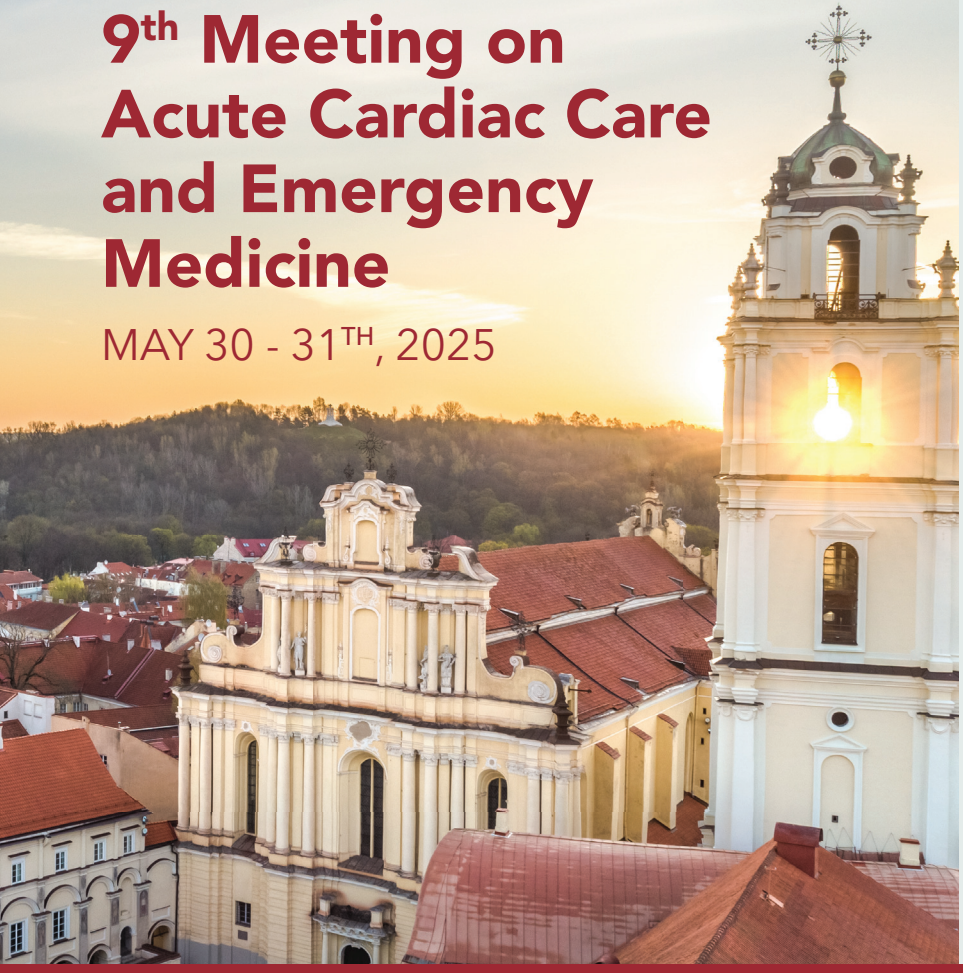
LITHUANIAN INTENSIVE CARDIAC CARE AND EMERGENCY MEDICINE ASSOCIATION

9th Meeting on Acute Cardiac Care and Emergency Medicine

MAY 30 - 31TH, 2025



Lithuanian Academy of Sciences, Gedimino Ave. 3, Vilnius, Lithuania

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PRESIDENT OF THE MEETING

Prof. Pranas Serpytis

MD, PhD, FESC;

Head of the Heart Clinical Group, Vilnius University Hospital, Santaros Clinics;

Head of Emergency Medicine Clinic;

Faculty of Medicine, Vilnius University;

President of Lithuanian Acute Cardiac Care and Emergency Medicine Association.

The 9th Meeting on Acute Cardiac Care and Emergency Medicine 2025, held at the Lithuanian Academy of Sciences in Vilnius, is a prestigious international conference dedicated to the advancement of critical cardiac and emergency medical care. Bringing together renowned experts, clinicians, and researchers from across Europe, the USA, and beyond, the conference focuses on the latest developments in acute heart failure, cardiogenic shock, interventional cardiology, emergency response, and intensive care practices. Through a diverse programme of keynote lectures, hands-on workshops, panel discussions, and research presentations, the event fosters interdisciplinary collaboration and the exchange of cutting-edge knowledge. Attendees explore state-of-the-art treatments, technological innovations, and evidence-based practices aimed at improving patient outcomes in emergency and high-risk cardiovascular settings. With its blend of scientific rigour and practical learning, the meeting serves as a vital platform for shaping the future of acute cardiac and emergency medicine.

In 2025, Lithuania is commemorating the 150th anniversary of the birth of Mikalojus Konstantinas Čiurlionis, the most renowned Lithuanian painter and composer.

On March 11, 2025, Lithuania marked the 35th anniversary of the restoration of its independence, as well as the 21st anniversary of its accession to the European Union and NATO. Our oldest university in Eastern Europe, Vilnius University, is celebrating its 446th anniversary this year.

We have become stronger and more secure. In these turbulent times around the world, scientific cooperation is becoming even more important and meaningful.

The introduction of new treatment methods is crucial for our patients and will contribute to reducing mortality from cardiovascular diseases. I thank all the speakers for their excellent presentations and wish all participants of this Conference a wonderful summer and success in both your personal lives and professional endeavours.

LITHUANIAN INTENSIVE CARDIAC CARE AND EMERGENCY MEDICINE ASSOCIATION

MAY 30 - 31TH, 2025

9th Meeting on Acute Cardiac Care and Emergency Medicine 2025

PROGRAMME

Lithuanian Academy of Sciences, Gedimino Ave. 3, Vilnius, Lithuania

Friday, May 30th

8:30-9:25 Registration

9:25-10:00 **OPENING CEREMONY** / Great Conference Hall

Opening Performance. Mikalojus Konstantinas Ciurlionis. The Lithuanian Phenomenon. – **Prof. Rokas Zubovas**

Welcome Remarks.

President of the Meeting: **Prof. P. Serpytis** (Lithuania),

Co-chairs: **Prof. J. S. Alpert** (USA), **Prof. H. Thiele** (Germany),

Guests: **Prof. J. Banys** (Lithuania), President of the Lithuanian Academy of Sciences, **Prof. R. Petrauskas** (Lithuania), rector of Vilnius University, **Prof. G. Cerniauskas,** Adviser to the Prime Minister on Economy and Finance (Lithuania), **Prof. M. Jakubauskiene**, Minister of Health (Lithuania), **Prof. T. Jovaisa** (Lithuania), head of Vilnius University Hospital Santaros Klinikos.

10:00 **Keynote Lecture:** Historical perspective. **Prof. R. Petrauskas**, rector of Vilnius University

SESSION NO 1: HEART FAILURE AND RESPIRATORY FAILURE / Great Conference Hall

Moderators: Prof. G. Baksyte, Prof. S. Glaveckaite, Prof. J. S. Alpert, Prof. V. Janusauskas, A. Zorinas, PhD, Prof. J. Masip

10:20 Oxygenation and ventilatory support across different AHF – **Prof. J. Masip**, Barcelona, Spain

10:40 Inotropic agents in the treatment of heart failure? – **Prof. T. Hasin**, Shaare Zedek, Israel

11:00-11:30 **Coffee Break**

11:30	Time to address misleading concepts in AHF – **Prof. J. Masip**, Barcelona, Spain
11:50	ABC of Mechanical Circulatory support: from indication to weaning? – **Assoc. Prof. G. Tavazzi**, Pavia, Italy
12:10	Interventional therapy of acute pulmonary embolism – **Prof. G. Fuernau**, Germany
12:30	Prognostication and mechanical support in cardiogenic shock – Assoc. **Prof. M. Kaluzna-Oleksy**, Poland
12:50-14:00	**Lunch**

SESSION NO 2: CARDIOGENIC SHOCK AND ICU / Great Conference Hall

Moderators: Prof. H. Thiele, Prof. R. Samalavicius, Prof. R. Nair, Prof. K. Rucinskas, Prof. G. Kalinauskas, Prof. G. Marinskis

14:00	Cardiogenic shock – What is the future? – **Prof. H. Thiele**, Leipzig Heart Center, Germany
14:20	Cardiogenic shock: devices to support patients – **Prof. R. Nair**, Cleveland Clinic, USA
14:40	Inotropes, pressors or dilators in cardiogenic shock? – **Assoc. Prof. G. Tavazzi**, Pavia, Italy
15:00	The Doppler combined assessment of splanchnic perfusion and congestion in cardiogenic shock: a physiological approach – **Prof. F. Corradi**, Pisa, Italy
15:20	Discussion
15:40	Role of IABP in cardiogenic shock – **prof. U. Zeymer**, Germany
16:00	Personalized DAPT after ACS – **Prof. K. Huber**, Austria
16:20-16:50	**Coffee Break**

SESSION NO 3: WHAT IS NEW IN INTERVENTIONAL CARDIOLOGY / Great Conference Hall

Moderators: Prof. D. Zahger, Prof. J. S. Alpert, Prof. G. Kalinauskas, Prof. A. Erglis, G. Bieliauskas, MD, Prof. T. Hasin

16:50	Multivessel PCI in ACS – Is there a difference between NSTEMI and STEMI? – **Prof. H. Thiele**, Leipzig Heart Center, Germany
17:10	Health care quality audit on myocardial infarction in Latvia – **Prof. A. Erglis**, Riga, Latviav

17:30 Is it time to abandon the 1 year duration of DAPT after ACS? – **Prof. D. Zahger**, Israel

17:50 Calcified Coronary Plaques: relevance and role of plaque modification – **Prof. R. Nair**, Cleveland Clinic, USA

18:10 Outcomes after FFR-Guided PCI vs. CABG: Final 5-Year Follow-up of the FAME 3 Trial – **Prof. G. Davidavicius**, Lithuania

18:30 Acute Valve Syndrome in Aortic Stenosis – **G. Bieliauskas, MD,** Denmark

18:50-20:00 Closing remarks

11:00-12:00 **SATELLITE SEMINAR** / Room 212

Latest Philips solutions for left ventricular function and structural heart disease (SHD): screening, planning, treatment, and monitoring – **A. Karuzas, MD**

WORKSHOPS / Room 115

11:00-12:40 Resuscitation protocols – **A. Briedis, MD, G. Montrimas, MD**

CPR feedback - **E. Kozenevska, G. Montrimas, MD, A. Briedis, MD, G. Suliauskaite**

12:40-14:20 FAST Echo – **B. Rasciute, MD, R. Jukneviciene, PhD, P. Uksas, MD, I. Vegelyte, MD**

14:20-16:00 Polytrauma virtual reality training workshop – **Prof. P. Serpytis, K. Mazeikaite, V. Skinderis, R. Jukneviciene, PhD, P. Uksas, MD, A. Briedis, MD, B. Rasciute, MD**

14:00 **3D RESUSCITATION EXPERIENCE SESSION** / Room 115

Moderators: R. Serpytis, PhD, G. Montrimas, MD, K. Asoklis

16:30 **HANDS-ON SESSION:** Ultrasound session for evaluation for perfusion and congestion / Room 212

Prof. F. Corradi, Assoc. Prof. G. Tavazzi, Italy

11:00-14:00 **POSTER SESSION 1** / Great Conference Hall

14:00-17:00 **POSTER SESSION 2** / Great Conference Hall

Moderators: Prof. G. Fuernau, Prof. P. Serpytis, Prof. D. Vaitkaitis, Prof. V. Janusauskas, Prof. A. Magdy

Friday, May 30th

NURSING SESSION (in lithuanian language) / Small Conference Hall

Moderators: Prof. N. Istomina, N. Jerdiakova

11:30	Mitral valve repair with MitraClip: What should nurses know? – **V. Bajoras, MD,** VUL SK, Lithuania
12:00	From ischemia to bacteremia: How to reduce infection risk in critical care? – **T. Alcauskas**, VUL SK, Lithuania
12:30	Recent research in advanced nursing practice – **Prof. N. Istomina**, MRU, VU, Lithuania
13:00-14:00	**Lunch**
14:00	The start of advanced practice nurses in the emergency department – **M. Didbalyte**, RVUL, VUL SK, Lithuania
14:30	Management of hemorrhagic stroke: the importance and challenges of the nursing process – **N. Stasinskaja**, VUL SK, Lithuania
15:00	Hormonal alterations and their role in the pathogenesis of atherosclerosis and cardiovascular disease in the menopausal transition – **N. Jerdiakova**, VUL SK, Lithuania
15:30	Principles of peripheral vein catheterization in emergency medical care – **O. Misiuniene**, VU MF, VUL SK, Lithuania
16:00	Endovascular embolization for treatment of pelvic congestion syndrome – **V. Petrikiene**, VULSK, Lithuania

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Vilnius University

Saturday, May 31th

9:00-10:00	**ACADEMIC ESPRESSO WITH FACULTY:** speed mentoring for students, residents and young doctors / Room 210
9:30-10:00	**GENERAL ASSEMBLY OF LITHUANIAN INTENSIVE CARDIAC CARE AND EMERGENCY MEDICINE ASSOCIATION** / Small Conference hall Dimitrij Kaciurin, MD, Prof. Robertas Samalavicius, Prof. Pranas Serpytis, Jolanta Aliukoniene, MD
	SESSION NO 4: RESEARCH AND INNOVATION / Great Conference Hall
	Moderators: Prof. R. Gil, Prof. K. Rucinskas, A. Pileckij, PhD, Prof. K. Huber, Prof. G. Kalinauskas, Prof. J. Celutkiene
10:00	Preoperative evaluation: Is it accurate and is it needed? – **Prof. J. S. Alpert**, Tucson, USA
10:20	Searching for New Biomarkers of Sudden Cardiac Death – **Prof. Q. M. Chen**, Tucson, USA
10:40	Optimal Lipid Lowering Strategy in Very-High Cardiovascular Risk Patients – **Prof. K. Huber**, Austria
11:00	Type 2 myocardial infarction: challenges in diagnosis and treatment – **E. Majauskiene, MD**, Lithuania
11:20	Novel diagnostic measures in diagnosis of atherosclerosis using AI – **R. Serpytis, PhD**, Lithuania
11:40-12:00	**Coffee Break**
12:00	ACS unusual scenarios and management – **Prof. A. Magdy**, Egypt
12:20	National Program for Cardiogenic Shock treatment in Poland – **Prof. R. Gil**, Warsaw, Poland
12:40	Myocardial infarction: Past, present, and future. – **prof. J. S. Alpert**, Tucson, USA
13:00	What's new about structural heart disease from EuroPCR (2025) – **A. Pileckij, PhD**, Klaipeda, Lithuania
13:20	What's new from EuroPCR (2025) – **A. Baranauskas, PhD**, Vilnius,
13:40-14:20	**Lunch**

SESSION NO 5: EMERGENCY MEDICINE / Great Conference Hall

Moderators: Prof. A. Khoury, Prof. K. Stasaitis, Prof. S. Vosylius, Prof. A. Zlotnik, Prof. R. Jalali, R. Juknevičienė, PhD

14:20	Leadership to foster resilience in Emergency Medicine and critical Care – **Prof. A. Khoury**, France
14:40	In search of the Holy Grail. UCH-L1 and GFAP as markers of brain Tissue injury? – **Prof. R. Jalali**, Poland
15:00	Ventilation Feedback Devices in Cardiac Arrest : Toward more survival? – **Prof. A. Khoury**, France
15:20	Medical devices : development and evaluation – **J.B. Pretalli, PhD**, France
15:40	Inhospital Cardiac arrest. Quality improvement based on the author's personal experience – **Prof. R. Jalali**, Poland
16:00	From the idea for research to writing a synopsis and research protocol – **J.B. Pretalli, PhD**, France
16:20	Immersive learning in the Emergency department: what's next? – **B. Rasciute, MD**, Lithuania
16:40-17:10	**Coffee break**
17:10	Evacuation of trauma patients by military helicopters rescue units – **Prof. A. Zlotnik,** Israel
17:30	NT proBNP in acute coronary syndrome setting – **Prof. D. Karciauskaite,** Lithuania
17:50	Diagnosis and treatment of arrhythmias – **Prof. G. Rackauskas,**Lithuania
18:10-19:10	Closing remarks, Prof. P. Serpytis, Prof. J. S. Alpert, Prof. A. Khoury

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Vilnius University

Prof. Holger Thiele

MD, PhD, FESC;

Medical Director, Department of Internal Medicine/ Cardiology, Heart Center Leipzig;

President, German Cardiac Society and Professor, University of Leipzig;

Chair of Acute Coronary Syndromes study group of the ACVC.

Prof. Holger Thiele is the Medical Director of the Department of Internal Medicine/Cardiology at the Heart Center Leipzig at the University of Leipzig - one of the largest heart centers in Europe. He is a full professor of cardiology at the University of Leipzig and he is also the president of the German Cardiac Society.

His main research interests are acute myocardial infarction, acute heart failure, cardiogenic shock, mechanical circulatory support, acute cardiovascular care, interventional cardiology, and structural heart disease. He has been the guideline chair of the ESC NSTE-ACS guidelines 2023 and many more.

Professor Thiele has published over 1463 articles in international scientific journals such as the New England Journal of Medicine, The Lancet, JAMA, Circulation, JACC, and the European Heart Journal with a cumulative impact factor of >9000, h-index 123.

He has received multiple awards from the German Society of Cardiology and other organisations. Furthermore, he has been awarded as most cited researcher in 2020, 2021 and also once again in 2022.

Presentations

CARDIOGENIC SHOCK – WHAT IS THE FUTURE?

Prof. H. Thiele, Leipzig Heart Center, Germany

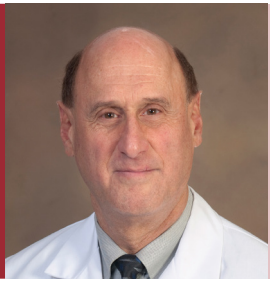
Cardiogenic shock is still a major health problem and 30-day mortality is still in the range of 40-50%. For acute myocardial infarction related cardiogenic shock, the only evidence-based approach is revascularization of the culprit lesion showing a mortality benefit. Active mechanical circulatory support is increasingly used in cardiogenic shock despite only 1 randomized trial showing a benefit. More and more evidence shows that a systemic response is also involved in the pathophysiology of cardiogenic shock. This talk will summarize the current evidence of cardiogenic shock, definitions and will also review current ongoing large-scale randomized trials and future treatment strategies in this setting.

MULTIVESSEL PCI IN ACS – IS THERE A DIFFERENCE BETWEEN NSTEMI AND STEMI?

Prof. H. Thiele, Leipzig Heart Center, Germany

Approximately 50% of hemodynamic stable STEMI patients present with multivessel coronary artery disease. In this setting a multitude of randomized trials has shown a

benefit of complete revascularization in comparison to culprit lesion only PCI. In contrast, in cardiogenic shock culprit lesion only PCI with possible staged revascularization is reducing mortality in comparison to immediate multivessel PCI. In NSTEMI evidence is less clear and mechanisms of plaque rupture versus plaque erosion are partly different. In NSTEMI the ESC guidelines only give a class IIa, level of evidence C recommendation for complete multivessel PCI. This talk will summarize the current evidence and also show the ongoing randomized trials which are set to finally generate the required evidence to give clear recommendations.



Prof. Joseph Stephen Alpert

MD, PhD;

Professor, Medicine;

Professor, Clinical Translational Sciences;

Vice Chair for Appointments & Promotion, Department of Medicine;

Member of the Graduate Faculty.

Prof. Joseph S. Alpert is Professor of Medicine at the University of Arizona College of Medicine and Editor-in-Chief of The American Journal of Medicine. He previously served as Chair of the Department of Medicine at the University of Arizona and held leadership positions at the University of Massachusetts and Harvard Medical School.

He completed his medical education and cardiology training at Harvard and served in the U.S. Navy as Director of the Coronary Care Unit in San Diego. Later, he was Director of the Samuel A. Levine Cardiac Unit at Peter Bent Brigham Hospital and Chief of Cardiovascular Medicine at the University of Massachusetts.

Prof. Alpert is a Fellow of the American College of Cardiology (FACC), European Society of Cardiology (FESC), and American College of Chest Physicians (FCCP), and a Master of the American College of Physicians (MACP). He is a past President of the Society of Geriatric Cardiology and has served on multiple national and international professional boards.

He has authored over 200 scientific papers, 400 book chapters and reviews, and 48 books and monographs. He currently serves on the editorial boards of several leading cardiovascular and internal medicine journals. His key interests include clinical cardiology, geriatric cardiology, and cardiovascular publishing.

Presentations

PREOPERATIVE EVALUATION: IS IT ACCURATE AND IS IT NEEDED?

Prof. J. S. Alpert, USA

MYOCARDIAL INFARCTION: PAST, PRESENT, AND FUTURE.

Prof. J. S. Alpert, USA

Prof. Josep Masip

MD, PhD, FESC;

Board Member of the ACVC;

Former Chair of the Acute Heart Failure Study Group of the ACVC.

Prof. Josep Masip is a cardiologist and intensivist, currently serving as Advisor to the Research Directorate at Consorci Sanitari Integral and Professor-Collaborator of Cardiology at the University of Barcelona. He is the former Director of the Intensive Care Unit at Consorci Sanitari Integral and the Founding Co-Director of AGMA-CLINIC in Barcelona.

He is a former Chair of the Acute Heart Failure Study Group of the ESC's Acute Cardiovascular Care Association (ACVC), and a current Board Member of the ACVC. Prof. Masip also serves as President of the Scientific Committee of the Foundation for Wine and Nutrition Research (FIVIN) in Spain and is a member of the Editorial Board of the European Heart Journal – Acute Cardiovascular Care.

He has authored over 200 scientific publications and research abstracts. Prof. Josep Masip was an author of the ESC Guidelines on Chronic Coronary Syndromes (2020) and served as a reviewer for the ESC Guidelines on Dyslipidemias (2020) and the ESC Guidelines on Heart Failure (2021). He has served as national coordinator, steering committee member, or principal investigator in more than 20 research trials. Over the past 20 years, he has been a faculty member at more than 100 international cardiology congresses and scientific meetings.

Presentations

OXYGENATION AND VENTILATORY SUPPORT ACROSS DIFFERENT AHF PHENOTYPES

Prof. J. Masip, Spain

Over 90% of AHF patients experience dyspnoea, often due to pulmonary congestion. Hypoxemia occurs in about 40%, varying by phenotype—ranging from 20% in ADHF and IRVF to 56% in CS and 100% in APE. Treatment depends on phenotype: ADHF and IRVF are managed with conventional oxygen therapy (COT), avoiding positive pressure in IRVF. APE requires noninvasive ventilation (NIV), with CPAP or bilevel support preferred. HFNC is less effective in APE but better tolerated for longer use. CS management varies by severity (SCAI stage) and may include COT, NIV, or invasive ventilation. IMV is often needed in advanced stages or post-cardiac arrest. Phenotypes can evolve, and care should target the most severe presentation.

TIME TO ADDRESS MISLEADING CONCEPTS IN AHF

Prof. J. Masip, Spain

The AHF concept, introduced in 2005 ESC guidelines, remains controversial. Some experts argue HF decompensation is gradual and only cases like pulmonary edema or cardiogenic shock should be called “acute.” The ESC defines AHF as symptoms requiring urgent care, but this depends on patient behavior and excludes milder episodes managed outside hospitals. Ironically, AHF may reflect the true active disease, while “chronic HF” may simply indicate past HF. AHA/ACC guidelines avoid the term AHF, focusing on hospitalized cases and missing key prehospital and ED phases, including patients discharged from ED. ESC phenotypes leave gaps in evolving cases. Persistent hypoperfusion, regardless of phenotype, should be considered cardiogenic shock for consistency.

Prof. Tal Hasin

MD;

Director, Heart failure unit Jesselson Integrated Heart Center, Shaare Zedek Medical Center;

Faculty of Medicine, Hebrew University, Jerusalem, Israel.

Prof. Tal Hasin was born in Jerusalem in 1972 and graduated from the Hadassah Medical School, Hebrew University, Jerusalem in 1998 (MD). In the Israeli army he served as an officer-physician in special units and in active management of fellow physicians. He is still active in the IDF as a combat-physician. He completed fellowship in Internal Medicine in Hadassah Mt. Scopus and in Cardiology at Rambam medical center (2010).

Prof. T. Hasin completed a clinical fellowship in advanced heart failure and cardiac transplantation at Mayo Clinic (2012). Since 2014, he has led the Heart Failure Unit at Shaare Zedek Medical Center, Jerusalem, and was appointed Associate Professor at Hebrew University in 2019. From 2017 to 2021, he served as secretary of the Israeli Heart Society's Heart Failure Working Group. He is a fellow of the ESC Heart Failure Association (since 2017), a member of the Mechanical Circulatory Support Study Group (2016–2021), and the ACC International Heart Failure Work Group (since 2018). In 2020, he joined the Israel Heart Society COVID-19 task force and advised the Ministry of Health on vaccine-related adverse effects. Since 2021, he has been a member of the Israeli cardiology certification committee, and in 2023 joined the national committee for cardiovascular disease prevention and treatment.

He received the Israel Heart Society's Exceptional Resident Award and the "Ofakim" Interventional Cardiology Award in 2010, and the Mirowski Award in 2023. Prof. Hasin has authored over 100 publications, including first-author articles in NEJM and JACC. His research focuses on advanced heart failure and cardio-oncology, pioneering reverse cardio-oncology, and myocarditis after mRNA COVID-19 vaccination.

Prof. T. Hasin is actively involved in teaching at Hebrew University, coordinating cardiology education for third-year medical students, supervising MD theses, and participating in academic committees.

Presentations

INOTROPIC AGENTS IN THE TREATMENT OF HEART FAILURE?

Prof. T. Hasin, Israel

In this presentation current state of the art treatment with inotropic agents for patients with heart failure will be discussed. After a short pathophysiological reminder, we will review initial disappointments from randomized clinical trials together with the possible current role in advanced heart failure treatment. We will conclude with reviewing new promising agents and directives in the field of cardiac inotropic support.

Prof. Guido Tavazzi

MD, PhD, FESC;

Researcher at University of Pavia;

Chair of Cardiogenic shock and Cardiac Arrest study group of the ACVC;

Chair of Research Network of the ACVC;

Associated Editor in EHJ Acute Cardiovascular Care.

Assoc. Prof. Guido Tavazzi completed his residency in Anaesthesia and Intensive Care at Fondazione Policlinico San Matteo, IRCCS, Pavia (2009–2014). He undertook clinical and research fellowships in the Adult Intensive Care Unit at Royal Brompton Hospital, London, during 2011–2012 and 2015–2016. From 2014 to 2017, he pursued a PhD in Experimental Medicine at the University of Pavia, focusing on heart-lung interactions during extracorporeal circulation. Currently, he is an Associate Professor of Intensive Care at the University of Pavia and a consultant at the Intensive Care Department of Fondazione Policlinico San Matteo. Assoc. Prof. G. Tavazzi holds several key leadership roles: since 2023, he has chaired the Cardiogenic Shock and Cardiac Arrest Study Group within the European Society of Cardiology's Acute Cardiovascular Care Association (ACVC), and since 2022, he has chaired the ESC ACVC Research Network. He also serves on the steering committee for the European Diploma in Echocardiography under the European Society of Intensive Care Medicine (since 2020) and the ALT-SHOCK program, a cardiogenic shock registry and trial initiative (since 2018). Additionally, he was Co-Chair of the Research Section at Winfocus World (2020–2023) and currently acts as an Associate Editor for the European Heart Journal Acute Cardiovascular Care (since 2020).

Presentations

ABC OF MECHANICAL CIRCULATORY SUPPORT: FROM INDICATION TO WEANING?

Assoc. Prof. G. Tavazzi, Italy

To describe the process of MCS to patients in cardiogenic shock, from the validation of support to the timing and protocol to wean.

INOTROPES, PRESSORS OR DILATORS IN CARDIOGENIC SHOCK?

Assoc. Prof. G. Tavazzi, Italy

To define the application of use of the inotropic and vasopressor support according to the pharmacological properties, evidence in literature and phenotype of the patients.

Prof. Georg Fuernau

MD, FESC;

Head of the Department of Internal Medicine II at Staedtisches Klinikum Dessau, Germany;

Associated Editor in EHJ Acute Cardiovascular Care.

Prof. Georg Fürnau has been serving as Head of the Department at the Clinic for Internal Medicine II - comprising of Cardiology, Angiology, Diabetology, and Intensive Care Medicine - at the Staedtisches Klinikum Dessau in Dessau-Rosslau, Germany, since March 2023. Prior to this role, he worked at the University Heart Center Lübeck, Medical Clinic II at the University Clinic Schleswig-Holstein from May 2015 to February 2023, and at the University of Leipzig's Heart Center from February 2006 to March 2015. Dr. Fürnau earned his Doctor of Medicine degree with a "magna cum laude" distinction from Lübeck University in December 2016 and achieved his Habilitation in April 2021, earning the title "Privatdozent." He is a prolific researcher with over 180 publications, a cumulative impact factor exceeding 1,000, and an h-index of 46 according to Web of Science and Scopus. His main scientific interests include cardiogenic shock, acute coronary syndromes, and cardiac magnetic resonance tomography in myocardial infarction.

Presentations

INTERVENTIONAL THERAPY OF ACUTE PULMONARY EMBOLISM
Prof. G. Fuernau, Germany

Assoc. Prof. Marta Kaluzna-Oleksy

MD; PhD, FESC, EAPCI;

Member of the Polish Cardiac Society;

Chair of EAPCI Gender & Disparities Committee;

Polish Association of Percutaneous Cardiovascular Interventions – Board Member;

President-Elect, Polish Association of Acute Cardiovascular Care.

Assoc. Prof. Marta Kaluzna-Oleksy is an interventional cardiologist, clinical researcher, and academic tutor at the 1st Department of Cardiology, University Hospital and University of Medical Sciences in Poznań, Poland. Her clinical and research interest concerns interventional cardiology and intensive cardiac care, especially complex high-risk coronary interventions and mechanical circulatory support devices. She has authored 106 scientific papers (IF >211), contributed to 15 book chapters (including ESC/HFA textbooks), and participated in drafting the ESC 2024 Guidelines on peripheral arterial and aortic diseases, presented over 150 posters and talks at major cardiology congresses (ESC, HFA, EuroPCR), serving as speaker, session chair, and organizer. She has held roles on organizing committees for EuroPCR (2017–2024), the Polish Heart Failure Congress, and the Central & Eastern Europe Prevention & Intervention Summit (2023–2024). She is involved in clinical trials, including SOCRATES-HFpEF, VICTORIA, AFFIRM-AHF, GALACTIC, AVANTI, and others, and holds GCP certification (2021).

Assoc. Prof. M. Kaluzna-Oleksy is active in both the Polish and European Cardiac Societies (PCS, ESC), serves as a Board Member of the Polish Association of Percutaneous Cardiovascular Interventions, and is the president-elect of the Polish Association of Acute Cardiac Care. Within the ESC, she is the chair of the EAPCI Gender and Disparities Committee.

Presentations

PROGNOSTICATION AND MECHANICAL SUPPORT IN CARDIOGENIC SHOCK

Assoc. Prof. M. Kaluzna-Oleksy, Poland

Prof. Ravi Nair

MD, PhD, FACC;

Associate Director, Cardiac Cath Lab;

Cleveland Clinic Main Campus;

Cleveland Clinic Hillcrest Hospital;

Emeritus Professor at the Cleveland Clinic, CWRU.

Prof. Ravi Nair is currently an Emeritus Professor at the Cleveland Clinic, Case Western Reserve University (CWRU). From 2008 to 2012, he served as Associate Director of the Sones Cardiac Catheterization Laboratory within the Department of Cardiovascular Medicine at the Cleveland Clinic in Ohio. Between 2004 and 2021, he was a Professor of Medicine at the Case Western Reserve University School of Medicine.

From 2012 to 2015, he was Chief of Cardiovascular Medicine at the Cleveland Clinic Abu Dhabi. Earlier, he acted as Chairman of the Division of Cardiology at University Hospitals of Cleveland from 2005 to 2006. He directed the Cardiac Catheterization Laboratory at University Hospitals of Cleveland between 1998 and 2008, while simultaneously directing the same laboratory at the Wade Park Veteran's Administration Medical Center from 1998 to 2005.

He was Associate Professor of Medicine at Case Western Reserve University from 1997 to 2004 and served as Acting Director of the Cardiac Catheterization Laboratory at University Hospitals of Cleveland from 1995 to 1997. Additionally, he was a staff physician at University Hospitals of Cleveland from 1998 to 2008 and began his academic career as Assistant Professor of Medicine at Case Western Reserve University from 1988 to 1997.

His primary research and clinical interests focus on coronary artery disease, particularly invasive management techniques, as well as advanced interventional imaging and treatment of coronary artery disease.

Presentations

CARDIOGENIC SHOCK: DEVICES TO SUPPORT PATIENTS
Prof. R. Nair, USA

CALCIFIED CORONARY PLAQUES: RELEVANCE AND ROLE OF PLAQUE MODIFICATION

Prof. R. Nair, USA

Introduction

Calcium occurs in coronary atheromas as a natural process. Initially as small deposits which then coalesce to form arcs and rings and extending longitudinally for varying lengths. There are various ways to detect this calcification and the presence of calcium has implications on percutaneous intervention.

The degree of calcification and response to treatment impacts short and long term procedural results mainly through sub- optimal stent expansion. Hence optimization of post stent results by using appropriate devices is recommended.

Calcium detection

On flouroscopy/ coronary angiography - calcification in coronaries can be seen when images are scrutinized before dye injection. The degree and the location (superficial, deep) cannot be diagnosed and very little decision can be made on choice of plaque modification. At best it can guide forewarn one to the potential difficulties that are awaiting.

CT scans - are very sensitive tool for calcium detection. Advanced post processing imaging techniques can quantify the extent of calcification but the location, whether it is subintimal or otherwise, which have significant implications on response to intervention, is hard to diagnose. Hence it is not routinely done to guide therapy.

Intracoronary imaging with IVUS or OCT are extremely helpful to guide therapy, in choice of plaque modification technique and to confirm results and detect complications. These tools are often not used due to inability to cross the lesion and the increased time/expense associated with their use. These imaging techniques can be usually used interchangeably and there are pros and cons to both.

Plaque Modification

- dilatation with semi- compliant balloon
- using Non-compliant balloon
- using ultra high pressure balloon
- using cutting/scoring balloons
- rotational atherectomy
- orbital atherectomy
- excimer laser atherectomy
- lithotripsy balloon

Conclusion

Coronary calcification has prognostic implications and the detection and appropriate management will have impact on procedural and patient outcomes.

Prof. Francesco Corradi

MD, PhD, FESC

Director School of Anesthesia and Critical Care, University of Pisa;

Deputy Editor in Chief, The Ultrasound Journal;

Chief Director of the WINFOCUS International Training Unit (ITU) of Pisa.

Prof. Francesco Corradi is a highly accomplished anesthesiologist and ultrasonography expert with a distinguished academic, clinical, and research career. He earned his Medical Degree (Magna cum laude) from the University of Bologna in 1998, where he also completed his Internal Medicine specialization in 2003 and obtained a PhD in Ultrasonology in Human Medicine in 2007, graduating with highest honors. His doctoral thesis focused on assessing liver fibrosis in transplant recipients using transient elastography. Throughout his training, he also received full accreditation in Clinical (2009) and Emergency Ultrasonology (2005) from the Italian Society for Ultrasound in Medicine and Biology (SIUMB).

He has held numerous academic and leadership positi ons, most notably at the University of Pisa, where he currently serves as Professor of Anesthesiology, Director of the School of Anesthesia and Critical Care, and Director of the WINFOCUS International Training Unit (ITU). He is Editor-in-Chief of The Ultrasound Journal (TUJ) and has been appointed to several faculty boards, including the PhD program in Clinical Pathophysiology.

Prof. Corradi's research leadership is extensive, serving as Principal Investigator in over ten multicenter clinical trials in areas such as acute respiratory failure, sepsis, and perioperative care. His notable trials include the Early-NIV study, the ALBIOSS-BALANCED trial, and the PRINCE trial in non-cardiac surgery. His work in liver and critical care ultrasonography began during a research fellowship at the Hospital Clinic in Barcelona.

An internationally recognized authority in point-of-care ultrasound (POCUS), Prof. Corradi has co-chaired global events such as the WINFOCUS World Congress and the upcoming International Consensus Conference on Lung Ultrasound 2.0. He is a full member of the WINFOCUS Research Subcommittee and actively collaborates with the Tuscan Clinical Governance Body.

Prof. Corradi has received multiple national and international awards, including the Abstract Award (1999), Oral Communication Award (2004, 2008, 2010), and the Best Abstract Award at ITACTA 2022. In 2023, he was honored with a Diploma of Excellence by the Romanian Society of Anaesthesia and Intensive Care (SRATI) for his outstanding dedication to critical care.

Presentations

THE DOPPLER COMBINED ASSESSMENT OF SPLANCHNIC PERFUSION AND CONGESTION IN CARDIOGENIC SHOCK: A PHYSIOLOGICAL APPROACH

Prof. Francesco Corradi, Italy

Over recent years, the etiology of CS has shifted from acute myocardial infarction. (AMI) to acute decompensated heart failure (ADHF), now accounting for nearly 50% of cases. Unlike AMI-related CS, ADHF-CS is marked by progressive venous congestion rather than pure hypoperfusion, making early diagnosis and risk stratification more complex. The key concept is the "cardio-splanchnic axis", describing the bidirectional interaction between the heart and splanchnic circulation. In heart failure, sympathetic nervous system activation redirects blood from the splanchnic bed to maintain perfusion of vital organs, which, in cases of ADHF, contributes to congestion and reduced organ function. Doppler-based parameters, especially the renal Doppler resistive index (RDRI) and portal vein pulsatility index (PVPI), offers bedside tools to detect hypoperfusion and venous congestion. However, these indices alone are insufficient; combined Doppler evaluation, including spleen size and splenic Doppler resistive index (SDRI), enhances diagnostic precision. For example, a contracted spleen with high SDRI suggests AMI-CS, while an enlarged spleen with altered SDRI supports ADHF-CS. This integrated ultrasound strategy allows clinicians to differentiate CS phenotypes primary hypoperfusion vs. congestion-driven shock supporting more tailored interventions and earlier recognition of pre-shock stages (SCAI B). It is important to detect these subtle physiological changes before overt organ dysfunction occurs.

Prof. Uwe Zeymer

MD, PhD, FESC;

Head of Interventional Cardiology at the Heart Center Ludwigshafen, Department of Cardiology, Germany;

Vice-Director of the Institute for Heart Attack Research, Ludwigshafen, Germany;

Full Professor of Medicine at the University of Göttingen.

Doctor Uwe Zeymer is interventional Cardiologist at the University Heart Center Freiburg, Department of Cardiology, Germany. He is Vice-Director of the Institut für Herzinfarktforschung Ludwigshafen. He has been board certified in internal medicine, cardiology, interventional cardiology and intensive care medicine.

After his graduation from Medical School at the Universities of Munich and Marburg in 1985, Dr Zeymer gained experience as a resident, fellow and attendee in the Department of Cardiology, Municipal Hospital, Kassel, and as a clinical research fellow in the Department of Cardiology, Cedars-Sinai Medical Center, Los Angeles, USA. He is full Professor of Medicine at the University of Göttingen.

Dr. Zeymer is or has chaired or been a member of the Steering Committee numerous trials in patients with acute coronary syndromes, antithrombotic therapies and anticoagulants. In addition, he has been chair or member of the Steering committee of several international registries in interventional cardiology, treatment of hypertension, anticoagulation for atrial fibrillation and acute coronary syndromes. He has been co-chairman of the largest randomized clinical studies in patients with infarct-related cardiogenic shock, such as the IABP-SHOCK 2 trial, the CULPRIT-Shock trial and the ECLS-Shock trial.

Dr. Zeymer has authored and co-authored over 600 scientific papers on cardiovascular disease in journals such as the New England Journal of Medicine, Lancet, JAMA, European Heart Journal, Circulation and Journal of the American College of Cardiology.

Dr. Zeymer is member of the editorial board of Clinical Research in Cardiology, European Heart Journal Acute Cardiovascular Care and is European Editor for Cardiology and Therapy

Dr. Zeymer has been the Board member Chair of the Scientific Committee of the Association for Acute Cardiovascular Care (ACVC) of the ESC, the Chair of the Working Group of Thrombosis of the German Cardiac Society and the Chair of the Working for Quality Insurance and Registries of the German Cardiac Society. He is the past and current chair of the STEMI Registry of the European Society of Cardiology.

Presentations

ROLE OF IABP IN CARDIOGENIC SHOCK

Prof. U. Zeymer, Germany

IABP, introduced in 1968, was initially used to support patients undergoing surgical revascularization, showing modest physiological benefits. However, the IABP-SHOCK II trial showed no mortality or clinical benefit in infarct-related cardiogenic shock (CS),

leading to a downgrade in guideline recommendations. The recent ALTSHOCK-2 trial, stopped early for futility, also showed no benefit at 60 days in CS patients, with slightly more bleeding and vascular complications in the IABP group. Routine IABP use in infarct- or HF-related CS is not recommended, though it may still be useful in mechanical complications or for left ventricular unloading in VA-ECMO patients. The ongoing ANCHOR trial is assessing this combination.

Prof. Andrejs Erglis

MD, PhD, FESC, FAHA;

Chief of Latvian Centre of Cardiology at Pauls Stradins Clinical University Hospital, Riga, Latvia;

Professor of Medicine and Director of the Institute of Cardiology and Regenerative Medicine at the University of Latvia;

President of the Latvian Society of Cardiology and is Vice-President of Latvian Academy of Sciences.

Andrejs Erglis is a Professor of Medicine at the Faculty of Medicine and Life Sciences of the University of Latvia, Chief of the Latvian Centre of Cardiology at Pauls Stradins Clinical University Hospital (PSCUH), and President of the Latvian Society of Cardiology. He obtained his medical degree from the Riga Medical Institute in 1989 and his PhD from the University of Latvia in 2006. He continued his training in interventional cardiology in the USA, Australia, the Netherlands, Italy, Germany, and France. He is the author of over 300 peer-reviewed articles and has delivered more than 700 lectures while chairing sessions at national and primarily international meetings. He has served as the principal investigator in more than 30 international and local studies, including the EU's Horizon 2020 programmes and National Research Programmes. His main fields of scientific interest include interventional cardiology (left main and bifurcation coronary artery disease, intravascular imaging, bioresorbable scaffolds), epidemiology, non-invasive imaging, medical treatment of cardiovascular disease, cardio-oncology, and regenerative medicine.

Presentations

HEALTH CARE QUALITY AUDIT ON MYOCARDIAL INFARCTION IN LATVIA
Prof. Andrejs Erglis, Latvia

Prof. Kurt Huber

FESC, FACC, FAHA;

Vice Dean for Research and Teaching Professor for Acute and Interventional Cardiology at the Sigmund Freud University, Faculty of Medicine, Vienna, Austria;

Past-President of the Acute Cardiovascular Care Association (ACVC) of the ESC;

President of the Austrian Heart Foundation, Vienna, Austria.

Since 2016, Prof. Kurt Huber has served as Vice-Dean for Research and Professor of Acute and Interventional Cardiology at Sigmund Freud University in Vienna. Until the end of 2023, he was Director of the 3rd Department of Medicine at Clinic Ottakring (Wilhelminenhospital) for 21 years, where he now continues as Director of the Ludwig Boltzmann Institute for Interventional Cardiology and Rhythmology. Prof. Huber earned his medical degree in 1979 and has since held multiple academic and clinical leadership roles. He has been deeply involved in the European Society of Cardiology (ESC) since 2002, serving in numerous leadership roles, including President of the Association of Acute Cardiovascular Care (2022–2024), and currently oversees international affairs and collaborations with ACC and AHA. He also served as President of the Austrian Society of Cardiology and is currently President of the Austrian Heart Foundation.

Prof. Huber is a fellow of ESC, ACC, and AHA, and has authored or co-authored more than 980 peer-reviewed articles and over 250 book chapters, with a total impact factor exceeding 5000 and an h-index of 111. He has actively contributed to ESC guidelines and participated in over 150 major international trials as national coordinator or steering committee member. His main research interests include acute coronary syndromes, antithrombotic therapy, biomarkers, restenosis, and molecular cardiology. He serves on editorial boards of leading journals including the European Heart Journal, and has organized over 250 scientific meetings, making significant contributions to cardiovascular education and research both nationally and internationally.

Presentations

PERSONALIZED DAPT AFTER ACS

Prof. K. Huber, Austria

Recent ESC guidelines recommend a 12-months dual antiplatelet strategy (DAPT) in patients presenting with acute coronary syndromes (ACS), independently of the choosen invasive or conservative strategy, but allow also a shortened, a de-escalating, or even a prolonged DAPT strategy based on certain individual signs and symptoms of the patient. This presentation will summarize the recommended duration of DAPT, but also focusses on a shortented or de-escalation DAPT for patients with normal bleeding risk based on available scientific data.

OPTIMAL LIPID LOWERING STRATTEGY IN VERY-HIGH CARDIOVASCULAR RISK PATIENTS

Prof. K. Huber, Austria

Optimal lipid lowering in very-high cardiocascular risk patients is still reflected by a wide-spread undertreatment – up to 80% of patients do not reach the recommended LDL-cholesterol goal (< 55 mg/dl or < 1,4 mmol/L) after 3 months despite clear ESC guideline recommendations. Moreover, lipid lowering down to the receommended treatment goal is frequently only offered to patients after acute coronary syndromes (ACS) despite the fact that guidelines ask for the same goal in patients with chronic coronary artery disease (CCS) and even in very-high risk patiens without proven vessel invovlement.

Prof. Doron Zahger

MD, FESC, FAHA;

Director of the Cardiology Department, Soroka University Medical Center;

Professor of Cardiology, Ben-Gurion University of the Negev;

Former President of the Israeli Cardiology Association.

Prof. Doron Zahger is Professor of Cardiology at the Faculty of Health Sciences, Ben-Gurion University of the Negev, and former Director of the Cardiology Department at Soroka University Medical Center in Beer Sheva, Israel, where he served in leadership roles from 2001 to 2024. He obtained his MD from the Technion – Israel Institute of Technology in Haifa and completed residency and cardiology training at Hadassah University Medical Center in Jerusalem. He further pursued a research fellowship in cardiology at Cedars-Sinai Medical Center in Los Angeles from 1992 to 1994.

Prof. Zahger has held leading roles within the Israel Heart Society, serving as Secretary General and later as President. He has been closely involved with the European Society of Cardiology, particularly within the Acute Cardiac Care Working Group and its successor, ACCA, as vice-chair, board member, and congress committee co-chair. He is also co-founder and long-time co-chair of the biannual Tel Aviv Meeting on Acute Cardiac Care.

He has co-authored over 130 scientific papers and has contributed to ESC guideline committees. His main clinical and academic interests include acute cardiac care, coronary syndromes, and cardiovascular system organization.

Presentations

IS IT TIME TO ABANDON ONE YEAR DAPT AFTER ACS/PCI ?

Prof. Doron Zahger, Israel

For more than two decades the default regimen after ACS/PCI has been dual anti platelet therapy (DAPT) with aspirin and a P2Y12 inhibitor given for 1 year, which is a class I recommendation in the ESC guidelines, even though it is not strongly supported by data. Importantly, with second generation stents and improved PCI techniques the risk of stent thrombosis has substantially declined in recent years while the bleeding risk associated with DAPT remained significant and associated with adverse outcomes and mortality. Insights from multiple recent randomized trials and meta analyses show that among patients at high bleeding risk prolonged, Vs. shortened DAPT duration is not only associated with a higher bleeding risk but also does not reduce ischemic risk.

Consequently, a number of randomized trials and meta analyses examined various regimens of abbreviated DAPT duration and consistently show that shorter treatment periods are superior in terms of bleeding while not inferior in terms of ischemic events. A regimen of 1-3 months of DAPT followed by P2Y12 monotherapy appears a reasonable choice. It appears therefore that the time has come to reconsider the ESC guidelines and recommend a shorter default period of DAPT duration after ACS/PCI.

Prof. Gediminas Davidavicius

MD, PhD;

Head of the Centre of Cardiology and Angiology, Vilnius University Hospital Santaros Klinikos;

Professor of Medicine, Vilnius University.

Prof. Giedrius Davidavicius is Head of the Centre of Cardiology and Angiology at Vilnius University Hospital Santaros Klinikos and works as a Senior Interventional Cardiologist. He is also affiliated with the Faculty of Medicine at Vilnius University, Clinic of Cardiac and Vascular Diseases, where he holds the position of Professor. His main areas of interest include new treatment modalities for myocardial revascularization, advanced diagnostic tools for guiding and evaluating percutaneous coronary interventions, and the development and application of innovative therapies for structural heart disease.

Presentations

OUTCOMES AFTER FFR-GUIDED PCI VS. CABG: FINAL 5-YEAR FOLLOW-UP OF THE FAME 3 TRIAL

Prof. G. Davidavicius, Lithuania

The most effective method of myocardial revascularization remains uncertain for patients with three-vessel disease. This presentation highlights important findings in the clinical FAME 3 trial in which the Vilnius University Hospital Santaros Klinikos team took an active role. The clinical data of 5 years follow up is presented.

Gintautas Bieliauskas, MD

MD, FESC;

Interventional cardiologist, Copenhagen University Hospital Rigshospitalet, Denmark.

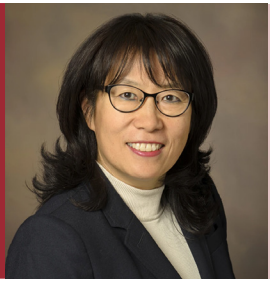
Gintautas Bieliauskas (GB) works as an interventional cardiologist at Copenhagen University Hospital Rigshospitalet, Denmark. GB is originally from Lithuania where he graduated from Vilnius University in 2003. Since that time GB has gained training and clinical experience in Lithuania and Denmark by completing cardiology residency at Vilnius University Hospital Santariskiu Klinikos, Lithuania (2004-2008) and interventional cardiology fellowship at Aarhus University Hospital Skejby, Denmark (2010-2011). Structural heart interventions have become the main focus of work for GB since that time. For two years of his career (2013-2014) GB worked as full-time physician proctor in USA and Japan, teaching other colleagues best practices and techniques for Transcatheter Aortic Valve Implantation (TAVI) procedures. Since 2015 GB holds a position of consultant interventional cardiologist at Copenhagen University Hospital Rigshospitalet, Denmark, which is one of the largest heart disease centers in the region with current TAVI volume of more than 500 procedures per year. In Copenhagen GB gained extensive experience in other structural heart interventions as well, such as Left Atrial Appendage Occlusion (LAAO), Thoracic Endovascular Aortic Repair (TEVAR), mitral and tricuspid interventions using Transcatheter Edge-to-Edge Repair (TEER) techniques as well as Transcatheter Mitral / Tricuspid Valve Replacement (TMVR / TTVR).

Presentations

ACUTE VALVE SYNDROME IN AORTIC STENOSIS

G. Bieliauskas, MD, Denmark

Patients, diagnosed with aortic stenosis, may present with variety of clinical manifestations of the disease: while some remain asymptomatic or present with only mild symptoms, others experience more unpredictable course of the disease and present with increasingly more acute and dangerous clinical picture. During this talk we will try to summarise current understanding and proposed classification of these different clinical scenarios. We will also discuss the impact, which different clinical picture at the time of diagnosis and treatment may have on the final outcomes for a patient with aortic stenosis. This may lead to a provocative discussion regarding the optimal timing of interventions, such as TAVI or SAVR.



Prof. Qin M. Chen

PhD;

Holsclaw Endowed Professor & Director of Pharmacogenomics;

Department of Pharmacy Practice and Science;

University of Arizona College of Pharmacy;

Tucson, Arizona, USA.

Prof. Qin M. Chen is the Holsclaw Endowed Professor and Director of Pharmacogenomics at the University of Arizona College of Pharmacy. She is also Professor of Pharmacology in the Department of Pharmacy Practice and Science.

She received her Ph.D. in Cell Biology and Biochemistry from Clarkson University (1991), followed by postdoctoral training at UC Berkeley in Dr. Bruce Ames' lab. She joined the University of Arizona in 1996 and was promoted to full professor in 2009.

Prof. Chen is an internationally recognized expert in cardiac oxidative stress and pharmacological protection, with over 35 years of research experience. Her work spans RNA biology, biomarker discovery, and gene expression regulation in disease and drug response. She has mentored over 100 trainees and directed NIH-funded programs supporting Ph.D. and postdoctoral training.

She has received multiple national awards, served on NIH and VA review panels, and held editorial roles in JPET, Physiological Genomics, and Cardiovascular Toxicology. She is active in global scientific organizations including the European Heart Association and ASPET.

Presentations

SEARCHING FOR NEW BIOMARKERS OF SUDDEN CARDIAC DEATH

Prof. Q. M. Chen, USA

Sudden cardiac death (SCD) represents a critical clinical event characterized by the abrupt and unanticipated cessation of cardiac contractility. In the United States, SCD is responsible for approximately 535,000 deaths annually. Despite extensive research, the underlying mechanisms of SCD remain incompletely understood, and no definitive biomarker has been identified. The discovery of such a biomarker is crucial for reducing the incidence of SCD by enabling early detection, aggressive monitoring, and timely therapeutic intervention. To identify potential biomarkers for SCD, we analyzed myocardial transcriptomes from a cohort of 99 individuals who died from SCD. As controls, we included 20 trauma death donors and, for comparative purposes, additional cohorts comprising 24 intermediate (1–24 hours), 38 slow (>1 day), and 152 ventilator-associated deaths. Among the 99 SCD patients, 39 and 25 were listed as having cardiac arrest or myocardial infarction, respectively, as the immediate cause of death on their death certificates. We first assessed standard cardiovascular disease-related genes, including lipoprotein(a), apolipoprotein B, HMG-CoA reductase, LDL receptor, and PCSK9. None

of these genes showed significant upregulation in the SCD group. Using non-negative matrix factorization, we identified three distinct clusters of myocardial transcriptomic profiles among SCD patients. Cluster A overlapped with the trauma death group, while clusters B and C formed distinct groupings on principal component analysis. Notably, cluster B was associated with a higher incidence of type II diabetes. All SCD patients exhibited elevated expression of NPPB, which encodes B-type natriuretic peptide (BNP). However, similar elevations were also observed in the myocardium of patients from the intermediate, slow, and ventilator death cohorts, limiting its specificity for SCD. Among the 15 genes uniquely upregulated in the myocardium of SCD patients, three showed promise as candidate biomarkers. These genes demonstrated a 3.6- to 4-fold increase in expression and encode secreted proteins, suggesting potential detectability in peripheral blood. Further clinical validation is required to determine whether these candidate genes can serve as reliable biomarkers for SCD.

Egle Majauskiene, MD

FESC;

Cardiologist, Cardiology and Angiology Center, Vilnius University Hospital Santaros Clinics;

Departments of Cardiology, Preventive Cardiology, and Cardiovascular Imaging.

Egle Majauskiene received her Doctor of Medicine degree, alongside a Master's in Medicine, from Vilnius University's Faculty of Medicine (2011–2017). She subsequently completed a residency in Cardiology at the same institution (2017–2023) and is presently undertaking doctoral studies in Emergency Medicine. Between 2017 and 2023, E. Majauskiene served as a Resident Cardiologist at the Cardiology and Angiology Center of Vilnius University Hospital Santaros Klinikos, and since 2023 has held the position of Cardiologist within its Departments of Cardiology, Preventive Cardiology, and Cardiovascular Imaging. Her scholarly contributions include a 2023 retrospective cohort study on Type 2 myocardial infarction and long-term mortality risk factors published in Advances in Therapy and a 2022 randomized pilot trial evaluating optimal treatment strategies for MINOCA in The American Journal of Medicine.

Presentations

TYPE 2 MYOCARDIAL INFARCTION: CHALLENGES IN DIAGNOSIS AND TREATMENT

E. Majauskiene, MD, Lithuania

Type 2 myocardial infarction (T2MI) occurs due to an imbalance between myocardial oxygen supply and demand, unlike type 1 MI (T1MI), which results from atherothrombotic coronary artery disease. Differentiating T2MI from other causes of troponin elevation in clinical practice remains challenging.

Recent studies, including DEMAND-MI, have highlighted the high prevalence of coronary artery disease (CAD) and left ventricle impairment in T2MI patients, often unrecognized and untreated. These findings suggest that CAD may play a more significant role in T2MI than previously assumed.

To date, no randomized controlled trials have been completed to guide T2MI management, partly due to the heterogeneity of this patient group and the complexity of trial design. However, recent progress offers hope: the Target-TYPE 2 pilot trial demonstrated the feasibility of recruiting and randomizing T2MI patients to a structured intervention, paving the way for a larger multicenter study.

In summary, growing evidence supports the need for active evaluation and potentially targeted treatment of CAD and left ventricle impairment in T2MI patients, and ongoing trials may soon provide much-needed guidance for clinical practice.

Rokas Serpytis, PhD

MD, PhD, FESC, FAHA;

President-Elect, Lithuanian Society of Cardiology;

Interventional Cardiologist, Vilnius University Hospital Santaros Klinikos;

Scientific Associate, Clinic of Cardiac and Vascular Diseases, Vilnius University.

Rokas Serpytis, PhD is an Interventional Cardiologist at Vilnius University Hospital Santaros Klinikos and his clinical and academic work is centered around acute coronary syndromes, type 2 myocardial infarction, biomarkers, microcirculation, and cardiogenic shock.

He earned his PhD in Medicine from Vilnius University in 2023 with a doctoral thesis titled "Microcirculation Measurements in Critical and Non-Critical Myocardial Ischemia." His education includes a cardiology residency at VUH Santaros Klinikos (2010–2014) and an MD from the Faculty of Medicine at Vilnius University (2003–2009), during which he also participated in the Erasmus Program at Leipzig University Faculty of Medicine (2006–2007).

Rokas Serpytis, PhD currently serves as an Interventional Cardiologist in the Department of Interventional Radiology at VUH Santaros Klinikos (2017–present), and as a Cardiologist in both the Cardiac Intensive Care Unit (2014–present) and previously in the Emergency Department (2014–2019). He also completed a fellowship in Interventional Cardiology at Leipzig Heart Center in 2013 and worked as a Cardiologist at the Outpatient Center "Antakalnio Poliklinika" from 2015 to 2018.

In research, he has contributed to numerous clinical trials, acting as a principal or sub-investigator in major international studies such as CULPRIT-SHOCK, TRUE-AHF, RELAX-AHF, ATOMIC-AHF, and EUROASPIRE IV.

He is an active member of several professional societies, including the European Society of Cardiology (Fellow, FESC), the American Heart Association, the Acute Cardiovascular Care Association, the Lithuanian Cardiology Society (Council Member and Conference Chair), and the Lithuanian Heart Association.

Beyond his clinical and research roles, Rokas Serpytis has held key leadership and public engagement positions. He currently serves as President-Elect of the Lithuanian Society of Cardiology (since 2023) and has been a Council Member of the Lithuanian Intensive Cardiology and Emergency Medicine Association since 2015. He previously hosted the national television program Sveikatos Kodas (2015–2016), served as Vice President for External Affairs in the Lithuanian Medical Students' Association, and acted as National Coordinator for an EC/MoH youth anti-smoking campaign in 2006.

Presentations

NOVEL DIAGNOSTIC MEASURES IN DIAGNOSIS OF ATHEROSCLEROSIS USING AI

R. Serpytis, PhD, Lithuania

The early detection of atherosclerosis is undergoing a paradigm shift through the integration of artificial intelligence (AI) with novel diagnostic modalities. The PESA (Progression of Early Subclinical Atherosclerosis) study has provided compelling evidence that 3D vascular ultrasound of the carotid and femoral arteries is not only effective in detecting subclinical atherosclerosis in asymptomatic individuals but also predictive of long-term cardiovascular mortality, independently of conventional risk scores.

In parallel, AI-based analysis of facial photographs has emerged as an innovative, non-invasive diagnostic tool. Deep learning models trained on large image datasets have demonstrated the ability to identify subtle phenotypic features, such as wrinkle patterns, texture changes, and morphology, associated with cardiovascular risk. The combination of femoral and carotid 3D ultrasound with facial image analysis represents a simple, low-cost, and effective strategy for detecting subclinical atherosclerosis, particularly in populations with limited access to advanced diagnostic infrastructure.

While CT angiography and other advanced imaging modalities remain highly sensitive tools for atherosclerosis assessment, they expose patients to ionizing radiation, which carries cumulative cancer risk. It is estimated that up to 10% of future cancers may result from diagnostic CT scans ordered in routine medical practice. This underscores the urgency of developing alternative, radiation-free screening approaches that retain diagnostic value.

Beyond these methods, AI continues to unlock new frontiers in cardiovascular diagnostics. Deep learning techniques enhance the segmentation and classification of arterial structures in medical images, improving the precision and reproducibility of vascular assessments. Machine learning models integrating biomarkers of inflammation, metabolism, and genetic risk further enable individualized risk prediction. In addition, ambient intelligence systems that synthesize clinical, imaging, and biomarker data are being developed to support real-time prognostic tools.

In conclusion, the convergence of AI-driven facial analysis and 3D vascular ultrasound offers a non-invasive, scalable, and effective approach to early atherosclerosis detection. When combined with broader AI applications and integrated data systems, these tools have the potential to revolutionize preventive cardiology by enabling earlier diagnosis, risk reduction, and improved long-term outcomes—all while minimizing exposure to unnecessary harm.

Prof. Ahmed Magdy

M.D., PhD, FESC, FRCP, FACC, Master of SCAI;

Consultant Cardiologist, National Heart Institute, Cairo

Chairman Egyptian Fellowship Board of Intervention Cardiology European ACVCA;

SCAI National Ambassador Egyptian Society of Cardiology Board Past Chairman of EgIC;

Chairman COMBATMI.

Prof. Ahmed Magdy is a senior Consultant Cardiologist and Interventional Cardiologist at the National Heart Institute in Cairo, Egypt, where he previously served as Chairman of Cardiology. He is the founder and Chairman of the Fellowship of the Egyptian Board of Interventional Cardiology (FEBIC) and has led the national cardiology education programme for over two decades.

He obtained his MD and PhD in Cardiovascular Medicine from Cairo University and completed advanced training in interventional cardiology in the USA, Germany, and France. He has performed over 10,000 coronary interventions and pioneered numerous complex PCI techniques in Egypt and the Middle East.

Prof. Magdy has chaired and founded multiple national scientific societies and congresses, including COMBATMI, the Egypt Ischemia Summit, and CardioEgypt. He has been actively involved in the European Society of Cardiology and the Society for Cardiovascular Angiography and Interventions (SCAI), serving as national ambassador and board trustee. He is also the Course Director of several major interventional academies.

He is the author of over 25 peer-reviewed publications and book chapters, and has delivered hundreds of lectures at international congresses such as TCT, SCAI, EuroPCR, and AHA. His primary interests include complex coronary interventions, STEMI management, mitral valvuloplasty, and national education in cardiology and intervention.

Presentations

ACS UNUSUAL SCENARIOS AND MANAGEMENT
Prof. Ahmed Magdy, Egypt

Prof. Robert Gil

MD, PhD, FESC;

President of the Polish Cardiac Society;

Chair, ESC EuroAsia Task Force;

Founder and Course Director, Warsaw Course on Cardiovascular Interventions (WCCI).

Professor Robert Julian Gil, MD, Ph.D., a graduate of the Pomeranian Medical University in Szczecin (September 1984) has been employed since November 2001 in Clinical Hospital of the Ministry of the Interior and Administration (since January 2023 National Medical Institute of the Ministry of the Interior and Administration in Warsaw. Currently (since June 2022) as the head of the Cardiology Department created as a result of the merger of two previously operating cardiological clinics.

In 1997-2004 he was the Chair of the Invasive Cardiology Section (Working Group) of the Polish Cardiac Society, and a member of its Board (as a past president) for the next 3 years. He served as the member of the Polish Cardiac Society Board for two cadencies (2015-2019). In the elections in 2021, he was appointed president-elect of the Polish Cardiac Society (up September 2023). In October 2023 he took over as President of Polish Cardiac Society. He was also appointed as the Chair ESC Task Force for EuroAsia in the term 2024-2026.

His scientific achievements include: over 300 publications in peer-reviewed journals (total IF above 750), co-authorship of over 30 chapters of books on interventional cardiology and more than 300 convention reports presented at prestigious international conventions on clinical electrophysiology and invasive cardiology.

He initiated annual National Workshops on Interventional Cardiology, which after 5 editions in Szczecin was moved to Warsaw as the Warsaw Course on Cardiovascular Interventions. Their 29th edition was held in April 2025.

He is a member of Editorial Boards of most prestigious cardiological journals as: Polish Heart Journal, Cardiology Journal, Advances in Interventional Cardiology. Since 2009 he has regularly reviewed papers sent by to the American Journal of Cardiology, Journal of American College of Cardiology, EuroIntervention, Journal of Interventional Cardiology and Circulation.

In June 2000 he was awarded a prestigious title of the Fellow of European Society of Cardiology. Since 2007 he has been a member of the exclusive European Bifurcation Club handling the questions of diagnostics and treatment of bifurcation lesions.

Since 2001 he has been regularly invited to actively participate (Faculty member) in such prestigious Congresses (among others ESC) and Workshops of Interventional Cardiology as: EuroPCR, TCT, ICI in Tel Aviv, CBS in Nanjing, European Bifurcation Club meetings and many national congresses.

Presentations

NATIONAL PROGRAM FOR CARDIOGENIC SHOCK TREATMENT IN POLAND

Prof. R. Gil, Poland

Cardiogenic shock is a complex disease entity that requires multidisciplinary treatment and coordinated care. Despite numerous achievements in pharmacological and interventional treatment, mortality among patients with cardiogenic shock remains alarmingly high in Poland. One of the reasons for poor treatment outcomes is the fragmentation of medical care and the lack of a system for coordinated therapy escalation. The results of subsequent studies suggest that the introduction of dedicated Shock Team specialist teams can significantly improve the prognosis in this group of patients. Prof. Robert J. Gil will present the national program for the treatment of cardiogenic shock proposed by the Polish Cardiac Society, that is based on a system of peripheral and central centers (spokes, hubs and superhubs) with the implementation of actively working Shock Teams and structured action schemes. The introduction of a comprehensive method of treating patients with cardiogenic shock should significantly improve the prognosis in this group of patients.

Andrej Pileckij, PhD

MD, FESC, FAHA;

Head of cardiology and interventional cardiologist at Klaipėda University Hospital.

Dr. Andrej Pileckij is an experienced interventional cardiologist and the current Head of the Cardiology Clinic at Klaipėda University Hospital, Lithuania, since 2024. He graduated from Vilnius University in 2011 and completed his cardiology residency in 2015. He specializes in advanced percutaneous procedures, with a particular focus on chronic total occlusion (CTO) revascularization and structural heart interventions such as transcatheter aortic valve implantation (TAVI). Widely respected for his clinical precision and patient-focused approach, he is actively involved in modernizing cardiac services and expanding research and training initiatives in the region.

Presentations

WHAT'S NEW ABOUT STRUCTURAL HEART DISEASE FROM EUROPCR

A. Pileckij, PhD, Lithuania

The "EuroPCR 2025 Highlights on Structural Heart Disease" presentation provides key insights into recent advancements and research in the field. One major focus is the increasing use of Transcatheter Aortic Valve Implantation (TAVI), including the growth in valve-in-valve procedures. The presentation covers pivotal trial results, such as the "Evolut Low Risk" trial's five-year data, indicating no significant difference between Transcatheter Aortic Valve Replacement (TAVR) and Surgical Aortic Valve Replacement (SAVR). Additionally, the "SMART" trial's two-year results show no disparities in mortality or disabling stroke rates, while highlighting the superior performance of the Evolut TAVR valve system. The "Protected TAVR" and "BHV PROTECT-TAVI" trials suggest that routine cerebral protection may not be necessary during TAVR procedures. Finally, the "FAITAVI" trial, the first randomized controlled trial comparing Fractional Flow Reserve (FFR) to angiography-guided Percutaneous Coronary Intervention (PCI) in TAVI patients, indicates potential benefits of a physiology-guided strategy in managing severe aortic stenosis and coronary artery disease.

Arvydas Baranauskas, PhD

Head of interventional cardiologist at Vilnius University Hospital.

In 2005, he graduated from the Faculty of Medicine at Vilnius University with a degree in medical studies, and in 2010 completed residency in cardiology. In 2017, he defended his doctoral dissertation in medical sciences on the topic “Evaluation of the Effectiveness of Myocardial Revascularization in the Presence of Diffuse Atherosclerotic Coronary Artery Disease.” He is a member of the Lithuanian Heart Association and the National Association of Interventional Cardiologists. His main areas of expertise include cardiovascular diseases, treatment of acute coronary syndromes (myocardial infarction), and interventional cardiology (catheter-based treatment of heart diseases).

Presentations

WHAT’S NEW FROM EUROPCR
A. Baranauskas, PhD, Lithuania

Prof Abdo Khoury

MD, PhD;

Consultant physician in the Department of Emergency Medicine & Critical Care in the University of Franche-Comté, Medical & Trauma Center;

Professor of Emergency Medicine;

Past President of EUSEM;

Prof. Abdo Khoury is Professor and Chair of Emergency Medicine at the University of Franche-Comté and Besançon University Hospital, France. He is the former President of the European Society for Emergency Medicine (EUSEM) and a Fellow of the Royal College of Surgeons of Ireland (FRCSI-FSM).

He holds degrees in Disaster Medicine, Public Health, and a PhD on Human Factors in Medical Device Design. He has extensive field experience, including air and mountain rescue, and has served for over 15 years as Medical Officer in the Doubs Fire Department specializing in disaster and terrorism medicine.

Prof. Khoury leads the Inserm-recognized Research Team in Mechanical Ventilation and directs the Medical Simulation Centre in Besançon. He serves as an expert for WHO and the European Commission on disaster preparedness and emerging diseases. He has authored numerous publications, taught internationally, and received multiple awards, including honorary EUSEM Fellowship.

Presentations

LEADERSHIP TO FOSTER RESILIENCE IN EMERGENCY MEDICINE AND CRITICAL CARE

Prof. A. Khoury, France

VENTILATION FEEDBACK DEVICES IN CARDIAC ARREST: TOWARD MORE SURVIVAL?

Prof. A. Khoury, France

Over the past two decades, we've implemented nearly every major evidence-based intervention to improve cardiac arrest outcomes: early defibrillation, high-quality chest compressions, immediate bystander response, and even real-time feedback on compression quality. Yet, despite these advances, overall survival rates have plateaued — a clear signal that something critical may still be missing from our resuscitation strategy.

One of the most overlooked — yet vital — components is ventilation.

In many cardiac arrest cases, particularly during prolonged resuscitation or advanced life support, inappropriate ventilation (either too much or too little) can severely compromise patient outcomes. Overventilation, in particular, can increase intrathoracic pressure, reduce venous return, and significantly impair coronary and cerebral perfusion.

Ventilation feedback devices offer a simple but transformative solution. By providing real-time guidance on rate, volume, and timing, they ensure that ventilation is delivered effectively and in harmony with compressions — optimizing oxygenation and CO_2 elimination while avoiding harm.

Incorporating ventilation feedback into our resuscitation protocols may well be the next frontier in improving survival and neurological outcomes after cardiac arrest.

Prof. Rakesh Jalali

MD, PhD;

Vice-Dean for the Students and Development of the School of Medicine, Collegium Medicum UWM, Olsztyn;

Regional Consultant in the field of Emergency Medicine;

Coordinator of the Hospital Clinical Emergency Department of the Regional Specialist Hospital in Olsztyn.

Rakesh Jalali – MD, PhD, board certified in anesthesiology and intensive care and emergency medicine. He obtained his PhD degree with dissertation "Comparative evaluation of the effectiveness of circulatory resuscitation with the use of manual indirect massage and mechanical chest compression devices". He has held the positions from assistant to the Chair of the Emergency Department. A long-time academic teacher, associated with the Department of Emergency Medicine, School of Medicine, University of Warmia and Mazury in Olsztyn (UWM) since its establishment. He created teaching programmes for UWM students for first aid, clinical skills and emergency medicine. For many years, he has been serving the role of Vice-Dean for the Students and Development of the School of Medicine, Collegium Medicum UWM in Olsztyn. He is Regional Consultant in the field of Emergency Medicine and the Coordinator of the Hospital Clinical Emergency Department of the Regional Specialist Hospital in Olsztyn. He established the one and only Trauma Center in Warmia and Mazury region.

Presentations

IN SEARCH OF THE HOLY GRAIL. UCH-L1 AND GFAP AS MARKERS OF BRAIN TISSUE INJURY?

Prof. R. Jalali, Poland

Traumatic brain injuries (TBIs) are leading cause of death and disability in people under 45 years-of-age in Western World, but also one of the biggest diagnostic challenges in the emergency medicine. Ischemic stroke is one of the leading overall causes of mortality and disability worldwide. Golden standard in diagnosis of these diseases are neuroimaging methods. We strongly believe that utilization of biomarkers can help in diagnostic process.

One of them is the S100B protein, which is currently proposed as a promising diagnostic tool for TBI and for stroke prognosis. In our studies, we analyzed serum biomarker S100B in 136 patients with head injury and 65 patients with stroke admitted to the Emergency Department of the Regional Specialist Hospital in Olsztyn. Head injury group was divided into three groups: patients with head injury intoxicated with alcohol, patients with head injury without alcohol intoxication and a control group (without head trauma). S100B was measured at admission in all head injury patients. In stroke group we assessed S100B level and NIHSS score at admission, measured S100B level at 2nd&3rd day after stroke and measured NIHSS score at 8th day after stroke. In 3 months after stroke, we measured MRS score.

S100B protein shown to be elevated in case of head injury. There was no statistically

significant difference in S100B levels in patients with and without alcohol intoxication. In stroke prognosis S100B shown important correlations with NIHSS score and MRS score with high specificity and sensitivity. Levels of S100B below 0,1 μg/ml allows to predict good short- and long-term prognosis after stroke.

After these promising results, we decided to analyze another combined biomarkers, GFAP and UCH-L1 in case of head injury. 123 patients admitted do Emergency Department of Regional Specialist Hospital in Olsztyn with head injury was included into this study. Patients were divided into two groups: with isolated head injury and head injury with additional injuries. Results shown, that for both GFAP and UCH-L1 there was no statistical differences in protein levels between two groups. Overall specificity of combined biomarkers was 0,833 with specificity 0,291. Results also shown, that neurological, nephrological, metabolic, cardiovascular disorders, bone and spine injuries affects specificity and sensitivity of these biomarkers.

At conclusion, S100B and combined GFAP&UCH-L1 measurement cannot replace CT scan as diagnostic tool in case of head injury at present state of knowledge. Nevertheless, both tests have a potential to helpful in ambiguous situations. In case of stroke S100B levels allows to predict short- and long-term outcome, but studies on larger cohort is required to introduce it to standard use.

INHOSPITAL CARDIAC ARREST. QUALITY IMPROVEMENT BASED ON THE AUTHOR'S PERSONAL EXPERIENCE

Prof. R. Jalali, Poland

Yearly incidence of intrahospital cardiac arrest (IHCA) in Europe remains at 1,5-2,8/1000 hospital admissions, with 30-day survival rate 15-34%. IHCA is characterized by gradual onset, initial rhythm is mainly asystole or PEA. Lowest chance for survival of IHCA is noted on non-monitored wards and ICUs. Introduction of early warning scores and rapid response teams, that performs CPR according to all ERC guidelines, increase IHCA survival. In Regional Specialist Hospital in Olsztyn, Poland, after introduction of Rapid Response Team, we noticed improvement of achieved ROSCs and IHCA survival.

Jean-Baptiste Pretalli, PhD

MD, EUSEM;

Research Officer at the Regional and University Hospital Center of Besançon, France.

Jean-Baptiste Pretalli, PhD, is a researcher scientist with over 15 years of experience in clinical research, currently based at the INSERM Clinical Investigation Centre, CIC 1431, in Besançon, France. His work focuses on emergency medicine involving innovative medical technologies and devices. He has led the design and implementation of research protocols, data collection tools, and statistical analyses using SPSS, while actively contributing to grant applications, ethics submissions, and academic publications.

Dr. Pretalli holds a PhD in Life and Health Sciences. His thesis explored the effects of repetitive transcranial magnetic stimulation (rTMS) in treating chronic, treatment-resistant depression. He is also a part-time lecturer at Marie & Louis Pasteur University, where he teaches and supervises students and residents.

His recent research projects include national studies on oxygen therapy in acute respiratory distress, communication tools in pediatric emergency care, emergency dispatch call quality, and environmental noise in call centers. He has co-authored over 40 peer-reviewed papers, with recent publications in BMJ Open, Resuscitation, Arch Pediatr, and Mil Med, contributing meaningfully to the fields of emergency medicine and medical device evaluation.

Presentations

MEDICAL DEVICES: DEVELOPMENT AND EVALUATION

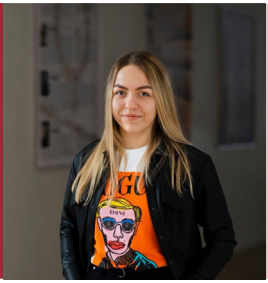
J.B. Pretalli, PhD, France

Physicians are end users of medical devices. They could also be involved in some stages of their development and evaluation. The objective of this communication is to present and explain the key stages in the development and the evaluation of medical devices.

FROM THE IDEA FOR RESEARCH TO WRITING A SYNOPSIS AND RESEARCH PROTOCOL

J.B. Pretalli, PhD, France

The objective is to explain what a research protocol is, why it is important (even for a medical thesis), and how it can be written. It is especially destined to students.



Beatrice Rasciute, MD

Lecturer at the Clinic of Anaesthesiology and Intensive Care, Faculty of Medicine, Vilnius University;

Junior researcher in the ERASMUS project.

Beatričė Raščiūtė is a fifth-year Emergency Medicine resident at Vilnius University Hospital Santaros Clinics. She also works as a lecturer at the Clinic of Anaesthesiology and Intensive Care and is a junior researcher in the ERASMUS project MedEd Poly-Trauma VR, focused on virtual reality training in emergency medicine.

Her main interests include point-of-care ultrasound, imaging protocols in acute care, and improving medical education for students and residents.

Presentations

IMMERSIVE LEARNING IN THE EMERGENCY DEPARTMENT: WHAT'S NEXT?

B. Rasciute, MD, Lithuania

Emergency medicine is often referred to as a young specialty worldwide. However, the challenges faced by physicians in emergency settings are both complex and demanding. These situations typically require rapid decision-making, multitasking, and the ability to make critical choices under pressure. Such decisions are often life-dependent and call not only for clinical expertise but also for strong leadership and management skills.

So, how can we—as young doctors and educators—help prevent future catastrophes? Are there innovative ways to practice and learn before stepping into overnight shifts?

Prof. Dovile Karciauskaite

Head of the Department of Physiology, Biochemistry, Microbiology, and Laboratory Medicine at the Faculty of Medicine, Vilnius University;

Chair of the Laboratory Medicine Residency Program Committee;

Chair of the Medical Biology Master's Study Program Committee.

Dovilė Karčiauskaitė is a Professor of Laboratory Medicine and Head of the Department of Physiology, Biochemistry, Microbiology, and Laboratory Medicine at the Faculty of Medicine, Vilnius University. Her research focuses on biomarkers of psychosocial stress and their links to lipid metabolism, oxidative stress, and cardiovascular disease, particularly atherosclerosis.

She plays a leading role in academic training, serving as Chair of both the Laboratory Medicine Residency Program Committee and the Medical Biology Master's Study Program Committee. Through these roles, PhD Karčiauskaitė is actively involved in developing specialist education and advancing the field of laboratory diagnostics in Lithuania.

Presentations

NT PROBNP IN ACUTE CORONARY SYNDROME SETTING

Prof. D. Karciauskaite, Lithuania

Over the past two decades, natriuretic peptides have been extensively utilized in the diagnosis and management of heart failure. However, their role in the acute coronary syndrome (ACS) setting remains underutilized, despite substantial clinical evidence supporting their mechanistic link to myocardial stress and their incremental prognostic value.

Circulating levels of NT-proBNP have been shown to provide prognostic information that goes beyond cardiac troponins, the standard marker of myocyte injury. This highlights the added value of natriuretic peptide testing in identifying myocardial vulnerability—an important but often overlooked factor in post-MI care.

Recognizing elevated natriuretic peptide levels in ACS patients can help identify a high-risk subgroup with subclinical myocardial stress or dysfunction. These patients may benefit from more intensive follow-up and aggressive medical management. Integrating natriuretic peptide testing into routine risk stratification could thus enhance our ability to deliver personalized, risk-adapted care following myocardial infarction.

Prof. Alexander Zlotnik

MD, PhD, ESA;

Professor and Chairman, Division of Anesthesiology and Critical Care, Soroka University Medical Center&-Ben Gurion University of the Negev, Israe;

Chairman of the subcommittee for neuroanesthesia and trauma for the ISA;

Chairman of the scientific subcommittee on Neuroanesthesia for the ESA

Alexander Zlotnik is a Professor of Anesthesiology at Ben-Gurion University of the Negev and Chair of the Department of Anesthesiology, Critical Care and Pain Medicine at Soroka University Medical Center and Ben-Gurion University of the Negev in Beer Sheva, Israel. He was born in Kiev, Ukraine in 1971 and graduated with an M.D. degree from the Stavropol Medical Academy in Stavropol, Russia in 1997. After immigrating to Israel in 1999, he completed his Ph.D. at Ben-Gurion University of the Negev and residency in Anesthesiology at Soroka University Medical Center. Professor Zlotnik completed a fellowship in Neuroanesthesia and Trauma at the University of Washington in Seattle, WA, then returned to Israel where he joined the faculty at Ben-Gurion University of the Negev. A. Zlotnik 's translational research interests are in mechanisms of neuroprotection and glutamate neurotoxicity, and he has authored more than 100 peer-reviewed papers and book chapters to date. His latest H-index is 39. A. ZLotnik has received several awards in recognition of his research including the John D. Michenfelder New Investigator Award from the Society of Neuroscience in Anesthesiology and Critical Care (SNACC). He has mentored more than 80 scientific theses for medical students, residents, and fellows, and served on several editorial boards and scientific committees. Until recently, professor Zlotnik also served as Chair of the subcommittee for neuroanesthesia and trauma for the Israeli Society of Anesthesiologists (ISA) and as the chairman of the scientific subcommittee on Neuroanesthesia for the European Society of Anesthesiologists (ESA).

Presentations

EVACUATION OF TRAUMA PATIENTS BY MILITARY HELICOPTERS RESCUE UNITS

Prof. Alexander Zlotnik, Israel

This presentation explores the unique role of the Israeli Air Force Rescue Unit in the rapid evacuation and initial management of trauma patients across diverse operational environments. Since its establishment, the unit has evolved into a highly specialized force, integrating advanced aviation, medical, and rescue capabilities to support both military and civilian missions. The presentation begins with a brief historical overview, tracing the unit's development from inception to current operational configuration, then focuses on its structure and functionality, emphasizing collaboration between aircrew and medical personnel.

We will detail the unit's preparedness for complex, high-risk scenarios including combat zones, mass-casualty incidents, remote-area rescues, and natural disasters. A core element of the discussion is the timeline of a typical mission: from the moment of trau-

ma through activation, patient extraction, en route care, and transfer to trauma centers. We will highlight the challenges of delivering life-saving interventions during transportation and maintaining continuity of care in dynamic settings. Additionally, we will address the rigorous training required for all unit members and the multidisciplinary coordination essential for operational success.

This overview provides insights into the critical role of aerial evacuation in trauma scenarios.

Prof. Gediminas Rackauskas

MD, PhD;

Electrophysiologist at Vilnius University Hospital Santaros Klinikos;

Assoc. Professor at Vilnius University.

Prof. Gediminas Račkauskas is a cardiologist and electrophysiologist at Vilnius University Hospital Santaros Klinikos, specializing in arrhythmia management, heart failure, and device-based therapies. He is EHRA-certified in electrophysiology and serves as principal investigator in several international clinical trials involving atrial fibrillation, pulsed field ablation (PFA), and advanced mapping systems.

He received his MD from Kaunas University of Medicine and completed further training in Germany and Italy, including a fellowship under Prof. Carlo Pappone. He holds a PhD from Vilnius University and has contributed to the development of new ablation technologies through studies such as inspIRE, OPTIMUM, and CCM-HFpEF.

Dr. Račkauskas is a member of the European Society of Cardiology and a former member of the EHRA Innovation Committee. His clinical and academic focus includes bradyarrhythmias, AF ablation, and translational research in heart rhythm disorders.

Presentations

DIAGNOSIS AND TREATMENT OF ARRHYTHMIAS

Prof. G. Rackauskas, Lithuania

As the prevalence of heart failure and cardiac conduction abnormalities continues to rise globally, the optimization of cardiac resynchronization therapy (CRT) has become increasingly important. In this context, Left Bundle Branch Area Pacing (LBBAP) has emerged as a promising physiological pacing modality. By directly engaging the conduction system, LBBAP aims to achieve more synchronous ventricular activation compared to traditional pacing techniques. Although various approaches within LBBAP target different anatomical regions, certain clinical indications may be suitable for more than one pacing strategy.

In parallel, Pulsed Field Ablation (PFA) has rapidly advanced as a novel, non-thermal ablation technique for atrial fibrillation (AF). Originally utilized in oncology, PFA is now gaining widespread use in electrophysiology due to its tissue selectivity, procedural efficiency, and favorable safety profile. Compared to conventional energy sources such as radiofrequency and cryoablation, PFA demonstrates reduced collateral damage and promising long-term outcomes.

Together, LBBAP and PFA represent two transformative frontiers in the management of conduction disturbances and atrial arrhythmias offering more physiological, precise, and safer therapeutic options for patients.

Vilhelmas Bajoras, MD

ESC;

Interventional cardiologist at Vilnius University Hospital Santaros Klinikos;

Co-founder of the team introducing MTEER procedures in Lithuania;

Leadership in implementation of the ACURATE Prime TAVI system in Lithuania.

Vilhelmas Bajoras is an interventional cardiologist at Vilnius University Hospital Santaros Klinikos. His clinical focus lies in structural heart interventions and interventional imaging, with particular expertise in TAVI, LAAO, MTEER, and TMVR procedures.

He earned his medical degree and completed cardiology residency at Vilnius University Faculty of Medicine, with additional clinical training at Hôpitaux Universitaires Saint-Louis, Lariboisière, Fernand-Widal in Paris. In 2020–2021, he completed a fellowship in structural interventions and interventional echocardiography at Rigshospitalet, Copenhagen.

Dr. Bajoras is a PhD candidate at Vilnius University and has authored or co-authored over 20 peer-reviewed publications, including in JACC: Cardiovascular Interventions and EuroIntervention. He is part of the founding team that introduced MTEER procedures in Lithuania and continues to contribute to innovation in transcatheter cardiovascular therapies.

Presentations

MITRAL VALVE REPAIR WITH MITRACLIP: WHAT SHOULD NURSES KNOW?

V. Bajoras, MD, Lithuania

The MitraClip procedure is a minimally invasive mitral valve repair technique that uses catheters to place small clips on the valve leaflets, reducing mitral regurgitation. It offers an alternative to open-heart surgery, particularly for patients at high surgical risk.

Recently, mitral valve repair with MitraClip became reimbursable in Lithuania, representing an important step forward in expanding structural heart treatment options. As this procedure is still new in the country, there is a need for increased awareness and education among healthcare professionals.

This presentation aims to provide an introduction to the MitraClip procedure and highlight key aspects relevant to its implementation in clinical practice.

Tadas Alcauskas

ESCMID;

Infection Control Specialist, Epidemiology Unit of the Infection Control Department, Vilnius University Hospital Santaros Clinics;

Researcher at Vilnius University.

Tadas Alcauskas is an Infection Control Specialist working in the Epidemiology Unit of the Infection Control Department at Vilnius University Hospital Santaros Clinics. His field of work includes the prevention and management of hospital-acquired infections with multiple antimicrobial resistance, and the application of scientifically proven infection control measures in everyday clinical practice. Currently, Tadas Alcauskas is a researcher in biomedical studies on molecular markers of central nervous system infections, vaccine-mediated humoral immunity and antimicrobial resistance.

Presentations

FROM ISCHEMIA TO BACTEREMIA: HOW TO REDUCE INFECTION RISK IN CRITICAL CARE?

T. Alcauskas, Lithuania

Nosocomial infections are one of the major challenges of modern medicine, leading to more difficult treatment of patients, worsening out-of-hospital outcomes and increasing the cost of treatment. In addition, mortality caused by nosocomial infections is a major drain on the efforts made by physicians and nurses to manage the acute critical conditions that led to a patient's admission to hospital. However, it is possible to significantly reduce the incidence of these infections. The presentation discusses infection control measures relevant to the management of patients in PCI rooms (Cath labs) and ICUs and compares clinical experience with evidence-based practices.

Prof. Natalja Istomina

PhD, FEANS;

Professor at Vilnius University;

Vice Dean and Professor at Mykolas Romeris University.

Professor Natalja Istomina has a wide research experience and leadership in international and national projects with a focus on Mental Health, Health Education, Health Policy Formation, and Quality of Healthcare. She was a leader of many international and national projects. She has published around 350 scientific publications, around 60 of which are in Clarivate Analytics databases (WoS). She was a vice-minister for Education and Science in Lithuania.

Presentations

RECENT RESEARCH IN ADVANCED NURSING PRACTICE

Prof. N. Istomina, Lithuania

Presentation “Recent research in Advance Nursing Practice” reviews the new roles and competencies of nurses in extended practice who contribute effectively to the improvement of the healthcare system. The report discusses the latest research findings in the field of clinical advanced nursing, with an emphasis on midwifery, stroke nursing, and other specializations.

Migle Didbalyte, MSN

Mental Health Nursing Lecturer, Faculty of Health Care, Vilnius College;

General Nurse, Hepatology and Gastroenterology Unit, Vilnius University Hospital Santaros Klinikos;

Advanced Practice Nurse, Emergency department, Vilnius University Hospital Santaros Klinikos and Republican Vilnius University Hospital.

Miglė Didbalytė is an advanced practice nurse specializing in emergency care, currently working at Vilnius University Hospital Santaros Klinikos and Republican Vilnius University Hospital. Her professional focus lies in the application of advanced clinical skills in high-acuity and time-critical settings.

She earned her bachelor's degree in nursing from the Lithuanian University of Health Sciences (2016–2020) and completed her Master of Health Sciences in Advanced Practice Nursing at Vilnius University (2020–2022). She obtained a qualification in Emergency Medical Care as part of her advanced training.

In parallel with clinical practice, Miglė is involved in academic work and teaches mental health nursing at Vilnius College, aiming to promote awareness and recognition of the advanced nursing role in Lithuania. Her professional interests include emergency diagnostics, critical care decision-making, and nursing education.

Presentations

THE START OF ADVANCED PRACTICE NURSES IN THE EMERGENCY DEPARTMENT

M. Didbalyte, Lithuania

The Emergency Department is one of the most demanding environments in healthcare, characterized by high patient volumes, time-sensitive decisions, and sustained workloads. The integration of Advanced Practice Nurses (APNs) into this setting represents a transformative step toward improving workflow efficiency, team-based care, and staff well-being.

With greater clinical autonomy, APNs are qualified to assess patient conditions, order and interpret diagnostic tests, initiate treatment, formulate preliminary diagnoses, and provide preventative health recommendations. Their expanded scope enables more timely care and supports physicians in managing complex caseloads. While this role has been a cornerstone of healthcare systems in many countries for over five decades, it remains relatively new in Lithuania still evolving amid both opportunities and challenges.

This presentation will combine a theoretical overview of the APN role with practical insights and real-life experience from working as an Advanced Practice Nurse in a high-acuity Emergency Department.

Nadezda Stasinskaja, MSN

Intensive Care Nurse, Vilnius University Hospital Santaros Klinikos;

General Practice Nurse, Neurology Department, Epileptology Office, Vilnius University Hospital Santaros Klinikos.

Dedicated and compassionate Intensive Care Nurse with over 10 years of experience in intensive care and neurology. Proven ability to deliver high-quality care in high-pressure environments, including intensive care units and specialized neurology clinics. Experienced in managing critically ill patients, operating advanced life-support systems, and responding to medical emergencies. Prior experience in neurology includes working in an epileptology outpatient setting, supporting diagnostic procedures, and educating patients on seizure management. Strong team player with excellent communication skills and a commitment to evidence-based practice and continuous professional development.

Presentations

MANAGEMENT OF HEMORRHAGIC STROKE: THE IMPORTANCE AND CHALLENGES OF THE NURSING PROCESS

N. Stasinskaja, Lithuania

Hemorrhagic stroke, though less common than ischemic stroke, is associated with significantly higher mortality and morbidity rates. Intracerebral hemorrhage (ICH) accounts for 10–15% of all acute strokes and approximately 75% of hemorrhagic strokes, with a 30-day mortality rate of up to 50%. Subarachnoid hemorrhage (SAH), while comprising only 5–10% of strokes, contributes to a substantial proportion of stroke-related deaths.

This presentation emphasizes the critical role of nurses in the multidisciplinary management of hemorrhagic stroke patients. Nurses serve as a vital link between physicians, therapists, and patients, ensuring continuous monitoring, early detection of clinical changes, and effective communication with families. Key nursing responsibilities include neurological assessments, blood pressure and glucose control, oxygen therapy, pain management, and prevention of complications such as deep vein thrombosis and pressure ulcers.

The presentation also outlines risk factors for ICH and SAH, including hypertension, cerebral amyloid angiopathy, aneurysms, and lifestyle factors such as smoking and alcohol abuse. Preventive strategies focus on managing modifiable risk factors, particularly effective blood pressure control.

Early rehabilitation and individualized care plans are essential for improving outcomes. The nursing process plays a pivotal role in both acute management and long-term recovery, highlighting the need for well-coordinated, patient-centered care.

Natalja Jerdiakova, MSN

Operating Room Nurse, Centre of Cardiology and Angiology, Vilnius University Hospital Santaros Klinikos;

Director and creator of the documentary film "Operating Room Nurse in Interventional Cardiology and Radiology: A Closer View".

Natalja Jerdiakova is an experienced operating room nurse specializing in interventional cardiology and radiology, with continuous clinical practice at Vilnius University Hospital Santaros Klinikos since 2007. She holds both a Bachelor and a Master of Science in Nursing (Cum Laude) from Vilnius University Faculty of Medicine. In addition to her clinical role, she lectured at the Faculty of Medicine from 2017 to 2019 and played a key role in developing undergraduate and advanced practice nursing study programmes.

Natalja has actively contributed to the professional nursing community by delivering oral presentations at national and international conferences focused on cardiovascular patient care. She was also involved in the development of nursing procedure quality standards at VUH SK and is a member of the Lithuanian Society of Intensive Cardiology and Emergency Medicine since 2019.

Her professional development includes international training programs in Denmark, Belgium, and France, with a continuous emphasis on interventional cardiovascular medicine.

In 2019, she directed a documentary film titled "Operating Room Nurse in Interventional Cardiology and Radiology: A Closer View", created in collaboration with the VUH SK operating room team. The film highlights the vital role and daily challenges of nurses in interventional settings and was featured at several international medical conferences before being submitted to the WHO's Health for All Film Festival in 2020.

Presentations

HORMONAL ALTERATIONS AND THEIR ROLE IN THE PATHOGENESIS OF ATHEROSCLEROSIS AND CARDIOVASCULAR DISEASE IN THE MENOPAUSAL TRANSITION

N. Jerdiakova, Lithuania

Menopause represents a critical endocrine transition associated with a profound decline in ovarian steroid hormone production – particularly estradiol and progesterone – which exerts a multifactorial impact on cardiovascular structure and function. The loss of estrogen's vasoprotective effects contributes to the pathophysiology of atherosclerosis and adverse cardiac remodeling.

Mechanistically, hypoestrogenism is implicated in endothelial dysfunction, reduced nitric oxide bioavailability, increased arterial stiffness, and left ventricular geometric and functional changes. These alterations are further compounded by an increased prevalence of cardiometabolic risk factors, emerging during and after the menopausal transition, including dyslipidemia, hypertension, insulin resistance, type 2 diabetes mellitus,

and adverse shifts in adipose tissue distribution.

Importantly, the cardiovascular implications of menopause are not limited to estrogen withdrawal, but also involve androgenic imbalance, systemic inflammation, and autonomic dysregulation.

Recognition of these interrelated processes is essential for timely risk stratification and the implementation of targeted prevention and management strategies for cardiovascular disease in postmenopausal women.

Oksana Misiuniene, MSN

Certified Registered Nurse Anaesthetist;

Lecturer in Institute of Health Sciences at Vilnius University

Oksana Misiuniene, MSN, is dedicated to advancing the fields of emergency care, intensive care, and prehospital response systems. Her professional focus lies in enhancing ambulance operations and emergency communication protocols to improve patient outcomes in high-stakes clinical environments. With hands-on experience in emergency departments and a background in teaching, she is particularly committed to optimizing emergency response strategies, fostering interdisciplinary collaboration, and promoting data-driven approaches to crisis care. In 2023, awarded as most outstanding lecturer within the Advanced Nursing Practice Program, Vilnius University.

Presentations

PRINCIPLES OF PERIPHERAL VEIN CATHETERIZATION IN EMERGENCY MEDICAL CARE

O. Misiuniene, Lithuania

Peripheral venous catheterization in the context of emergency medicine is a complex clinical skill that requires not only technical proficiency but also strategic thinking. The decision regarding venous access must be based on the dynamics of the patient's condition, the nature of anticipated interventions, and an assessment of potential complication risks.

Venous catheterization in emergency settings is a dynamic process that demands the integration of scientific evidence, protocol recommendations, and individualized clinical judgment. The essential components of a successful procedure include rapid decision-making, precise technique, and continuous evaluation of catheter functionality.

In practice, specialists often face challenges that can complicate venous catheterization: physiological factors, technical difficulties, and patient-specific peculiarities.

Vilma Petrikiene, MSN

Operating room nurse, Centre of Radiology and Nuclear Medicine division of Interventional Radiology, Vilnius University Hospital Santaros Clinic, Lithuania

Vilma Petrikienė is an operating room nurse at the Division of Interventional Radiology, Centre of Radiology and Nuclear Medicine, Vilnius University Hospital Santaros Klinikos. She has over 25 years of clinical experience in cardiac and interventional procedures, having worked in the Centre of Cardiology and Angiology from 1996 to 2022.

She holds a general nursing qualification from the Vilnius School of Higher Medicine and academic degrees in social sciences from Vilnius Pedagogical University (BA) and Vilnius University (MA). She has completed international training in TAVI and catheterization laboratory procedures in Turkey, Latvia, and Belgium.

Vilma is actively engaged in professional development and knowledge-sharing. In 2024, she presented on endovascular treatment of acute aortic aneurysms at a scientific-practical conference in Vilnius.

Presentations

ENDOVASCULAR EMBOLIZATION FOR THE TREATMENT OF PELVIC CONGESTION SYNDROME

V. Petrikiene, Lithuania

Pelvic congestion syndrome (PCS) is a complex and often underdiagnosed condition that can significantly impact a woman's quality of life. Early diagnosis and appropriate treatment are essential for alleviating symptoms and improving patient well-being. According to scientific data, approximately one-third of women of reproductive age suffer from this type of pelvic pain.

Endovascular embolization is considered the first-line treatment for PCS, as it is a safe and effective minimally invasive procedure that targets the underlying cause of the condition.

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and Emergency Medicine 2025

POSTER SESSION

Long QT Syndrome Type 1 And Exercise Stress Test: Does QT Correction Formula Matter?

Authors: Neringa Bileisiene, PhD(c)[1, 2], Lina Bliudziute[3], Germante Mikalajunaite[3]
Supervisors: Prof. Audrius Aidietis[1, 2], Assoc. Prof. Jurate Barysiene[1, 2], Gabriele Tarutyte[2]

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[3]Faculty of Medicine, Vilnius University, LT-03101 Vilnius, Lithuania;

Introduction. Long QT syndrome Type 1 (LQT1) is a rare inherited cardiac channelopathy caused by loss of function mutations in KCNQ1 gene. LQT1 is the most prevalent type of long QT syndrome (LQTS), which is related to an increased risk of life-threatening arrhythmias and sudden cardiac death. Prolongation of corrected QT interval (QTc) is a hallmark of the disease. Bazett`s formula for the QT interval correction was used when the LQTS diagnostic risk score was developed, but several other QT correction formulas also exist. QTc dynamics during exercise stress test (EST) is known to important for risk stratification in LQTS patients, particularly in those with LQT1.

Methods. We enrolled 55 genotyped LQT1 patients (39 asymptomatic and 16 symptomatic) in the study between December 2022 and June 2024. They all underwent standardized EST at Vilnius University Hospital Santaros Klinikos Cardiology and Angiology Centre. QT interval was corrected using Bazett`s, Framingham, Fridericia, Hodges and Rautaharju formulas.

Results. Symptomatic and asymptomatic LQT1 patients had different QTc values at early recovery phases of EST. Symptomatic patients had longer corrected QT with Framingham (433±29 vs. 414±28 ms, p=0.04) and Fridericia formula (444±31 vs. 424±35 ms, p=0.05) after the 1st minute of recovery phase. After the 2nd minute of recovery only corrected QT with Framingham formula differentiated the groups with an AUC of 0.69. After 3rd minute of recovery all QTc correction formulas demonstrated significant QT prolongation in symptomatic patients compared to asymptomatic with the values of mean QTc by Framingham 459±31 vs. 434±28 ms, p=0.01; Fridericia 467±35 vs. 441±33 ms, p=0.02; Hodges 464±30 vs. 443±28 ms, p=0.03; Rautaharju 478±35 vs. 455±35 ms, p=0.04, except Bazett (501±37 vs. 479±38 ms, p=0.06). ROC curve analysis revealed Framingham formula as a best discriminator with the AUC of 0.73 (0.57-0.89) during this stage of EST.

Conclusion. LQT1 asymptomatic patients had shorter QTc interval than symptomatic in early recovery phases of EST when QT interval was corrected with Framingham formula. After the third minute of the recovery phase during the EST, the highest number of QTc formulas were able to differentiate symptomatic LQT1 patients from asymptomatic ones.

Smart triage: Exploring Artificial Intelligence's Potential in Emergency Room Prioritization

Authors: Eva Naktinyte[1], Aida Emilija Balukonyte[1]
Supervisor: PhD Renata Jukneviciene[2]

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Background. Artificial intelligence is already being utilized in various medical fields. With increasing global overcrowding in emergency departments, which results in a significant nurse workload at triage, followed by emotional exhaustion and human-factor-related errors, this study aimed to assess whether AI could be a useful tool in the patient triage system.

Methods. An anonymous questionnaire was distributed in both paper-based and digital formats to nurses (n=51) working in the Emergency Department of a single university hospital. Clinical cases were randomly selected from a pool of 110 sourced from the PubMed database, requiring the classification of patients by urgency level using the Manchester Triage System. The same cases were analyzed by the artificial intelligence (AI) program ChatGPT (version 3.5). Data were processed using Jamovi software.

Results. 86.3% (n = 44) of nurses completed the questionnaire. The nurses and AI classified the 9%, 15%, 35%, 35% and 6%, and 29%, 24%, 43%, 3% and 1% of cases, respectively, into the first through fifth triage categories. The agreement between nurses and the protocol was fair (Cohen's Kappa = 0.26, p < 0.001), with a 47% exact matches, between AI and protocol – poor (Cohen's Kappa = -0.041, p = 0.279), with 15% exact match rate. AI outperformed nurses in terms of specificity and accuracy in the first category (27.8% vs. 8.3%; 27.3% vs. 9.1%, p<0,05). In surgical cases (n = 76), agreement between nurses and the protocol was fair (Cohen's Kappa = 0.317, p < 0.001), with a 51% exact match rate. AI showed poor and non-significant agreement with the protocol (Cohen's Kappa = −0.084, p = 0.054), with only an 11% exact match rate. In therapeutic cases (n = 34), both nurses and AI demonstrated poor and statistically non-significant agreement with the protocol. In terms of accuracy in surgical cases, nurses outperformed AI (63.2% vs. 39.5%, p = 0.0062). However, in therapeutic cases, AI performed slightly better than nurses (52.9% vs. 47.1%), though the difference was not statistically significant (p = 0.648).

Conclusion. AI overall agreement with the triage protocol was low, but AI shows potential in distinguishing very urgent and non-urgent cases from others.

Polymorphic Ventricular Tachycardia as a Cause of Recurrent Syncope: A Case Report

Authors: Lina Gastilaviciute[1], Karolina Ciakaite[1]
Supervisor: Assoc. prof. Diana Rinkuniene[2]

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Background. Syncope is characterized by transient loss of consciousness due to global cerebral hypoperfusion. It frequently mimics other conditions, which complicates the differential diagnosis. Patients at high risk for cardiac syncope not only are prone to recurrent episodes but also most linked to an increased risk of sudden cardiac death.

Case report. A 45-year old woman presented to the emergency unit after losing consciousness while driving. The patient reported a history of syncopal episodes, each preceded by similar prodromal symptoms, including chest pain, palpitation and burning sensation behind the sternum. After closer examination the case was referred to as low risk and she was discharged. However, later that day a second and a third syncopal episode occurred and the patient was urgently hospitalized. Telemetry monitoring revealed self-terminating episodes of wide complex tachycardia (maximum episode duration ~5 seconds), consistent with polymorphic ventricular tachycardia. Laboratory tests demonstrated mild hypokalemia and elevated troponin I (TnI) levels. The patient was treated with high-dose beta-adrenergic blockers, resulting in resolution of the ventricular tachycardia and stabilization of the clinical condition. Following elevated TnI levels (162–143 ng/L), coronary angiography was performed: no significant stenosis was identified. Further investigation, including transthoracic echocardiography and cardiac magnetic resonance, did not reveal any cardiac pathology. Given the clinical suspicion of catecholaminergic polymorphic ventricular tachycardia (CPVT), the patient was referred for genetic testing.

Conclusion. According to the European Society of Cardiology guidelines for management of syncope, this patient presented multiple high-risk features such as episodes occurring in the sitting position, presence of palpitations immediately followed by syncope and ECG abnormalities. The absence of structural heart disease raised suspicion of CPVT, a rare but life-threatening inherited arrhythmogenic disorder. This case highlights the importance of following syncope risk stratification protocols leading to an early diagnosis for patients with unexplained syncope episodes.

Waiting Time and Its Predictors for Transcatheter Aortic Valve Implantation in Patients with Severe Aortic Valve Stenosis

Author: Greta Zaburaite[1]

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Introduction. Even though the global numbers of transcatheter aortic valve implantation (TAVI) increase yearly, the ageing population and expanding indications create the demand for TAVI, which is still unmet. This translates to prolonged waiting time associated with elevated mortality and morbidity. This study aimed to evaluate TAVI waiting times from 2021 to 2024 in a tertiary centre and possible predictors of waiting times.

The aim of the study. To evaluate TAVI waiting times from 2021 to 2024 in a tertiary centre and possible predictors of waiting times.

Methods. The retrospective single-centre analysis included TAVI cases in 2021–2024. The primary outcome was total waiting time from the diagnosis of severe aortic stenosis and the indication for valve replacement. Secondary outcomes were evaluation and procedural waiting times. Descriptive and inferential methods were utilised.

Results. Of 540 analysed cases, 63.89 % were female, and 84.07 % were 75 years or older. The total waiting time was a median of 173 days, evaluation time was a median of 49 days, and procedural waiting time was a median of 89.5 days. The non-elective proportion of TAVI cases throughout the year increased, though insignificantly ($p = 0.8995$). Total waiting time was shorter in patients with left ventricular ejection fraction below 30 % (58 days, $p < 0.001$), previous history of aortic valve surgery ($p = 0.028$), non-elective group (36 days, $p < 0.001$), previous myocardial infarction (145 days, $p = 0.005$), male patients (153 days, $p = 0.015$). Logistic regression showed age (OR 0.96; CI [0.929; 0.997]), year (OR 0.31; CI [0.176; 0.550] for 2022; OR 0.35; [0.2; 0.621] for 2023), non-elective TAVI (OR 0.09; CI [0.046; 0.189]), reason groups (OR 3.6; CI [1.972; 6.555] for health-related; OR 28.94; CI [10.815; 77.451] for personal reasons) to be significant predictors of waiting.

Conclusion. Total waiting time increased from 2021 to 2024. Age, year, urgency, reasons for delay, and other clinical factors appear to be important predictors of waiting.

Intersecting Pathologies: Aortopathy In Patient With Autosomal Dominant Polycystic Kidney Disease. A Case Study

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Background. Aortic dissection (AD) is life-threatening condition and rarely linked to autosomal dominant polycystic kidney disease (ADPKD), a systemic syndrome with a prevalence of 1:1000. In ADPKD, mutations in the PKD1 or PKD2 genes disrupt the interaction between polycystins, impairing the structural integrity between arterial smooth muscle cells and elastic tissue, thereby predisposing patients to vascular complications. Here we describe a 25-year patient's clinical course highlighting the aortopathy driven by a pathogenic PKD1 gene variant.

Case report. In 2025, a 45-year-old female patient with a history of AD presented for a follow-up cardiologist consultation. Transthoracic echocardiography demonstrated preserved prosthetic aortic valve (AoV) hemodynamic function (peak velocity 2.4 m/s; mean gradient 12 mmHg) and normal systolic function (LVEF > 55 %). Cardiac MRI revealed an aortic root diameter of 38 mm, exceeding the female threshold (> 36 mm) for heightened surveillance. From a medical history, a diagnosis of ADPKD at age 21 is known, which later necessitated left nephrectomy due to complicated renal cysts. At age 29, the patient experienced an acute Stanford type A aortic dissection and underwent a Bentall procedure with a mechanical aortic valve. The clinical course was further complicated by chronic erythropoietin-deficient anaemia, aggravated by recurrent warfarin-induced over-anticoagulation. Progressive destruction of the solitary, enlarged right polycystic kidney with multiple cavities led to end-stage renal disease requiring haemodialysis and ultimately right nephrectomy. The patient subsequently underwent two cadaveric renal transplantations (in 2019 and 2021), resulting in restored renal function. In 2024, a genetic test revealed a pathogenic PKD1 gene variant, which was possibly linked to AD and definitely to polycystic kidney disease.

Conclusion. This case underscores that, although AD is a rare complication of ADPKD, it should be considered as a risk factor for aortopathies. Awareness of potential vascular risk in affected individuals is necessary, despite the absence of routine aortic screening recommendations for ADPKD patients.

Metabolic Biomarkers For High Cardiovascular Risk Patients Who Have At Least One Criterion Of Cardiometabolic Syndrome And Are Diagnosed With Metabolic Dysfunction-Associated Fatty Liver Disease: A Proposed Study

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Introduction. Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD) is increasingly prevalent worldwide and an independent risk factor for cardiovascular disease (CVD), with cardiovascular events as the leading cause of death in MASLD patients. Early MASLD detection in high-risk CVD groups is vital but remains challenging. Identifying non-invasive metabolic biomarkers—such as homocysteine, bile acid metabolites, and malondialdehyde—could improve risk assessment, diagnosis, and monitoring. Evidence links these biomarkers to liver disease severity, progression, and cardiovascular risk. While lifestyle changes remain primary treatments, few studies have combined diet with serum biomarker assessment. This will be the first study in Lithuania to evaluate these biomarkers in this patient group.

The aim of the study. We aim to identify novel metabolic biomarkers related to MASLD progression and diet therapy effectiveness in high CVD risk patients. Specific objectives include assessing changes in serum biomarker levels post-diet, exploring relationships between biomarkers, liver damage, and subclinical atherosclerosis. Additionally, the study will validate the short Healthy Eating Index (sHEI) questionnaire and investigate alcohol-related liver damage.

Materials and methods. A multidisciplinary team will conduct a 6-month, randomized controlled trial in Lithuanian CVD prevention program participants aged 40–60 with high CVD risk, MASLD, and at least one cardiometabolic syndrome criterion. Data will include anamnestic information, questionnaires, blood tests, and imaging, comparing baseline and follow-up results.

Expected results. The study aims to identify metabolic biomarkers associated with MASLD progression and response to diet. Establishing correlations among these biomarkers, liver damage, and CVD will deepen the understanding of cardiometabolic health. Validating the sHEI will support future nutritional research in Lithuania.

Conclusion. This study aims to improve early diagnosis of MASLD through biomarkers, test their clinical utility and optimize treatment for high CVD risk patients. The findings could aid personalized approaches and advance knowledge of cardiometabolic and liver health.

Hypertriglyceridemia Induced Acute Pancreatitis. A Case Report

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Background. Familial chylomicronemia syndrome (FCS) is a rare autosomal recessive disorder with an estimated prevalence of approximately one in a million individuals. The condition is characterized by deficiency or dysfunction of lipoprotein lipase (LPL), resulting in impaired hydrolysis of chylomicrone triglycerides, a major consequence of which is pancreatitis. Conventional lipid-lowering therapies - such as fibrates, niacin, and omega-3 fatty acids – are typically ineffective in FCS management. Therefore, in patients presenting with recurrent pancreatitis and poor response to standard lipid-lowering therapies the diagnosis of FCS should be suspected.

Case report. A 51-year-old male was admitted to the hospital due to sudden-onset, severe abdominal pain, followed by nausea and two episodes of vomiting. The pain was constant and had begun approximately 10 hours before admission. The patient had a history of arterial hypertension, dyslipidemia, and recurrent pancreatitis. On physical examination, the patient was distressed and exhibited scleral jaundice. The abdominal examination revealed significant tenderness and rigidity in the epigastric region, accompanied by reduced bowel sounds and hepatosplenomegaly. Laboratory test results demonstrated elevated serum amylase levels and a significantly increased triglyceride concentration of 22,3 mmol/L. Since 1993, the patient reported having white blood serum with persistently high levels of triglycerides despite treatment with omega-3 fatty acids and fenofibrate. Based on the clinical presentation and laboratory test findings a diagnosis of acute hypertriglyceridemia – induced pancreatitis was established.

Conclusion. This case underscores the critical role of hypertriglyceridemia as a risk factor for developing acute pancreatitis. In case of resistance to standard lipid-lowering therapy and a history of recurrent pancreatitis familial chylomicronemia syndrome should be strongly considered. Early recognition and diagnosis of such rare genetic dyslipidemias are essential to prevent recurrent episodes and associated complications.

Spontaneous Coronary Artery Dissection-Induced Myocardial Infarction Following Childbirth: A Case Report

Authors: Ieva Zemkauskaite[1], Giedre Zdanaviciute[1]
Supervisor: Aiste Pilkiene, MD[2]

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Background. Spontaneous coronary artery dissection (SCAD) is a rare, non-atherosclerotic cause of acute myocardial infarction (MI), typically affecting young women. Pregnancy-associated SCAD is believed to result from hormonal, haemodynamic, and connective tissue changes, with an estimated incidence of 1.81 per 100,000 pregnancies. Most cases occur during late pregnancy or in the early postpartum period. Recognised risk factors include recent delivery, hypertension, fibromuscular dysplasia, connective tissue disorders, and cocaine use.

Case report. A 35-year-old woman, one month postpartum after her third pregnancy, presented with chest pain radiating to the neck and shortness of breath. She reported a history of unspecified cardiac abnormalities since adolescence. Her father had died of myocardial infarction at age 52. Echocardiography showed apical inferior-septal hypokinesia with preserved ejection fraction (>60%). Troponin I was markedly elevated (41,699 ng/L). Coronary angiography revealed acute occlusion of the left anterior descending (LAD) artery, treated with percutaneous coronary intervention (PCI) and stenting. During hospitalisation, she developed ventricular tachycardia requiring defibrillation and showed signs of pulmonary oedema. Recurrent chest pain led to repeat angiography, which identified a new occlusion of the mid-Ramus circumflexus (RCx) and dissection of the LAD proximal to the stent. A second PCI was performed. Persistent ST-segment elevations necessitated a third angiography, revealing severe stenosis in the diagonal branches and RCx. Further stenting was not performed due to procedural complexity and high risk.

Conclusion. SCAD should be considered in young postpartum women presenting with acute coronary syndrome. Its variable presentation may delay diagnosis, and complications can be life-threatening. Aetiological evaluation and tailored follow-up are essential, particularly regarding future pregnancy counselling and secondary prevention.

Severe Influenza B–Associated Myocarditis Complicated by Cardiogenic Shock and Multiorgan Failure in a Previously Healthy Adult

Authors: Mindaugas Smetaninas[1], Julija Svobonaite[1]
Supervisors: Prof. Robertas Stasys Samalavicius[2], Prof. Pranas Serpytis[2]

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Background. Influenza B–associated myocarditis is a rare but severe complication that requires timely, multimodal management targeting both the underlying etiology and stabilization of affected organ systems. It predominantly affects a young and previously healthy population, with most reported cases occurring in individuals without significant chronic comorbidities.

Case Report. A previously healthy 31-year-old female presented to the emergency department with non-specific symptoms suggestive of systemic infection. During her visit she developed marked hypotension, raising concern for hemodynamic instability. Subsequent testing confirmed influenza B infection. As her condition deteriorated, she showed evidence of myocardial dysfunction on imaging and laboratory markers suggesting viral perimyocarditis complicated by cardiogenic shock, which necessitated mechanical circulatory support with extracorporeal membrane oxygenation (ECMO) and intra-aortic balloon pump (IABP). The clinical course was further complicated by the development popliteal artery thrombosis leading to limb amputation, Multiple organ dysfunction syndrome (MODS), bilateral secondary bacterial pneumonia, rhabdomyolysis and renal failure requiring hemofiltration and dialysis. A multidisciplinary and coordinated approach to management included timely treatment of primary and secondary infections, continuous organ support through mechanical circulatory and respiratory interventions, renal replacement therapy, and surgical intervention when indicated. Following prolonged and successful treatment in the intensive care unit, the patient – while still exhibiting impaired renal function, polyneuropathy, and muscle weakness – was first transferred to the nephrology department for continued management, and subsequently to the rehabilitation ward for further recovery.

Conclusion. Successful outcomes in fulminant Influenza B myocarditis rely on the early initiation of antiviral therapy, timely recognition of complications, and prompt adaptation of treatment strategies, all grounded in a foundation of intensive care focused on stabilizing organ function and supporting recovery.

Pulmonary Embolism in a Young Woman Using Hormonal Contraception. A Case Report

Author: Polina Zagzina[1]
Supervisors: Rokas Serpytis, PhD[2], Prof. Pranas Serpytis[2]

[1]*Faculty of Medicine, Vilnius University, Vilnius, Lithuania;*
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Background. Pulmonary embolism (PE) in young women without chronic illnesses is rare and often linked to transient, modifiable risk factors. Hormonal contraception, particularly estrogen-containing methods, is a well-established contributor to venous thromboembolism (VTE). Standard clinical risk assessment tools such as PESI and sPESI may underestimate PE severity in younger individuals, complicating timely diagnosis and management. This case emphasizes diagnostic challenges encountered in younger patients and highlights the importance of individualized risk evaluation.

Case Report. A 23-year-old woman without significant comorbidities presented with sudden onset dyspnea and palpitations. Vital signs were stable (SpO_2 98%, BP 130/80 mmHg, HR 65 bpm), and physical examination was unremarkable. Laboratory tests showed moderately elevated D-dimer levels and slightly increased troponin I. CT pulmonary angiography revealed bilateral segmental and subsegmental emboli with a small pulmonary infarct in the right lower lobe. Transthoracic echocardiography demonstrated right ventricular dilation, hypokinesia, and apical sparing with free wall akinesia, consistent with the McConnell sign. The patient reported using a transdermal contraceptive patch containing ethinylestradiol and progestin for less than one year and was also receiving subcutaneous ixekizumab for psoriasis. Therapeutic anticoagulation was initiated with subcutaneous fraxiparine injections, continued for one week, and later transitioned to oral apixaban. During the acute phase, ixekizumab was discontinued. Lupus anticoagulant and antiphospholipid antibodies were negative; repeat thrombophilia testing was postponed for three months due to acute thrombosis. Despite a sPESI score of 0, imaging and echocardiographic findings indicated a clinically significant PE. The patient was discharged in stable condition and advised to avoid estrogen-based contraception.

Conclusion. This case illustrates that PE in young women can occur due to transient, modifiable risk factors such as hormonal contraception. It highlights PESI limitations and emphasizes echocardiographic signs, notably McConnell's sign, in assessing PE severity. Enhancing patient awareness of contraceptive-associated risks is essential for effective primary prevention.

Dilemma in Managing Concurrent ST-Elevation Myocardial Infarction and Acute Gastric Ulcer Bleeding – A Case Report

Author: Polina Zagzina[1]
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Background. The simultaneous occurrence of ST-elevation myocardial infarction (STEMI) and active gastrointestinal bleeding represents a rare but highly complex clinical scenario. Timely reperfusion and antithrombotic therapy remain central to STEMI management; however, these interventions pose a substantial bleeding risk when gastrointestinal hemorrhage is present. In such cases, the need for individualized treatment is paramount, especially among elderly patients with extensive comorbidities. This report highlights the clinical decision-making process guided by contemporary ESC and ACC/AHA guidelines to balance ischemic and bleeding risks.

Case Report. An 85-year-old woman arrived at the emergency department with intense epigastric pain radiating toward the chest and neck. Electrocardiography revealed ST-segment elevation in leads II, III, and aVF. Elevated troponin I confirmed the diagnosis of STEMI. Coronary angiography identified an occluded right coronary artery (RCA) along with diffuse stenoses in the left anterior descending (LAD) and left circumflex arteries. Due to extensive aortic calcification, tortuous vascular anatomy, and technical challenges, percutaneous coronary intervention (PCI) of the RCA could not be completed. Consequently, conservative therapy with dual antiplatelet treatment (DAPT), comprising aspirin and clopidogrel, was initiated. On the second day of hospitalization, a hemoglobin drop to 64 g/L necessitated the discontinuation of both heparin and rivaroxaban. Emergency endoscopy revealed a Forrest IIb bleeding gastric ulcer, successfully treated endoscopically using standard hemostatic techniques. The patient received five units of packed red blood cells and continuous esomeprazole infusion. Antiplatelet therapy was temporarily withheld. Following stabilization (Hb 99 g/L), clopidogrel was cautiously reintroduced, and rivaroxaban therapy resumed. She was subsequently transferred to the interventional cardiology unit for further assessment regarding possible PCI of the LAD and optimization of secondary prevention strategy.

Conclusion. This case exemplifies the therapeutic challenge of treating STEMI complicated by gastrointestinal bleeding. It emphasizes the value of patient-centered strategies, cautious antithrombotic management, and adherence to guidelines in optimizing outcomes for high-risk individuals.

Outcomes of Basic Life Support Education in Adolescents: A Pre-Post Analysis of Knowledge and Resuscitation Initiative

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Introduction. Since 2015, the World Health Organization has endorsed the 'Kids Save Lives' initiative, highlighting the role children can play in Basic Life Support (BLS) during out-of-hospital cardiac arrest (OHCA) when adequately trained.

The aim of the study. To evaluate BLS and CPR knowledge among schoolchildren and assess the effectiveness of targeted training, providing evidence-based recommendations for improving OHCA response by young bystanders.

Materials and methods. A pre-post study was conducted over three years (2021–2023), using two questionnaires completed before and after BLS training. Data included age, gender, BLS knowledge, and subjective ratings of knowledge and initiative to perform CPR. Pre- and post-training results were compared using SPSS (α=0.05).

Results. 962 pre-training and 376 post-training responses were analysed. The lower number of post-training responses was due to logistical limitations. The mean age of pre-training participants was 14.62 years (±2.69); 57.17% (n=550) were female. Before training, 85.45% (n=822) believed resuscitation after cardiac arrest is possible, but only 43.97% (n=423) reported being 'likely' or 'highly likely' to attempt CPR and just 19.75% (n=190) felt 'very well' or 'well' educated in BLS. However, 88.15% (n=848) agreed that learning BLS is important. Post-training, knowledge significantly improved. Correct answers regarding chest compression depth rose from 30.77% (n=296 out of 962) to 72.07% (n=271 out of 376) with $p<0.001$, correct compression rate from 51.77% (n=498) to 74.73% (n=281) with $p<0.001$, and correct compression-to-breath ratio from 62.06% (n=597) to 90.69% (n=341) with $p<0.001$. Those who felt well-educated in BLS increased to 58.51% ($p<0.001$), and those likely to attempt CPR rose to 67.55% (n=254; $p<0.001$).

Conclusion. Targeted BLS training significantly improved schoolchildren's knowledge and initiative to act during OHCA. These findings support the expansion of CPR training programmes in schools across Europe and other parts of the world.

Misdiagnosed Aortic Dissection Presenting As Suspected Aortitis: A Case Report

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Background. Acute aortic dissection is a critical cardiovascular emergency requiring rapid diagnosis and treatment. Despite imaging advances, it may be misdiagnosed due to variable presentations, especially when overlapping with inflammatory conditions like aortitis. Correctly distinguishing these conditions is essential, as management and prognosis vary significantly.

Case report. We present the case of an 83-year-old female with a history of unstable angina, arterial hypertension, and paroxysmal atrial fibrillation, who was admitted to the emergency department with acute chest and back pain. Six months earlier, she had been diagnosed with an aortic aneurysm (aneurysmal dilation of 4.5 cm) and was under observation. Due to her symptoms and known aneurysm, contrast-enhanced computed tomography (CT) was performed, revealing thickening of the thoracic aortic wall with mural thrombotic masses, but no obvious intimal flap; the ascending aorta measured 6 cm in diameter. Based on these findings, aortitis was suspected, and the patient was hospitalized. Despite ongoing treatment, her condition progressively declined. Retrospective re-evaluation of the initial CT scan eventually revealed a subtle intimal flap and signs of a an ascending aorta dissection, which was unrecognized earlier. She was transferred for cardiovascular surgery consultation and surgical management of the dissection. However, the patient deteriorated before surgery could be performed and died due to complications related to the undiagnosed aortic dissection.

Conclusion. Differentiating aortic dissection from aortitis remains challenging when clinical and imaging features overlap. Inflammatory changes near the aortic wall can mimic aortitis and hide subtle dissection signs, especially in chronic or subacute cases. High suspicion, thorough imaging review, and repeated evaluations are crucial. Prompt, accurate diagnosis is necessary to prevent misdiagnosis and allow proper treatment, reducing morbidity and mortality.

Ascending Aortic Aneurysm – Safe to Wait?

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Background. The incidence of acute aortic dissection (AAD) ranges from 3 to 16 cases per 100,000 people annually. AAD accounts for 80–90% of acute aortic syndromes and mostly affects men (~65%) around the age of 63. Major risk factors include hypertension, genetic conditions and aortic dilation. Untreated AAD has mortality increasing by 1–2% per hour after symptom onset.

Case report. A 65-year-old man with a history of aortic root, ascending aortic dilation and bicuspid aortic valve presented to the emergency department with chest pain, cold sweats and dizziness. Since 2017, the patient has been monitored for ascending aortic and aortic root dilatation (50 mm and 51 mm progressing to 58 mm and 54 mm in 2024). Elective surgery was recommended but the patient declined it. On admission, blood pressure was 89/36 mmHg, heart rate 50 bpm, sinus rhythm, normal O□ saturation. Suspecting an ascending aortic dissection, urgent CT angiography was performed, revealing a dissection from the aortic valve to the origin of the left subclavian artery (Stanford A, DeBakey II). Emergency Bentall procedure was carried out. Postoperatively, the patient was admitted to intensive care for 8 days. He was extubated after several days and was responsive. Unfortunately, systemic hypoperfusion developed. A CT scan showed bowel ischemia. Exploratory laparotomy confirmed extensive intestinal necrosis and palliative care was initiated.

Conclusion. Aortic aneurysm is a life-threatening condition with a risk of dissection, necessitating timely intervention to prevent complications. Risk of type A aortic dissection increases substantially at ascending aortic diameters ≥4.0 cm with a sharp rise at ≥4.5 cm, suggesting that clinically relevant risk exists well below the traditional 5.5 cm surgical threshold. Current ESC guidelines suggest operative treatment in individuals with a bicuspid aortic valve, when the diameter of ascending aorta and aortic root exceeds 5.0 cm.

Dressler's Syndrome Following Anterior STEMI in a Patient With Systemic Lupus Erythematosus: A Case Report

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Background. Systemic lupus erythematosus (SLE) is a chronic autoimmune disorder that can involve multiple organ systems, including the cardiovascular system, such as pericardial effusion, which typically results from autoimmune-mediated pericardial inflammation. Myocardial infarction (MI) in patients with SLE may also be influenced by underlying inflammatory mechanisms. Dressler's syndrome, or post-MI syndrome, is secondary pericarditis occurring during recovery after an. The diagnosis and management of Dressler's syndrome can be particularly challenging in patients with inflammatory conditions like SLE as overlapping symptoms and immune responses may complicate the clinical assessment.

Case Report. A 59-year-old female with a history of systemic lupus erythematosus, arterial hypertension, and dyslipidemia was admitted due to acute anterior wall ST-elevation myocardial infarction (STEMI). Primary percutaneous coronary intervention with stent placement in the proximal segment of the left anterior descending artery was performed. Post-procedural course was complicated by impaired left ventricular function (ejection fraction ~30%) and recurrent arrhythmias, managed with amiodarone. The patient later developed fever and elevated inflammatory markers without clear infectious signs. Despite empirical antibiotic therapy and a foot abscess surgery, no infectious etiology was identified. Transthoracic echocardiography revealed new pericardial effusion with echocardiographic signs of tamponade. Dressler's syndrome was diagnosed based on clinical findings, inflammatory markers, and cardiac MRI results. Initial treatment with colchicine and ibuprofen was initiated but modified due to gastrointestinal intolerance. Prednisolone 0.5 mg/kg/day was added with positive clinical and inflammatory markers response. Serial echocardiograms demonstrated decreasing pericardial effusion. The patient's condition stabilized, and she was discharged for cardiologic rehabilitation and outpatient follow-up.

Conclusion. This case highlights the complexity of diagnosing and managing Dressler's syndrome in a patient with SLE following MI. Differentiating inflammatory versus infectious causes of pericardial effusion is critical. Timely imaging and interdisciplinary collaboration allowed for targeted anti-inflammatory treatment, resulting in significant clinical improvement.

A Case Report of Recurrent MINOCA in a Young Woman: A Diagnostic Approach

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Background. Myocardial infarction with non-obstructive coronary atherosclerosis (MINOCA) accounts for 5-6% of patients with acute myocardial infarction. MINOCA is observed in relatively young patients, predominantly women with lower prevalence of traditional cardiovascular risk factors. MINOCA is a syndrome with multiple underlying pathophysiological mechanisms, including plaque disruption, coronary spasm, microvascular dysfunction, spontaneous coronary artery dissection, coronary embolism, and supply–demand mismatch. Identifying the exact underlying mechanism is essential, as treatment is mechanism-specific.

Case report. A 54-year-old female with past medical history of hypertension, dyslipidemia and chronic Lyme disease presented to our tertiary care centre's emergency department with left-sided chest pain, radiating to her left arm. The chest pain began in the evening while at rest, persisted throughout the night, but subsided by morning. The pain recurred the following evening, this time radiating to the left arm. The patient measured elevated blood pressure of 160/105 mmHg and developed a headache. As the condition didn't improve, emergency medical services were called. An Electrocardiogram was recorded. It demonstrated sinus rhythm without ischaemic changes. Blood work was unremarkable, apart from an elevated troponin I level (373 ng/l; normal range: ≤16 ng/l). Given these findings, the patient was referred for coronary angiography which noted normal coronary arteries. The working diagnosis of MINOCA was established and clinical context was carefully reconsidered to rule out non-ischaemic causes of acute myocardial injury. The patient described the pain as consistent with prior MINOCA episodes; this is the fourth occurrence. She denied any history of tobacco, alcohol, or illicit drug use, and her family history of coronary artery disease was unremarkable. A transthoracic echocardiogram was obtained, demonstrating impaired left ventricular relaxation, but was otherwise normal. Cardiac MRI was contraindicated due to full-chest tattoos. Therefore, the patient underwent coronary CT angiography, stenoses weren't observed. Ultimately, she was advised to undergo coronary vascular imaging and functional assessment.

Conclusion. In the absence of obstructive findings on coronary angiography, it is important to conduct a thorough diagnostic workup to determine the exact cause of MINOCA and initiate mechanism-specific treatment.

Clarifying Diagnostic Ambiguity in MINOCA: A Case Series of Three Aetiologically Distinct Diagnoses

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Background. Myocardial infarction with non-obstructive coronary arteries (MINOCA) is a working diagnosis encompassing a range of heterogeneous conditions, applicable to only a subset of patients presenting with clinical features consistent with acute myocardial infarction. However, not all MINOCA cases represent true infarction, and cardiac magnetic resonance imaging (CMR) plays a central role in identifying the underlying pathology and guiding management.

Case report. Three patients – two females aged 39 and 43, and one male aged 53 – presented with typical symptoms of myocardial ischaemia. Electrocardiographic findings varied: ranging from ST-segment elevation to non-ST-segment elevation changes, while one patient exhibited no acute ischaemic abnormalities. All demonstrated elevated troponin levels above the 99th percentile upper reference limit. On this basis, each case met the diagnostic criteria for myocardial infarction. However, due to the absence of significant coronary obstruction that could explain the clinical findings, a provisional diagnosis of MINOCA was established and all patients were referred for outpatient CMR to clarify the aetiology. In the first patient (39F) CMR showed subendocardial and transmural late gadolinium enhancement in the midventricular and apical segments, along with reduced coronary flow reserve, consistent with true myocardial infarction. The second patient (43F) had preserved systolic function with focal myocardial lesions, elevated T1 and T2 relaxation times, and increased extracellular volume – findings indicative of myocarditis. The third patient (53M) exhibited asymmetric septal hypertrophy and subendocardial perfusion defects, with prolonged T1 relaxation time and elevated extracellular volume, leading to a revised diagnosis of hypertrophic cardiomyopathy. CMR enabled definitive diagnostic reclassification – excluding myocardial infarction in two of three patients – underscoring its critical role in the diagnostic evaluation of patients initially diagnosed with MINOCA.

Conclusion. MINOCA is an important working diagnosis; however, not all cases reflect true myocardial infarction. In unclear presentations, advanced imaging such as CMR is essential for identifying the underlying aetiology and guiding management.

Silent Until Critical: A Case of Initially Overlooked Aortic Dissection

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Background. Acute aortic dissection is a rare but catastrophic cardiovascular emergency, with mortality increasing by 1–2% per hour without intervention. Clinical presentation is frequently nonspecific, resulting in misdiagnosis in up to one-third of cases and subsequent delay in definitive treatment. Timely recognition and diagnostic imaging are critical to improving patient prognosis.

Case Report. A 70-year-old male with longstanding arterial hypertension presented with acute severe chest pain radiating to the back. Initial ECG and troponin I levels were unremarkable, leading to discharge. The following day, he returned with recurrent pain and new ECG abnormalities. While under observation, the patient experienced abrupt collapse with profound hypotension (BP 50/40 mmHg) and tachycardia. Emergent transthoracic echocardiography revealed ascending aortic dissection complicated by cardiac tamponade. The patient was urgently transferred to a tertiary care center, where CTA confirmed Stanford type A dissection extending to the left common iliac artery. He underwent emergent surgical repair with ascending aortic replacement using a synthetic graft and pericardial drainage, evacuating ~250 ml of blood and 200 g of clots. Postoperatively, the patient stabilized and was discharged in stable condition after 38 days.

Conclusion. This case underscores the diagnostic challenges posed by acute aortic dissection, particularly when initial ECG and biomarkers are non-diagnostic. It highlights the imperative to maintain clinical suspicion in hypertensive patients presenting with chest or back pain and the necessity of early imaging. Prompt diagnosis and surgical intervention remain the cornerstone of reducing mortality and improving survival in this high-risk patient group.

Idiopathic Ventricular Fibrillation: Case Report

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Background. Idiopathic ventricular fibrillation (IVF) is a rare but critical diagnosis, defined by the occurrence of VF in the absence of identifiable structural or genetic heart disease. Though uncommon, IVF is a leading cause of sudden cardiac arrest in young adults, often presenting without warning in previously healthy individuals. This case is notable for its presentation in a 36-year-old patient with no apparent underlying pathology, highlighting the importance of systematic evaluation and the role of implantable cardioverter-defibrillators in preventing sudden death.

Clinical case. 36-year-old male patient presented on April 13, 2021, with complaints of generalized weakness persisting throughout the day and a sudden loss of consciousness in the evening. Chest compressions were initiated immediately, and emergency medical services were contacted. Upon arrival, VF was recorded on ECG. Sinus rhythm (SR) was successfully restored. The patient was transported to the Emergency Department of Vilnius University Hospital Santaros Klinikos (VULSK). VF observed on the monitor, SR restored. Subsequently, he was admitted to the intensive care unit for further monitoring and management. Coronary angiography and echocardiography revealed no significant pathological findings. The cardiac stress test was negative. On April 14, the patient experienced two recurrent episodes of VF. Based on the clinical presentation and risk of recurrence, an electrophysiologist recommended the implantable cardioverter-defibrillator (ICD). Cardiac MRI and MR angiography, performed on April 22, revealed no relevant pathological findings. On April 23, an ICD was successfully implanted. A multidisciplinary team recommended next-generation sequencing to evaluate genes associated with channelopathies. The genetic analysis, conducted on June 22, did not identify any pathogenic DNA sequence variants.

Conclusion. VF may occur without an identifiable structural or genetic etiology. A thorough and systematic diagnostic approach is essential in excluding alternative causes of VF and ensuring accurate diagnosis and appropriate management.

Treatment Challenges of Thyrotoxicosis - Associated Atrial Fibrillation in the Context of Acute Myocardial Infarction: a Clinical Case Report

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Background. Thyrotoxicosis-associated atrial fibrillation presents significant therapeutic challenges, particularly in the context of acute myocardial infarction. These three conditions complicate heart rate and rhythm control, increase thromboembolic risk, and restrict pharmacologic choices. Beta-blockers are first-line drug for rate control, yet hemodynamic compromise may limit their administration. Additionally, aspirin is not recommended, as salicylates can increase free thyroid hormone levels by displacing them from binding proteins. In cases where aspirin administration is required, such as post–percutaneous coronary intervention (PCI), it should be employed with utmost caution, for the shortest feasible duration, and under close endocrinological supervision.

Case report. A 65-year-old male with known atrial fibrillation and untreated thyrotoxicosis presented with palpitations and bilateral leg edema. Electrocardiography showed atrial fibrillation. Echocardiography demonstrated ventricular hypokinesis and left atrial dilation. Laboratory findings revealed elevated troponin (93 ng/L, increasing to 973 ng/L), mildly increased BNP (247.4 ng/L), high FT4/FT3, and suppressed TSH. Suspected myocardial ischemia prompted coronary angiography, which revealed left coronary artery stenosis successfully treated with stenting. In the intensive care unit antithyroid therapy was individualized according to the patient's hemodynamic status. Progressive clinical deterioration was observed in the intensive care unit. Episodes of tachysystolic atrial fibrillation were documented during clinical monitoring, with ventricular rates reaching up to 150 bpm. Following PCI in the setting of atrial fibrillation and acute coronary syndrome, the patient was treated with triple antithrombotic therapy, including aspirin, clopidogrel, and a direct oral anticoagulant, as recommended during the first week post-intervention. Aspirin was administered for the shortest possible duration. With continued therapeutic adjustments and progressive improvement of the thyrotoxic state, the patient was discharged from the intensive care unit.

Conclusion. Managing thyrotoxicosis-associated atrial fibrillation during acute myocardial infarction is clinically challenging. Therapy must balance rate control, thyroid function stabilization, and antiplatelet needs. Aspirin should be used cautiously or avoided due to its potential to exacerbate thyrotoxicosis.

Cardiogenic Shock and Acute Kidney Injury: Where Are We Now?

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Background. Cardiogenic shock (CS) complicates ~10% of acute myocardial infarctions and carries ~40% short-term mortality. Acute kidney injury (AKI) occurs in ~20–35% of CS cases and significantly worsens survival. Early detection of AKI in CS is critical, as timely interventions may improve renal recovery and outcomes.

The aim of the study. To evaluate novel biomarkers that enable early detection of AKI in the setting of CS, with the goal of improving risk stratification, timely diagnosis, and patient outcomes.

Methods. A focused literature review (2019–2024) of high-impact publications was performed to identify novel biomarkers for early AKI detection in CS.

Results. Several promising early biomarkers for AKI in CS were identified:

1. NGAL: An early tubular injury marker (neutrophil gelatinase-associated lipocalin) that rises within hours of kidney insult.

2. KIM-1: A proximal tubule protein (kidney injury molecule-1) shed into urine after acute tubular injury.

3. TIMP-2·IGFBP7: The combined cell-cycle arrest markers TIMP-2 and IGFBP7; elevated urinary [TIMP-2]·[IGFBP7] indicates G1 cell-cycle arrest in stressed renal cells and predicts imminent AKI risk.

4. IL-18: A proinflammatory cytokine (interleukin-18) released by injured tubules; an early urinary indicator ofAKI in critical illness.

5. Proenkephalin (PENK): A stable plasma peptide reflecting glomerular filtration; PENK rises before creatinine during AKI.

6. CCL14: A chemokine (C-C motif ligand 14) strongly predictive of severe, persistent AKI; high urinary CCL14 signals risk of AKI progression

7. Cystatin C: An endogenous filtration marker that increases earlier than creatinine, enabling prompt detection of declining kidney function.

Conclusion. Early biomarker-guided identification of AKI in CS enables timely, targeted therapy. By detecting kidney injury before significant creatinine rise, clinicians can initiate renoprotective measures and optimize hemodynamics, potentially preventing progression to severe AKI. Integrating these novel biomarkers into CS management may improve risk stratification and patient outcomes.

Public Awareness of Ocular Chemical Injuries: A Cross-Sectional Study

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Background. Ophthalmic emergencies are acute conditions that progress rapidly, pose a significant threat to vision, and require urgent intervention to prevent permanent visual impairment. This study aimed to assess public awareness of ocular chemical burns and the adequacy of immediate response measures, while also seeking to enhance understanding of these injuries and contribute to the promotion of a healthier society.

Methods. A comprehensive literature review was conducted, and the most frequently reported questions were incorporated into the original survey. A cross-sectional study was conducted among 175 individuals representing diverse demographic groups. Data were collected using an anonymous, structured questionnaire—available both online and in print—designed to assess participants' understanding of chemical ocular trauma and appropriate first aid responses.

Results. More than half of the respondents (54%) demonstrated a poor level of knowledge regarding chemical ocular injuries, and only 30.9% correctly identified the need for immediate treatment. 29.7% of the respondents were unable to identify whether alkalis or acids posed a greater risk. 5.7% of respondents incorrectly believed that consulting an emergency department should take precedence over immediate ocular irrigation. Most respondents (60.6%) incorrectly indicated that appropriate first aid measures and treatment depend on the substance involved, and 68% of respondents stated that treatment in the emergency department should be delayed, allowing for anamnesis collection and thorough examination.

Conclusion. Ocular chemical injuries can substantially affect an individual's quality of life. The present study found that public knowledge concerning ocular chemical trauma, and the necessary immediate treatment is insufficient. Public education is vital, as delaying prompt and thorough irrigation at the chemical injury site can cause irreversible complications.

Gender Differences in the Activity of the Autonomic Nervous Systems of Hypertensive patients

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Background. Discussions about the cause and treatment of essential hypertension usually focus on mechanisms such as sodium/volume and the renin-angiotensin system. Less often discussed is hypertension and the autonomic nervous system (ANS) dysfunction. There is now a large body of evidence indicating that the ANS is crucial in the development of cardiovascular disease (CVD). Heart rate variability (HRV) is a non-invasive method to measure cardiac ANS function. Impairments in HRV have been proposed as independent risk factor for CVD.

The aim of the study. Evaluation of the gender difference in the activity of the ANS of hypertensive patients (AH group).

Methods. In this study patients: man (n:38) and women (n:31), 50-55 years old with AH were examined. All subjects were recruited from the ongoing Lithuanian High CVD Risk prevention program. HRV: Time domain and Frequency domain were obtained according 24-hours ECG monitoring data. This methodology is based on a provision, that fluctuations of HRV in all cases depend on effects on HR that are realized via ANS.

Results. Main HRV indexes are presented in Table:

HRV		Day time		Night time	
		Men (n:38)	Women (n:31)	Men (n:38)	Women (n:31)
Time domain					
	RRI (ms)	760,3 ± 107,8	764,7 ± 90,4	932,8 ± 111###	977,8 ± 110###
	SDNN (ms)	104,9 ± 28,5	106,8 ± 27,2	88,1 ± 26,6#	92,4 ± 26,4#
	SDANN (ms)	92,5 ± 27,9	92,7 ± 25,9	62,7 ± 20,5###	66,6 ± 21,6###
	RMSSD (ms)	17,1 ± 6,8	19,9 ± 6,8	24,4 ± 11,6##	32,0± 10,9###**
	SDNN index	47,2 ± 15,1	48,8 ± 10,1	53,6 ± 17,5	55,3 ± 16,1
	SDSD (ms)	16,9 ± 6,8	19,9 ± 6,8	24,4 ± 11,6##	32,3 ± 11,8### **
	SD1 (ms)	11,9 ± 4,8	14,1 ± 4,8	17,3 ± 8,2##	22,6 ± 7,7### **
	SD2 (ms)	145,9 ± 36,4	150,4 ± 38,4	123,3 ± 37,3#	127,4 ± 34,7#
	pNN50 (%)	2,7 ± 3,3	3,9 ± 4,2	6,7 ± 8,1#	12,7 ± 10,2###**
Frequency domain					
	VLF (ln ms2)	7,2 ± 0,6	7,36 ± 0,38	7,53 ± 0,58#	7,52 ± 0,58
	LF (ln ms2)	5,5 ± 0,6	5,53 ± 0,52	5,65 ± 0,65	5,61 ± 0,61
	HF (ln ms2)	4,25 ± 0,82	4,81 ± 0,69**	4,81 ± 0,93#	5,54 ± 0,75###***
	LF/HF	3,69 ± 1,40	2,24 ± 0,81***	2,57 ± 1,15##	1,19 ± 0,59###***

*p<0,05; **p<0,01; ***p<0,001, between women and men; #P<0,05; ##P<0,01; ###P<0,001 between day and night

The differences in the activity of the ANS in men and women with AH were detected. It was found that women's HF (4.81 ± 0.69) and LF/HF (3.69 ± 1.40) indexes, reflecting the influence of the parasimpathetic NS (PNS), were significantly ($p<0.01$) higher than men's HF (4.25 ± 0.82) and LF/HF (2.24 ± 0.81). This difference was found to be even greater at night ($p<0.001$). This conclusion was also confirmed by the differences in the frequency components of HRV at night between men and women. The following indicators: RMSSD, SDSD, SD1 and pNN50 significantly increased ($p<0.01$) in women at night.

Conclusion. It was found that women 50-55 years old with AH have a significantly higher daily PNS tone comparing with men the same group. In the male group, reduced HRV indicators reflecting the PNS were found. It really allows them to be classified as a more high-risk CVD group, including and acute CVD cases.

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Šaltiniai

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fibryga 1 g milteliai ir tirpiklis injekciniam ar infuziniam tirpalui. Kiekviename buteliuke yra 1 g žmogaus fibrinogeno. ATC kodas – B02BB01. **Terapinės indikacijos.** 1) Kraujavimo epizodų gydymas ir perioperacinė profilaktika įgimta hipofibrinogenemija arba afibrinogenemija sergantiems pacientams, linkusiems į kraujavimą. 2) Papildomas gydymas gydant nekontroliuojamą sunkią hemoragiją pacientams, sergantiems įgyta hipofibrinogenemija, chirurginės intervencijos metu. **Dozavimas ir vartojimo būdas.** Infuzija arba injekcija į veną. Dozavimas priklauso nuo sutrikimo sunkumo, kraujavimo vietos ir laipsnio bei paciento klinikinės būklės. Kraujavimui gydyti skiriama 1–2 g, po to skiriamos infuzijos pagal poreikį. Sunkaus kraujavimo atveju gali reikėti didesnių fibrinogeno kiekių (4–8 g). Siekiant išvengti per didelio kraujavimo chirurginių procedūrų metu, rekomenduojama taikyti profilaktinį gydymą, kad fibrinogeno kiekis būtų padidintas iki 1 g/l ir fibrinogeno kiekis išlaikomas, kol bus užtikrinta hemostazė, bei didesnį už 0,5 g/l kiekį, kol užgis žaizda. **Kontraindikacijos.** Padidėjęs jautrumas veikliajai arba bet kuriai pagalbinei medžiagai. **Specialūs įspėjimai ir atsargumo priemonės.** Reikia atidžiai stebėti, ar žmogaus fibrinogenu gydomiems pacientams nepasireiškia trombozės simptomų. Jeigu pasireiškė alerginės arba anafilaksinės reakcijos, injekciją/infuziją reikia nedelsiant nutraukti. **Sąveika su kitais vaistiniais preparatais.** Žmogaus fibrinogeno preparatų sąveikos su kitais vaistiniais preparatais nenustatyta. **Nepageidaujamas poveikis.** Nustatytos šios nepageidaujamos reakcijos: karščiavimas, flebitas, trombozė, tromboembolijos epizodai (įskaitant miokardo infarktą ir plaučių emboliją), tromboflebitas, alerginės arba anafilaksinės reakcijos, odos reakcijos. **Registruotojas.** Octapharma (IP) SPRL, Belgija. **Teksto peržiūros data:** 2025 m. kovo mėn. 25 d. Receptinis vaistas.

Išsami informacija apie šį vaistinį preparatą pateikiama Valstybinės vaistų kontrolės tarnybos prie Lietuvos Respublikos sveikatos apsaugos ministerijos tinklalapyje http://www.vkt.lt

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