged as a promising approach; however, its efficacy is limited by the blood–brain barrier, immune evasion, and an immunosuppressive tumor microenvironment. This review summarizes current evidence on combination strategies aimed at improving immunotherapeutic efficacy in medulloblastoma.

MATERIALS AND METHODS: The PubMed database was searched using the keywords "medulloblastoma" and "immunotherapy" for articles published between 2020 and 2025. From a total of 131 results, 17 papers that fit the review objective were included.

RESULTS: Reviewed studies revealed multiple combination strategies. Regarding radiotherapy, low-dose X-ray radiation (LDXR) was shown to regulate human leukocyte antigen (HLA) molecules and increase reactive oxygen species (ROS) production, suggesting a potential synergistic effect with monoclonal antibody (mAb) therapy. FLASH radiotherapy demonstrated stimulation of antitumor immunity, which also led to improved infiltration and activation of chimeric antigen receptor (CAR) T-cells, consequently sensitizing medulloblastoma to CAR.GD2 T-cell therapy. Chemotherapy also improved immunotherapeutic effects. Cisplatin enhanced in vitro tumor necrosis factor-alpha (TNF-α) expression and treatment efficacy in transmorphic phage (TPA)-guided TNF-α gene delivery, therefore increasing apoptosis and vasculature destruction in the tumor. Gemcitabine and rapamycin pre-treatment, combined with lipopolysaccharide (LPS) and interleukin-2 (IL-2) infusions, resulted in better tumor growth control in therapy with peptide-pulsed dendritic cell-stimulated T-cells. Concerning epigenetic drugs, tacedinaline induced inflammation in MYC-driven medulloblastoma models, thereby sensitizing tumors to anti-CD47 phagocytosis checkpoint immunotherapy, whereas tazemetostat pretreatment upregulated GD2 expression and sensitized tumors to CAR-T cytotoxicity.

CONCLUSION: In summary, current evidence indicates that combining immunotherapy with complementary strategies can enhance antitumor immunotherapy efficacy in medulloblastoma and help overcome resistance, supporting more effective treatment approaches while reducing side effects.

KEYWORDS: Combined Modality Therapy; Immunotherapy; Medulloblastoma

LR3

Designing the Good Drug: Biosimilairs in Today's Medicine in European Union: A Literature Review

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INTRODUCTION: Biosimilars are biological medicines highly similar, though not identical, to an authorized reference biologic due to inherent variability in biological drug manufacturing. Biosimilars do not require a full clinical trial program. In the European Union (EU), biosimilars enter the market after the market protection of the reference product has expired. The aim of this systematic review was to evaluate the regulatory framework, clinical evidence, and safety considerations of biosimilar medicines approved in the European Union.

MATERIALS AND METHODS: A systematic review of the PubMed database was conducted for studies published between 2021 and 2026 using the keyword "biosimilars". The search yielded 3,792 results, of which 20 studies were included. European Medicines Agency (EMA) guidelines were also analyzed. Data regarding approval pathways, comparative quality, non-clinical and clinical studies, extrapolation of indications and immunogenicity assessment were analyzed.

RESULTS: Biosimilars approved in the EU demonstrate high similarity to their reference products in molecular structure, biological activity, efficacy, and safety, with no clinically important differences identified. Their development supports improved affordability and wider patient access to biologic therapies. When comparability is established in a sensitive clinical indication, efficacy and safety data may be scientifically extrapolated to other approved indications, minimizing the need for additional trials. Comparative studies often emphasize pharmacokinetic and pharmacodynamic endpoints rather than long-term clinical outcomes. More than 50 biosimilars are currently authorized in the EU, including insulin analogues, epoetins, monoclonal antibodies, and growth factors, with none withdrawn due to safety or efficacy concerns.

CONCLUSION: Biological therapy has changed treatment outcomes over the past 15 years. Overall, biosimilars represent safe, effective, and cost-efficient alternatives that enhance patient access to biologic therapies and support sustainable healthcare systems in the EU.

KEYWORDS: Biological Therapy; Biosimilar Pharmaceuticals; Comparative Study; Immunogenetic Phenomena; Patient Safety

Original research

OR1

Best abstract in the category Original Research

BrECADD in Routine Clinical Practice: Real-Life Efficacy and Toxicity From a Single-Center Cohort

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INTRODUCTION: The HD21 trial demonstrated that positron emission tomography-adapted BrECADD (brentuximab vedotin, etoposide, cyclophosphamide, doxorubicin, dacarbazine and dexamethasone) had superior efficacy and lower toxicity than escalated BEACOPP (bleomycin, etoposide, doxorubicin, cyclophosphamide, vincristine, procarbazine and prednisone), becoming the new standard for advanced-stage classical Hodgkin lymphoma (cHL) in Europe. The aim of this study was to evaluate the efficacy and treatment-related toxicity of BrECADD.

MATERIALS AND METHODS: This retrospective study included all consecutive patients with advanced-stage cHL treated first-line with BrECADD at the University Hospital Centre Zagreb between 2023 and 2025. The 95% confidence intervals (CIs) were calculated using the Wilson method.

RESULTS: Twenty-one patients (14 male, 7 female; mean age 33 years, range 19–60) were included: 3 had stage III and 18 stage IV cHL; B symptoms were present in 12, bulky disease in 6 and extranodal involvement in 14. Fifteen received four BrECADD cycles given negative cycle-2 interim positron emission tomography-computed tomography, 6 received six cycles and 7 additionally underwent consolidative radiotherapy for bulky or extranodal disease. All achieved complete metabolic remission.

Eight patients required protocol-defined dose reductions due to toxicity. Grade ≥3 neutropenia occurred in 19 patients (90%; 95% CI 71–97%), red blood cell transfusion in 4 (19%; 95% CI 8–40%), platelet transfusion in 8 (38%; 95% CI 21–59%), peripheral neuropathy in 3 (14%; 95% CI 5–35%; all grade 2) and 8 were hospitalized (38%; 95% CI 21–59%), mainly for febrile neutropenia.

During a median follow-up of 15 months (range 2–35), no disease progression or deaths occurred.

CONCLUSION: Our findings align with the HD21 trial: BrECADD is very effective with manageable toxicity, supporting its clinical use. Nevertheless, the small sample size, single-center, retrospective design and short follow-up limit generalizability and assessment of long-term toxicity.

KEYWORDS: Antineoplastic Combined Chemotherapy Protocols; Brentuximab Vedotin; Hodgkin Disease; Positron Emission Tomography Computed Tomography; Treatment Outcome

OR2

The Use of Topical Lidocaine Versus Lidocaine Injection for Myringotomy and Ventilation Tube Insertion

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INTRODUCTION: Myringotomy is a commonly performed otologic procedure in which an incision is made in the tympanic membrane, often with placement of ventilation tubes to allow drainage of the tympanic cavity. It is usually performed under local anesthesia in adults, either via injection or topical application, avoiding general anesthesia-associated risks. This study aims to compare procedural pain levels when using a lidocaine spray versus injectable lidocaine.

MATERIALS AND METHODS: Fifty adult patients underwent myringotomy with ventilation tube placement under local anesthesia, 30 unilaterally, and 20 bilaterally. Lidocaine injections were administered to 29 patients, while 21 received lidocaine spray. Postoperatively, patients were asked to mark their perceived pain level on a visual analogue scale (VAS, 0-100 mm), a verbal rating scale (VRS, 0-3), and a numeric rating scale (NRS, 0-10). Data normality was assessed using the Shapiro-Wilk test. Continuous variables were analyzed using analysis of variance (ANOVA), and VRS outcomes using binary logistic regression. A p-value <=0.05 was considered statistically significant.

RESULTS: Pain was low in both groups but consistently lower in the topical lidocaine group across all measures. The mean VAS score was 23.14mm (+/-14.69) for injection versus 9.76mm (+/-11.41) for topical anesthesia (ANOVA, p=0.001). Mean NRS scores were 2.41 (+/-1.57) and 1.19 (+/-1.17) (ANOVA, p=0.004), indicating significantly lower pain with topical lidocaine. Logistic regression of the VRS showed the same trend, although it did not reach statistical significance (OR=0.131, 95% CI:0.015-1.146, p=0.066).

CONCLUSION: Lidocaine spray was associated with lower pain levels compared with lidocaine injections in patients undergoing myringotomy and ventilation tube placement. These findings suggest that topical anesthesia may represent an effective alternative, offering a less invasive approach and reducing the needle-related psychological distress of patients.

KEYWORDS: Anesthesia, Local; Middle Ear Ventilation; Postoperative Pain; Tympanic Membrane

OR3

Acute Acetaminophen Poisoning in Children: A 5-Year Retrospective Study in Children`s Hospital Zagreb

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INTRODUCTION: Acetaminophen is a widely used analgesic and antipyretic. In overdose, it is metabolized to a reactive metabolite that causes dose-dependent hepatotoxicity. Acute acetaminophen poisoning in children remains a relevant clinical problem requiring timely recognition and management. This study analyzed the epidemiological and clinical characteristics of poisonings in children, hypothesizing that intentional cases predominate in adolescents, while unintentional occur in younger children.

MATERIALS AND METHODS: A retrospective chart review identified cases of acetaminophen poisoning over a 5-year period (2020–2025) at the Department of Clinical Pharmacology and Toxicology in Children's Hospital Zagreb. Data collected included the number of hospitalized children, differentiation between unintentional and intentional poisonings, patient age and sex, ingested dose and the need for antidote administration.

RESULTS: During the observed period, 19 children were hospitalized for acute acetaminophen poisoning. Unintentional poisonings accounted for 10.5% of cases, with a mean age of 3.5 years; 50% were male and all incidents occurred at home. Intentional poisonings represented 89.5% of cases, with a mean age of 14.9 years; 94% involved females. Multiple substances were co-ingested in 65% of intentional cases, including alcohol, ibuprofen, desloratadine and acetylsalicylic acid. Intentionally ingested doses ranged from 6.5 to 15 g, with the highest measured serum concentration of 1102.2 μmol/L 4 hours after ingestion. N-acetylcysteine was administered to 37% of all patients based on hepatotoxic serum concentrations or clinically evident liver injury. All patients recovered without permanent hepatic damage.

CONCLUSION: Deliberate acetaminophen poisoning predominantly affects adolescent females, representing a growing public health concern. Despite limitations, including a retrospective, single-center design and small sample size, these findings highlight the need for unified poison control services and a national pediatric poisoning registry in Croatia to improve prevention and management.

KEYWORDS: Acetaminophen; Acetylcysteine; Adolescent; Child; Poisoning

OR4

Anxiety Symptoms and Sleep Quality Among Medical Students at the University of Tuzla: A Cross-Sectional Study

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INTRODUCTION: Medical students face high academic demands, emotional stress, and irregular daily routines, increasing their vulnerability to anxiety symptoms and sleep disturbances. Both conditions can negatively affect academic performance, mental well-being, and long-term professional functioning. Understanding their prevalence and interrelationship is essential for developing preventive strategies in medical education.

MATERIALS AND METHODS: A cross-sectional study was conducted in 2025 among medical students (years 1–6) at the University of Tuzla. Data were collected using an anonymous online questionnaire completed by 253 participants. Anxiety symptoms were assessed using the Generalized Anxiety Disorder-7 (GAD-7) scale, while sleep quality was evaluated using the Jenkins Sleep Scale. Descriptive statistics were used to present prevalence and score distributions. Pearson's correlation coefficient was applied to examine the association between anxiety severity and sleep quality. Statistical significance was set at $p < 0.05$.

RESULTS: Among the 253 participants, 197 (77.9%) were female and 56 (22.1%) were male. The mean GAD-7 score was 11.6 ± 5.35, indicating a moderate level of anxiety. Anxiety symptoms from mild to severe were reported by 89.7% of students, while severe anxiety was present in 35.6%. The mean sleep quality score was 1.98 ± 1.22, indicating frequent sleep disturbances. A statistically significant moderate positive correlation was observed between anxiety severity and poorer sleep quality ($r = 0.54$; $p < 0.001$), indicating that higher anxiety levels were associated with worse sleep outcomes.

CONCLUSION: Anxiety symptoms and sleep disturbances are highly prevalent among medical students and significantly associated. These findings highlight the importance of early screening and interventions promoting mental health and sleep hygiene during medical education. Limitations include the cross-sectional design, self-reported data, and predominance of female participants.

KEYWORDS: Anxiety; Mental Health; Sleep Wake Disorders; Students, Medical

OR5

Patient-Centered Care in Patients With Severe Aortic Stenosis and the Significance of Mental Health

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INTRODUCTION: Aortic stenosis (AS) is the most prevalent degenerative valvular heart disease. While clinical management focuses on hemodynamic severity and procedural risk, mental health is frequently underrecognized. This study aimed to evaluate clinical characteristics and mental health in severe AS patients, with attention to sex-related differences, hypothesizing that mental health concerns are common in this high-risk population.

MATERIALS AND METHODS: We conducted a retrospective descriptive analysis of 83 severe AS patients treated at the Department of Valve Diseases, University Hospital Centre Zagreb, Croatia, between July 2024 and November 2025. Data included age, sex, body mass index (BMI), estimated glomerular filtration rate (eGFR), left ventricular ejection fraction (LVEF), and Charlson Comorbidity Index (CCI). Patient-reported outcomes were assessed using the Rockwood Clinical Frailty Scale (CFS) and the Whooley depression screening questions. Analysis was descriptive only.

RESULTS: The study included 36 females (43.4%; mean age 74.3 years) and 47 males (56.6%; mean age 72.9 years). Among females, mean BMI was 27.4 kg/m², eGFR 64.0 mL/min/1.73 m², LVEF 58.3%, and CCI 5.1. For males, the mean BMI was 28.1 kg/m², eGFR 62.4 mL/min/1.73 m², LVEF 49.8%, and CCI 5.3. Patient-reported data were available for 24 females and 39 males. According to CFS, most females were Managing Well (58.3%), followed by Vulnerable (16.7%) and Mildly Frail (16.7%). Among males, most were Managing Well (43.6%), followed by Vulnerable (20.5%), and 10.3% were Well, Mildly Frail, and Moderately Frail each. Positive Whooley screening was observed in 25.0% of females and 20.6% of males.

CONCLUSION: Despite the single-center, retrospective design and descriptive analysis, up to one quarter of severe AS patients screened positive for mental health concerns, underscoring the need for routine psychological assessment and a holistic approach.

KEYWORDS: Aortic Valve Stenosis; Frailty; Heart Valve Diseases; Mental Health; Patient-Centered Care

OR6

Prevalence of Periampullary Diverticula Among Patients Undergoing Endoscopic Retrograde Cholangiopancreatography

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INTRODUCTION: Periampullary diverticula are pouch-like protrusions of the duodenal wall located next to the major papilla and are often found during endoscopic procedures. The aim of this study was to examine the prevalence of periampullary diverticula in patients in Croatia who underwent endoscopic retrograde cholangiopancreatography (ERCP).

MATERIALS AND METHODS: The study collected demographic, epidemiological and endoscopic data on 1535 patients who were admitted to the Clinical Hospital Center "Sestre Milosrdnice", Zagreb, and were referred for ERCP between January 1st 2019 and September 30th 2025. We determined the prevalence of periampullary diverticula in the Croatian population and analyzed their distribution according to sex and age. Differences in sex distribution were assessed with the χ^2 test, and age differences with the Mann–Whitney U test. A p-value <0.05 was considered statistically significant.

RESULTS: A total of 1535 patients were enrolled, 733 (47.75%) men and 802 (52.25%) women. The median age was 69 years (range 20–99). Periampullary diverticula were observed in 272 patients (17.72%). Among them, there were more women (56.25%) than men (43.75%). In patients without diverticula, sex distribution was nearly balanced between women (51.39%) and men (48.61%), with no statistically significant difference ($\chi^2=1.93$, $p=0.165$). The median age in patients with diverticulum was significantly higher (75 years, range 29–95) compared with those without diverticulum (68 years, range 20–99) (Mann–Whitney U test, $p<0.05$).

CONCLUSION: Periampullary diverticula are a relatively frequent finding among Croatian cohort undergoing ERCP. Their presence is significantly associated with older age, whereas sex differences are not statistically significant. These findings indicate that age may be an important factor influencing the presence of periampullary diverticula, while sex does not appear to have a significant impact.

KEYWORDS: Age Factors; Cholangiopancreatography, Endoscopic Retrograde; Diverticulum; Prevalence; Sex Factors

OR7

What Lies Behind Markedly Elevated Serum Creatinine?

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INTRODUCTION: The aim of this study is to identify which indications for kidney biopsy and which histopathological diagnoses were present in patients with unexplainable very high pre-biopsy serum creatinine level.

MATERIALS AND METHODS: We reviewed our Dubrava University Hospital Renal Biopsy Database (2018-2024) and included patients with kidney biopsy specimens analysed at least by light microscopy and immunofluorescence. Patients with pre-biopsy serum creatinine ≥1000 μmol/L during the acute phase of disease were identified. This threshold was chosen as a pragmatic cut-off for very high creatinine as there is no official one. Only descriptive statistics, without hypothesis testing was used. Limitations include the retrospective observational single-center design and small sample size.

RESULTS: Among 753 patients, 14 met the inclusion criteria (2 women, 12 men) with a median age of 57 years at biopsy. Serum creatinine ranged from 1004 to 3116 μmol/L. The main indications for a biopsy were acute nephritic syndrome (7 patients), rapidly progressive glomerulonephritis (RPGN) (5), chronic nephritic syndrome (1) and sole acute kidney injury (1). Histopathological diagnoses were oxalate nephropathy (1), acute tubulointerstitial nephritis (1), acute tubular injury (1), thrombotic microangiopathy (2; one with severe IgA nephropathy), advanced chronic kidney changes (2), and cast nephropathies (2; one with AL amyloidosis); patients with RPGN were diagnosed with ANCA-associated vasculitis (3) and anti-GBM disease (2). Acute hemodialysis was started in almost every patient (12).

CONCLUSION: Markedly elevated serum creatinine prior to kidney biopsy is uncommon but usually indicates severe kidney disease, often presenting as acute nephritic syndrome or RPGN and requiring complex therapy, including hemodialysis and immunosuppression. Kidney biopsy remains the gold standard for diagnosis and management when there is no clear explanation for kidney failure like postrenal obstruction.

KEYWORDS: Biopsy; Creatinine; Dialysis; Kidney

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