MATHEWS
CONNECTING RESEARCH

INTERNATIONAL CONFERENCE ON

CARDIOLOGY AND CARDIOVASCULAR SCIENCE

MARCH 26-27, 2026

VIRTUAL

Book of Abstracts

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Welcome Message

Gausal Azam Khan

King Faisal University, Saudi Arabia

Dear Distinguished Delegates, Researchers, and Esteemed Participants,

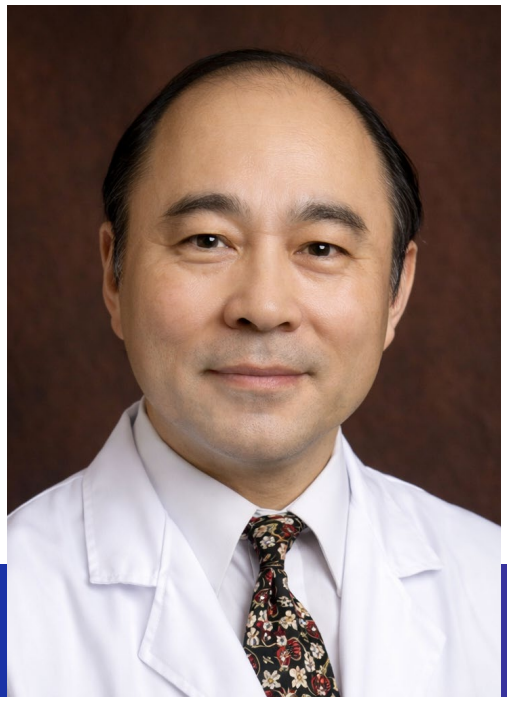
On behalf of the Organizing Committee, it is my great pleasure to warmly welcome you to the CVS 2026 Conference. We are delighted to host this prestigious international forum that brings together scientists, clinicians, academicians, and industry leaders from across the globe to share knowledge, exchange ideas, and foster meaningful collaborations.

CVS 2026 is designed as a platform to highlight cutting-edge advances in cardiovascular, metabolic, and translational sciences, with a strong focus on innovation that bridges basic research and clinical application. The conference reflects a shared commitment to addressing global health challenges through interdisciplinary research, technological advancement, and evidence-based practice.

Your participation and contributions are the true strength of this conference. We encourage you to engage actively in discussions, build new collaborations, and use this opportunity to inspire future research directions.

We wish you a productive, enriching, and memorable experience at CVS 2026.

Welcome Message



Professor Guo-Wei HE

TEDA International Cardiovascular Hospital, Tianjin University, China

Dear Colleagues and Friends,

It is my distinct pleasure and honor, as a member of the Organizing Committee and a Keynote Speaker, to welcome you to the International Conference on Cardiology and Cardiovascular Science (CVS 2026).

In an era of rapid innovation, this virtual gathering serves as a vital link between groundbreaking research and clinical practice. Over the coming days, we will explore the frontiers of cardiovascular medicine from advanced imaging and minimally invasive interventions to precision medicine and heart failure management.

I am truly excited by the caliber of our distinguished faculty and the depth of the scientific program. I encourage you to actively engage in the discussions, challenge perspectives, and connect with peers from around the world.

Thank you for joining us. I wish you a productive and inspiring conference experience.

Welcome Message

Dr Sergey Suchkov

N.D. Zelinskii Institute for Organic Chemistry of the Russian Academy of Sciences, Russian Federation

Dear Colleagues, Partners, Scientists, Clinicians, and Friends,

We look forward to welcoming you to International Conference on Cardiology and Cardiovascular Science to be held Virtually from March 26-27, 2026.

The Conference provides renowned cardiologists, thoracic and cardio surgeons, cardiac geneticists, advanced practice providers, healthcare administrators and medical bioentrepreneurs, medical insurers, nurses, trainees and bioindustry colleagues, as well as biodesigners and bioengineers, and profiled faculty and lecturers, with the opportunity to meet, discuss and learn about current trends and the latest technological developments, bioindustry breakthroughs and guidelines for cardiac diseases. The conference will provide the ideal forum to stimulate ideas and establish collaborations as well as to initiate intense discussions. Extended networking opportunities will foster communications between delegates. The event will play an integral part in facilitating progress by providing a platform for sharing cutting-edge research, collaboration, and networking among bioindustry leaders, experts, and visionaries from around the world.

This Grand Event is a premier one dedicated to exploring the latest advancements and innovations in cardiology, whilst serving as a hub for global experts, fostering an environment where cutting-edge research and impactful discoveries converge to shape the future of heart care. Making progress in the field of personalized and precision cardiology (PPC) is thus one of the most significant global challenges of our time. Advances in fundamental, translational and clinical research and the availability of biomarkers are beginning to transform the clinical cardiology to make it personalized and precision one, and healthcare landscape as a whole. Through discussions, debates, and demonstrations, we aim to shape the future of cardiology and cardiovascular science medicine together.

This conference serves as a dynamic platform to exchange knowledge, the latest cardiovascular advancements, and collaborate on the future of PPC. The core of the Event is its Scientific and Teaching Program, which would include Named Lectures and concurrent sessions presented by world-renowned speakers across all cardiology themes including personalized cardiac genomics, molecular imaging, precision diagnostics and prediction, heart failure, prevention, OMICS science, bioanalytics and digital health. The sessions will also highlight the latest clinical guidelines, groundbreaking research and biodesign-inspired translational innovations in advanced PPC-driven and guided practices, equipping attendees with the most up-to-date knowledge to improve patient outcomes. Students will participate in faculty-led exercises such as debates.

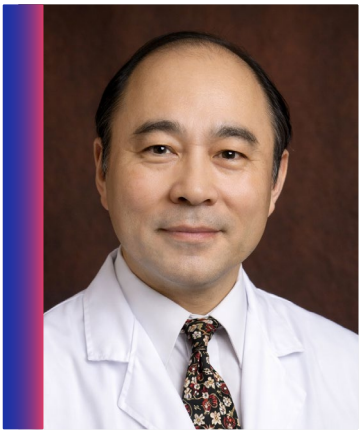
Personally, we are convinced that the international partnership and collaboration would play a crucial promoting role for the jointly set projects from any points of view. We do hope that your interaction with your colleagues from many different countries will stimulate a creative exchange of ideas and will be personally rewarding.

Warmest and productive wishes and hope to meet and to see you soon in CVS-2026!

Our Keynote Team

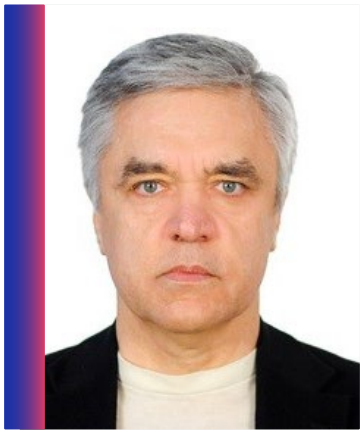
Bernd Blobel
University of Regensburg, Germany

Gausal Azam Khan
King Faisal University, Saudi Arabia



Guo-Wei He
Tianjin University, China

Pradeep Kumar Dabla
Govind Ballabh Pant Institute of Postgraduate Medical Education & Research, Associated Maulana Azad Medical College, India



Sergey Suchkov
N.D. Zelinskii Institute for Organic Chemistry of the Russian Academy of Sciences, Russian Federation

Terry McCormack
University of Hull, United Kingdom

ABOUT
Mathews International LLC

Founded in 2015, Mathews International LLC has rapidly established itself as a prominent publisher in the scientific community. With a strong focus on open access, Mathews International provides a platform for disseminating cutting-edge research across various scientific disciplines. The company has published numerous high-quality journals, fostering advancements in science and ensuring that knowledge is freely accessible to researchers, professionals, and the public alike.

Driven by a commitment to excellence, Mathews International prides itself on maintaining rigorous peer-review standards and collaborating with a diverse network of authors, reviewers, and editors from across the globe. Its open-access model not only promotes transparency and inclusivity but also accelerates the dissemination of vital scientific information. This approach has earned the company a reputation for publishing trustworthy, high-impact research that contributes to solving global challenges in fields such as medicine, environmental science, and technology.

As part of its ongoing commitment to advancing science and fostering collaboration, Mathews International LLC is now expanding into organizing conferences. These events aim to bring together experts, innovators, and thought leaders from around the world to share insights, exchange ideas, and explore the latest developments in their respective fields. The conferences will feature a diverse range of topics, from emerging technologies to groundbreaking healthcare innovations, fostering interdisciplinary dialogues that inspire new perspectives and solutions.

With years of experience in publishing, Mathews International's foray into conferences promises to deliver high-quality, impactful events that align with its mission of advancing scientific discovery and promoting global collaboration.

ABOUT
CVS-2026

The **International Conference on Cardiology and Cardiovascular Science** is a distinguished scientific forum scheduled to be held from **March 26–27, 2026, virtually**, offering a dynamic platform for global engagement and knowledge exchange. This international gathering is dedicated to advancing excellence in **cardiology** and **cardiovascular science** by fostering interdisciplinary collaboration among cardiologists, cardiovascular researchers, clinicians, academic scholars, healthcare professionals, policymakers, and industry innovators. The conference aims to address contemporary challenges and emerging trends in cardiovascular health through a comprehensive scientific agenda that integrates evidence-based research, clinical best practices, technological advancements, and public health perspectives.

In addition to its academic rigor, the conference provides participants with the opportunity to earn more than 10+ Continuing Professional Development (CPD) credits, supporting ongoing professional competency and licensure requirements. By creating an environment that encourages innovation, partnership building, and scholarly exchange, the conference aspires to contribute meaningfully to improving cardiovascular health, advancing clinical practice, and promoting better heart health outcomes worldwide.

ABOUT
CPD Accreditation

Overview

Continuing Professional Development (CPD) represents a commitment to lifelong learning and the ongoing enhancement of professional knowledge and skills. This program provides participants with an opportunity to gain formal recognition for their dedication to professional growth through the award of CPD credits. These credits acknowledge active participation in educational sessions, workshops, and interactive discussions that contribute to advancing expertise and practical competence.

CPD Credit Allocation

Participants are eligible to earn 1 CPD credit for each hour of active attendance, with the opportunity to accumulate up to 15 CPD credits throughout the duration of the program. Attendance is tracked to ensure accurate credit allocation, and participants who complete the required hours will receive an official certificate verifying their earned CPD credits.

Purpose and Recognition

The CPD accreditation underscores the educational merit and professional relevance of the program. It enables participants to:

- Maintain and expand their professional knowledge base
- Strengthen practical competencies and decision-making abilities
- Demonstrate commitment to ethical and evidence-based practice
- Align with institutional, organizational, or regulatory standards for ongoing professional development

Many professional bodies and licensing authorities recognize CPD credits as part of their certification or renewal requirements. Participants are encouraged to confirm the applicability of these credits with their respective institutions or governing organizations.

Value of CPD Credits:

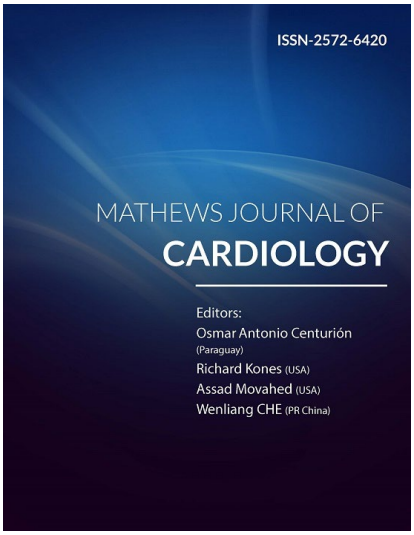
- Encourages continuous learning and skill enhancement
- Contributes to career advancement and professional recognition
- Promotes knowledge sharing and collaboration in oncology research
- Supports compliance with professional development requirements

Commitment to Professional Growth

By engaging in accredited educational activities, participants demonstrate a proactive approach to career advancement and contribute to the broader goal of maintaining high standards of practice across disciplines. The CPD framework ensures that professionals remain informed, adaptable, and capable of meeting emerging challenges in their respective fields.

ABOUT Journal

CVS-2026 and Mathews Journal of Cardiology: A Strategic Partnership



CVS-2026 is honoured to partner with Mathews Journal of Cardiology (MJC; ISSN: 2572-6420), an international scholarly journal that publishes original research and reports on various cardiology and cardiovascular-related topics such as clinical cardiology, interventional cardiology, cardiac surgery, heart failure, cardiac imaging, electrophysiology, preventive cardiology, vascular medicine, hypertension, and cardiovascular pharmacology. This collaboration ensures that the research shared at the conference reaches a global audience, providing participants with opportunities to showcase their work on a respected international platform.

Conference Proceedings with DOI:

- The CVS-2026 proceedings book will be assigned a DOI, making all presented abstracts and findings globally accessible and citable.
- This guarantees that your research is recognized and easily referenced by the scientific community.

Opportunity for Full-Length Publications:

- Participants can submit full-length manuscripts to MJC for peer-reviewed publication.
- Article processing charges are fully waived, ensuring a seamless path to publication.
- Manuscripts undergo rigorous review by the journal's editorial team, ensuring high-quality scientific standards.

Journal Visibility & Indexing:

Indexed in CrossRef, Google Scholar, WorldCat, J-Gate, DRJI, ISI, Genamics JournalSeek, Scilit, and CiteFactor, ensuring global visibility, discoverability, and credibility of published research.

Participant Benefits

- Global visibility for your research
- Peer-reviewed recognition in a high-profile journal
- No publication fees
- Contribution to the advancement of cardiology, cardiovascular research, and patient care worldwide.

This collaboration reflects CVS-2026's commitment to fostering scientific excellence, promoting knowledge exchange, and providing researchers with a credible platform to disseminate their work to the global cardiology and cardiovascular science community.

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MAR 26-27

INTERNATIONAL CONFERENCE ON

CARDIOLOGY AND CARDIOVASCULAR SCIENCE

KEYNOTE

Prof. Dr. Habil. Bernd Blobel, FACMI, FACHI, FHL7, FEFMI, FIAHSI

University of Regensburg, Medical Faculty, Regensburg, Germany

Charles University Prague, First Medical Faculty, Prague, Czech Republic

Faculty European Campus Rottal-Inn, Deggendorf Institute of Technology, Deggendorf, Germany

University of Genoa, DIBRIS, Genoa, Italy

Principles and standards for designing and managing integration and interoperability of intelligent and ethical transformed health ecosystems

Health and social care systems around the world undergo a transformation towards personalized, preventive, predictive, participative precision medicine (5PM), considering the individual health status, conditions, genetic and genomic dispositions in personal, social, occupational, environmental and behavioral context. The complex and highly dynamic 5PM ecosystems require communication and cooperation between actors from different domains including the subject of care, using different methodologies, languages and ontologies based on different education, experiences, etc. For enabling such comprehensive integration and interoperability, we have to advance design and management of transformed ecosystem from data to knowledge level. The aforementioned transformation is strongly supported by technologies such as micro- and nanotechnologies, advanced computing, artificial intelligence, edge computing, etc. Beside their opportunities, those advanced technologies also bear risks to be managed. In that context, the relationships between technology and human actors, but also the behavior of intelligent and autonomous systems must be considered from a humanistic, moral and ethical perspective. The challenge is the consistent, correct and formalized representation of the transformed health ecosystem from the perspectives of all domains involved including the legal and ethical ones, representing and managing them based on related ontologies. The resulting business view of the real-world ecosystem must be interrelated using the ISO/IEC 21838 Top Level Ontologies standard. Thereafter, the outcome can be transformed into implementable solutions. The different viewpoint are represented using viewpoint-specific ICT ontologies. The necessary model and framework has been developed by the author and meanwhile standardized as ISO 23903 Interoperability and Integration Reference Architecture. The formal representation of any ecosystem and its development process including examples of practical deployment of the approach are presented in detail. This includes correct systems and standards integration and interoperability solutions.

Biography

Dr. Bernd Blobel received a multi-disciplinary education, covering mathematics, physics, systems engineering, electronics, medicine, informatics and medical informatics, including habilitations in medicine and informatics. He was Head of the Institute for Biometrics and Medical Informatics at the University of Magdeburg, and then Head of the Health Telematics Project Group at the Fraunhofer IIS in Erlangen. Thereafter, he acted until his retirement as Head of the German National eHealth Competence Center at the University of Regensburg. He was leadingly involved in many countries health digitalization as well as electronic health record strategy. He was and is still engaged in international standardization at ISO, CEN, HL7, OMG, IEEE etc. Furthermore, he still engaged in international higher education. His publications can be found at https://epub.uni-regensburg.de/view/people/Blobel=3ABernd=3A=3A.html

KEYNOTE

Gausal Azam Khan, PhD, CSci, FRSB, FRSM

Professor & Chartered Scientist, Department of Clinical Nutrition, College of Applied Medical Sciences, King Faisal University, Al Ahsa, Saudi Arabia

Unveiling the role of extracellular nucleic acids in hypoxia-induced myocardial injury

Cardiovascular diseases (CVDs), particularly myocardial infarction (MI), have been linked to hypoxia-induced cellular stress, independent of infectious factors. Hypoxia triggers the release of endogenous ligands from necrotic cells, including circulating nucleic acids (CNAs) like extracellular RNA (eRNA) and DNA (eDNA), which activate Toll-like receptors (TLRs) and exacerbate inflammation. Elevated CNAs in plasma, released due to hypoxic stress and ischemia/reperfusion injuries, have been correlated with increased tissue damage and clinical manifestations such as coronary artery disease (CAD) and chest pain.

Our study explores the mechanistic role of hypoxia in promoting sterile inflammation, driven by cellular damage-associated molecular patterns (DAMPs) like eRNA. These DAMPs activate the innate immune system, contributing to vascular inflammation, particularly in MI. We investigated the role of eRNA and TLR3 in mediating cardiomyocyte necrosis and subsequent cTroponin-T (cTrop-T) release—a known marker of acute myocardial infarction (AMI).

Key findings include: (i) Hypoxia stimulates eRNA release, promoting MI through a TLR3-caspase-3 pathway, as evidenced by time-dependent increases in cTrop-T levels. (ii) RNaseA pre-treatment significantly reduced plasma cTrop-T levels, while DNase1 and HMGB1 neutralizing antibodies showed no such effect. (iii) Inhibition of TLR3 via neutralizing antibodies or gene silencing also reduced cTrop-T release, confirming TLR3 involvement in hypoxia-induced myocardial injury. (iv) The role of eRNA-TLR3 interaction was further validated by its contribution to leukocyte infiltration, neutrophil activation, and cardiomyocyte necrosis, leading to myocardial stiffness, dysfunction, and eventual heart failure.

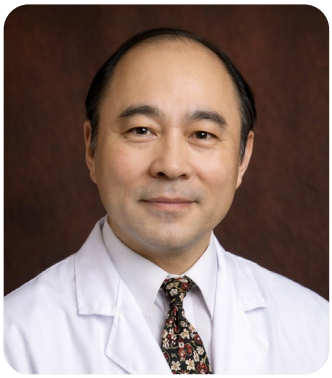
Our findings suggest that therapeutic approaches targeting eRNA, such as RNaseA treatment or TLR3 silencing, could mitigate myocardial damage in hypoxia-induced CVDs. This study opens avenues for novel therapies aimed at preventing AMI and heart failure by addressing hypoxia-induced sterile inflammation pathways.

Biography

Dr. Gausal Azam Khan, PhD, CSci, FRSM, FRSB, is a Professor of Clinical Nutrition at King Faisal University, Saudi Arabia. His research spans insulin resistance, endothelial dysfunction, thrombosis, and preeclampsia. He holds multiple US patents, including a vaccine for Type 2 Diabetes, and has received prestigious awards such as the Chartered Scientist, FRSB, FRSM

and IFUPS. With a prolific academic output including over 100 international publications and numerous invited talks worldwide, he has secured major research grants across India, Canada, and Saudi Arabia. Dr. Khan's contributions advance understanding of metabolic and vascular pathophysiology under hypoxic stress and inflammation.

KEYNOTE



Guo-Wei He, MD, PhD, DSc

Department of Cardiovascular Surgery & Institute of Cardiovascular Diseases, TEDA International Cardiovascular Hospital, Tianjin University

Tianjin Key Laboratory of Molecular Regulation of Cardiovascular Diseases, Tianjin, China

Lysine 2-hydroxyisobutyrylation of HXK1 alters energy metabolism and K_{ATP} channel function in the atrium from patients with atrial fibrillation

Background: Atrial fibrillation (AF) is the most common form of arrhythmia and is a growing clinical problem. Post-translational modifications (PTMs) constitute crucial epigenetic mechanisms but modification of lysine 2-hydroxyisobutyrylation (K_{hib}) in AF is still unknown. This study aimed to investigate the role and mechanism of K_{hib} in AF.

Methods: PTM proteomics was applied in the human atrial tissue from AF and sinus rhythm patients with heart valve disease during cardiac surgery to identify the K_{hib} sites. The functional changes of differential modification sites were further validated at the cellular level. Cellular electrophysiology was performed to record the ion channel current and action potential duration (APD).

Results: The modification of 124 K_{hib} sites in 35 proteins and 67 sites in 48 proteins exhibited significant increase or decrease in AF compared to sinus rhythm. Ten K_{hib} sites were included in energy metabolism-related signaling pathways (HXK1, TPIS, PGM1, and OPDX in glycolysis; MDHC and IDH3A in tricarboxylic acid circle; NDUS2, ETFB, ADT3, and ATPB in oxidative respiratory chain). Importantly, decreased HXK1 K418hib regulated by HDAC2 attenuated the original chemical binding domain between HXK1 and glucose, inhibited the binding ability between HXK1 and glucose, and reduced catalytic ability of the enzyme, resulting in low production of glucose-6-phosphate and ATP. Further, it also increased Kir6.2 protein and the current of K_{ATP} channel, and decreased APD.

Conclusions: This study demonstrates the importance of K_{hib} to catalysis of HXK1 and reveals molecular mechanisms of HXK1 $K418_{hib}$ in AF, providing new insight into strategies of AF.

Biography

Professor Guo-Wei HE, MD, PhD, DSc, is Distinguished Professor of Tianjin University, China and Academician (Foreign Correspondence Member) at The National Academy of Medicine, France (2019-). Professor He is Vice President & Senior Cardiac Surgeon at TEDA International Cardiovascular Hospital, Tianjin University and Director of Institute for Cardiovasc Diseases, Tianjin University & Chinese Academy of Medical Sciences. He also holds Clinical Professor of Surgery at Oregon Health & Science University, Portland, OR, USA (2003-). In addition, Professor He is Director, Branch Center for National Clinical Research Center for Cardiovascular Disease and Director of Tianjin Key Laboratory for Molecular Regulation and Translational Medicine of Cardiovascular Diseases He obtained Doctor of Science (2003) and Ph. D. (1989) from Monash University, Melbourne, Australia. Professor He was Chair Professor of Cardiothoracic Surgery, University of Hong Kong,

1995-2000 and Research Chair Professor, Chinese University of Hong Kong (2000-2009). Professor He was Director of Cardiovasc Res Lab, St, Vincent Hospital, Portland, OR, U.S.A. (1994-2012). Professor He is an active cardiac surgeon and he performed nearly 8,000 open heart operations. Notably, he is the first surgeon performing radial artery plus internal mammary artery in CABG at University of Hong Kong in Asia (1995) and is well known for "He Classification" and "He solutions" for CABG grafts. Apart from clinical practice, he is an active research and obtained more than 80 research grants and awards such as First Class Award, Tianjin Municipal Natural Science Award (2012), First Class Award, Prize of Science & Technology, The China Medicine Education Association (2021), exec. He published 415 articles/reports in SCI-index international journals. He ranks the top 0.05% of all scholars worldwide (ScholarGPS), World's Top 2% Scientists (2019-2024) by Stanford University and H-index (57) of world top 1%. Professor He ranks world's top 1% in Medicine, Chemistry, Genetics and Molecular Biology; He is Highly-cited Chinese Scholar in Clinical Medicine (Elsevier 2024).

KEYNOTE

Prof. Pradeep Kumar Dabla

Department of Biochemistry, Govind Ballabh Pant Institute of Postgraduate Medical Education & Research, Associated Maulana Azad Medical College, Delhi, 110002, India

Safeguarding accuracy in ABG testing: Managing preanalytical errors and meeting POCT standards under ISO 15189:2022

Background: In patients with cardiac failure, arterial blood gas (ABG) testing provides critical insights into oxygenation, acid–base balance, and tissue perfusion. These results often guide immediate therapeutic interventions such as oxygen therapy, ventilation strategies, or diuretic adjustments. However, accuracy is highly vulnerable to preanalytical errors. Mislabeling, contamination, heparin-induced bias, air entrapment, delayed processing, and poor sample handling can produce misleading results, leading to inappropriate treatment decisions and poorer outcomes in this high-risk group.

Methods: This talk reviews preanalytical challenges in ABG testing with a specific focus on cardiac failure. Practical safeguards—such as strict patient identification, balanced heparin anticoagulation, standardized sampling and mixing protocols, and sharps-safety devices—are outlined. Updates in ISO 15189:2022 regarding point-of-care testing (POCT) are integrated, highlighting requirements for competency-based training, documentation, traceability of personnel, and participation in external quality assessment programs. Standardized protocols would have prevented this error. Broader adoption of such safeguards reduces variability, improves result reliability.

Results: Adopting structured preanalytical protocols enhances sample integrity, reduces error-induced variability, and ensures that ABG results remain reliable for guiding the delicate hemodynamic and ventilatory management of cardiac failure patients. Integration of ISO 15189:2022 requirements for POCT assures that bedside results achieve laboratory-level quality, supporting timely clinical decisions in acute care settings. In emergency care, a patient with acute decompensated heart failure presented with severe dyspnea. ABG analysis initially suggested metabolic alkalosis, leading to inappropriate therapy. On review, the sample had been contaminated with flush solution, invalidating results.

Conclusions: In cardiac failure, where therapeutic windows are narrow and decisions are time-sensitive, the value of ABG testing depends on both accuracy and speed. Strengthening preanalytical vigilance and adhering to ISO-driven quality frameworks transform ABG testing into a safer, more dependable tool, ultimately improving patient safety and optimizing outcomes in this vulnerable population.

Biography

Prof. (Dr) Pradeep Kumar Dabla is an experienced Chairperson with a demonstrated history of more than 25yrs of Leadership & Administration while working in the hospital & health care industry. He is a laboratory physician skilled

in Medical Devices, Molecular Biology, Biotechnology, Laboratory Medicine, Clinical Research& Artificial Intelligence. A strong research professional who also support the NABL, as Lead & Technical Assessor ISO 15189:2022 & ISO 17043:2023 focused in Medical Laboratories, NABL, Quality Council, Govt. of India. Due to keen interest in research and laboratory medicine, he has been awarded Thrice for his research work in "Postmenopausal Women CAD Risk & Gene Polymorphism" and "Diabetic CAD Risk" and received another Five International Awards& Travel Grants. He has been invited several times as speaker, chair at National & International congresses. He received Eminent Teacher Award from Delhi Medical Association, Fellowship ACBI(Association of Clinical Biochemists of India), Fellowship IMSA (International Medical Sciences Academy), and Member- National Academy of Medical Sciences (MAMS),Honorary Fellowship GAPIO 2024 (Honorary GAPIO Global Association of Physicians of India Origin), Awarded GAPIO Excellence in Diagnostics Award 2024. He has 105 research papers to his credit in reputed National & International journals. In addition he also published 5 book chapters, 2 books, 2 Patents (in Artificial Intelligence) and more than 60 abstracts as a part of invited talks and papers presented.

KEYNOTE

Sergey Suchkov

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[2]InMedStar, Russia

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[5]EPMA (European Association for Predictive, Preventive and Personalized Medicine), Brussels, EU

[6]ISPM (International Society for Personalized Medicine), Japan

[7]PMC (Personalized Medicine Coalition), Washington, USA

[8]AMEE (Association for Medical Education in Europe), Centre for Medical Education, Dundee, Scotland

[9]ACS (American Chemical Society), Washington, DC, USA

[10]AHA (American Heart Association), Dallas, TX, USA

[11]ARVO (The Association in Research in Vision & Ophthalmology), Rockville, MD, USA

[12]ISER (International Society for Eye Research), Anchorage, AK USA

[13]The Russian Academy of Natural Sciences, Moscow, Russia

Personalized and Precision Medicine (PPM) as a unique healthcare model through design-driven and inspired biotech, translational applications and cardiology-related marketing to secure the human healthcare, wellness and biosafety

A new systems approach to diseased states and wellness result in a new branch in the healthcare services, namely, Personalized and Precision Medicine (PPM). To achieve the implementation of PPM concept, it is necessary to create a fundamentally new strategy based upon the recognition of biomarkers and thus biomarker-driven targeting to secure the grand future of drug discovery.

It would be extremely useful to integrate data harvesting from different databanks for further treatment to thus provide more tailored measures for the patients and pre-illness persons-at-risk, resulting in im-proved patient outcomes, reduced adverse events, and more cost effective use of the latest health care resources including diagnostic (companion ones), preventive and therapeutic (targeted molecular and cellular) etc.

In this context, the need for innovative heart disease treatments has become critical since the diseases remain the world's biggest killer. The pace of innovation in Personalized & Precision Cardiology (PPC) is becoming fast.

A major paradigm shift has become the increasing recognition of the potential therapeutic utility of the targeted drugs for cardiovascular diseases, whilst opening up new avenues of therapeutic implications. As PPM continues to drive targeted immunotherapy development and cardiac biomarker discovery for healthcare services, cardiologists could indeed see their own PPM-based renaissance very soon.

In cardiovascular disease globally, PPM may result in much-needed innovation in the field and has the

potential to eventually change the way we treat heart diseases altogether. So, PPC is thus poised to be-come the next great revolution in the daily practice, as well as in the maintenance of cardiovascular health and the prevention and cure of cardiovascular disease. PPM disrupts standard practice and draws from clinical testing, electronic health records, multi-OMICS profiling, big datasets, and novel analytical methods, to create a person-specific phenotype to identify an optimal intervention with minimal risk.

The promise of PPM and PPC is well understood but the newest tools will be needed for describing the cardiovascular health status of individuals and populations, including transdisciplinary 'OMICS' data, exposome-related datasets and social determinants of health, behaviours and motivations, patient-generated data, and the array of data in EMRs. Innovative cardiology and cardiac nanosurgery currently lead the way in PPC advancements, and health care under PPM-related armamentarium will become a more integrated, dynamic system, in which patients are becoming central stakeholders who contribute data and participate actively in shared decision-making. The proposal would ideally be suited for practi-tioners who already incorporate integrative approaches in their practice, as well as more traditional cli-nicians who want to learn more about PPM and PPC as a growing area.

PPM will need to demonstrate that phenotype-based person-specific interventions are superior to the current standard of care and, ultimately, have a population effect by moving the mean on the disease spectrum towards Health. Education, Affordability, and Public Acceptance of the strategy all play key roles in its ultimate implementation. This is the reason for developing global scientific, clinical, social, and educational projects in the area of PPM-based and PPC-guided clinical cardiology to elicit the con-tent of the new branch. In short, PPM will transform the way the physicians practice and will shake up the entire pharmaceutical value chain.

Biography

Sergey Suchkov was born in the City of Astrakhan, Russia, in a family of dynasty medical doctors. In 1980, graduated from Astrakhan State Medical University and was awarded with MD. In 1985, Suchkov maintained his PhD as a PhD student of the I.M. Sechenov Moscow Medical Academy and Institute of Medical Enzymology. In 2001, Suchkov maintained his Doctor Degree at the National Institute of Immunology, Russia. From 1989 through 1995, Dr Suchkov was being a Head of the Lab of Clinical Immunology, Helmholtz Eye Research Institute in Moscow. From 1995 through 2004 - a Chair of the Dept for Clinical Immunology, Moscow Clinical Research Institute (MONIKI). In 1993-1996, Dr Suchkov was a Secretary-in-Chief of the Editorial Board, Biomedical Science, an international journal published jointly by the USSR Academy of Sciences and the Royal Society of Chemistry, UK.

At present, Dr Sergey Suchkov, MD, PhD, is: Director for Center of Biodesign of N.D. Zelinskii Institute for Organic Chemistry of the Russian Academy of Sciences, Moscow, Russia; Senior Scientific Advisor of China Hong Kong Innovation International Business Association, Hong Kong; R&D Director of InMedStar, Russia. Member of the: Russian Academy of Natural Sciences, Moscow, Russia; New York Academy of Sciences, USA; American Chemical Society (ACS), USA; American Heart Association (AHA), USA; European Association for Medical Education (AMEE), Dundee, UK; EPMA (European Association for Predictive, Preventive and Personalized Medicine), Brussels, EU; ARVO (American Association for Research in Vision and Ophthalmology); ISER (International Society for Eye Research)

KEYNOTE

Terry McCormack

Institute of Clinical and Applied Health Research, Hull York Medical School, Hull, UK

High rates of mineralocorticoid receptor antagonist discontinuation in patients with hypertension: Insights from the EnligHTN study

Objective: Mineralocorticoid receptor antagonists (mras) are indicated for several cardiovascular (cv) conditions, including heart failure (hf) and hypertension (htn). However, adverse drug reactions or dose-limiting side-effects may lead to discontinuation. We aimed to describe mra discontinuation rates in patients with htn in multiple countries.

Design and method: Data were derived from telotrón (spain [es]), iqvia ambulatory emr linked with iqvia pharmetrics® plus closed claims data (united states [us]) and the clinical practice research datalink (cprd) database (United Kingdom [uk] [data from additional countries will be included in the future]). Patients with a diagnosis of htn who subsequently initiated an mra between 2018–2023 were followed from index date, defined as the initiation of mras. Discontinuation was defined as a patient not having a refill/prescription beyond the last day of supply + 30 days. Median time to discontinuation and the proportion of patients discontinuing up to12 and 24 months were calculated.

Results: In total, 15,302 patients were included across the three countries (es: n= 1,233; us: n= 4,677; uk: n=9,391). Atindex date, one quarter (us) and one third (uk and es) of patients had hf and 20–30% of patients had renal disease. The mean blood pressure was 132/80 mmhg in the us, 140/84 mmhg in es and 135/79 mmhg in uk. In all three countries, patients were taking a median of two additional anti-hypertensive medications. The median (iqr) time to mra discontinuation varied from 156 days (74, 423) in the us and 198 days (80,643) in es to 539 days (140, 1,293) in uk. Correspondingly, the rates of mra discontinuation at 12 and 24months were higher in the us (71% and 85%, respectively) and es (63% and 77%, respectively), compared to uk (41% and 58%, respectively).

Conclusions: The majority of new users of mra with htn discontinue treatment within one year in the us and es, and within two years in uk. There is an urgent need for better treatment persistence to manage htn and the risks for development of associated comorbidities.

Biography

Professor Terry McCormack is a general practitioner and honorary professor of primary care cardiovascular medicine at hull york medical school. He is the immediate past president of the british and irish hypertension society. For over 25 years he worked as both a gp and a hospital practitioner in anaesthetics. He is particularly interested in hypertension, lipids and anticoagulation. Guideline work includes the nice hypertension, perioperative care and venous thromboembolism guideline committees and the aagbi/bhs preoperative bp guideline. He is an editor of the british journal of cardiology and a fellow of the european society of cardiology.

BOOK OF ABSTRACTS

Oral Sessions

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CARDIOLOGY AND CARDIOVASCULAR SCIENCE

ORAL PRESENTATION

Abdul Wahed Sidiqi[1*], MD, MSc, FESC, Nommanudien Naibkhil[2], Pharm.D., MSc, Asma Rahbeen[3], MD

[1]Department of Cardiology, Faculty of Medicine, Kabul University of Medical Sciences, Abu Ali Ibn Sina, Department of Cardiology, Ariana Medical Complex & Afghanistan Cardiovascular Association, Kabul, Afghanistan

[2]Department of Biochemistry, Faculty of Pharmacy, Department of Research, Ariana Medical Complex, Kabul, Afghanistan

[3]Department of Cardiology, Ariana Medical Complex & Afghanistan Cardiovascular Association, Kabul, Afghanistan

Socioeconomic, parental, and nutritional factors associated with congenital heart disease in children: Insights from a hospital-based case-control study in Kabul, Afghanistan

Background: Congenital heart disease (CHD) is one of the most common congenital anomalies and a leading cause of childhood morbidity and mortality worldwide. The etiology of CHD is multifactorial, involving genetic predisposition, environmental influences, maternal health, and socioeconomic determinants. Limited evidence exists from Afghanistan regarding factors contributing to CHD. This study was conducted to identify maternal, paternal, household, and lifestyle factors associated with CHD among children attending Ariana Medical Complex, Kabul.

Objective: To identify parental, socioeconomic, and lifestyle factors associated with CHD among children in Afghanistan.

Methods: A hospital-based case-control study was conducted at Ariana Medical Complex, Kabul, from February to August 2025. A total of 414 parents of children who underwent echocardiography were enrolled, comprising 203 cases (children with CHD) and 211 controls (children without CHD). Data were collected using a structured 109-item questionnaire covering sociodemographic, maternal, paternal, nutritional, and household factors. Associations between variables and CHD were analyzed using Chi-square tests, crude odds ratios (ORs), and 95% confidence intervals (CIs). A p-value <0.05 was considered statistically significant.

Results: Low parental education was significantly associated with CHD. Children of illiterate mothers (COR=4.48, 95% CI: 2.34–8.57, p < 0.001) and fathers (COR=5.96, 95% CI: 3.45–10.27, p < 0.001) were at markedly higher risk compared with those of highly educated parents. The risk decreased progressively with increasing education. Low family income also emerged as a strong predictor: families earning <10,000 AFN had substantially higher odds of CHD (COR=14.84, 95% CI: 6.92–31.84, p < 0.001) than those earning >30,000 AFN, while moderate-income families (10,000–30,000 AFN) also faced elevated risk (COR=2.63, 95% CI: 1.19–5.83, p=0.015). Fathers' occupation before conception was influential; children of self-employed fathers (COR=2.02, p=0.004) and jobless fathers (COR=2.99, p=0.007) had a greater risk of adverse outcomes than those of employed parents. Expanded family structure (COR=1.89, 95% CI: 1.27–2.82), maternal hypertension before conception (COR=2.94, 95% CI: 1.38–6.26), poor maternal nutrition during pregnancy (COR=3.26, 95% CI: 1.53–6.96), and underweight

paternal status (COR=3.12, 95% CI: 1.80–5.43) increased CHD risk. Conversely, folic acid (COR=0.50, 95% CI: 0.31–0.82), calcium/vitamin D supplementation (COR=0.58, 95% CI: 0.38–0.89), and higher intake of vegetables (COR=0.21, 95% CI: 0.11–0.41) and fruits (COR=0.40, 95% CI: 0.21–0.75) during pregnancy were protective.

Conclusion: This study provides robust evidence that congenital heart disease in Afghan children is associated with a constellation of modifiable socioeconomic, parental health, and nutritional factors. The findings underscore the crucial importance of comprehensive preconception and antenatal care, dietary interventions, and broader socioeconomic improvements in reducing the burden of CHD. Integrated public health strategies targeting key determinants can help reduce CHD incidence and improve child health in Afghanistan. Given its multifactorial causes, coordinated efforts across healthcare, education, nutrition, and social welfare are essential to support healthy pregnancies and child development.

Biography

Dr. Abdul Wahed Sidiqi, a Kabul University MD graduate (2001), became a key figure in Afghan cardiology. He founded Ariana Hospital in 2009, pioneering a cardiology practice and echocardiography training, significantly advancing opportunities for female doctors. After further training in the Netherlands and South Korea, he introduced BLS and ACLS training in Afghanistan. In 2018, he established the state-of-the-art Ariana Medical Complex. A Fellow of the European Society of Cardiology (2023), he has published extensively, including a notable 2025 article, "Global Rounds Afghanistan: A Critical Overview of Cardiovascular Medicine," in the Journal of Circulation. He serves on the editorial board of the Cardiology Research Journal and received the Best Oral Presentation Award from Cardio Hub 2025.

ORAL PRESENTATION

Abildinova G.Zh.[1*], Abildinova A.A.[2]

[1]President Administration Hospital, Astana, Kazakhstan

[2]Polyclinic 4, Astana, Kazakhstan

Study of the relationship between the Triglyceride-Glucose (TG/G) index and the species ratio of the microbiome

The triglyceride-glucose (TG/G) index is widely recognized as a surrogate marker of insulin resistance, providing valuable insights into the risk of cardiovascular diseases (CVD). Its elevation is associated with vascular calcification, coronary and carotid artery stenosis, and an increased likelihood of adverse CVD outcomes. The present study investigated the association between TG/G index levels and microbiome composition in patients with insulin resistance.

Materials and methods: Total DNA was extracted from 250 mg of fecal samples using the PureLink™ Microbiome DNA Purification Kit (Thermo Fisher Scientific, USA). Sequencing of the 16S rRNA gene was carried out on an Ion Gene Studio S5 Plus semiconductor sequencer in accordance with the Ion 16STM Metagenomics Kit protocol. The study enrolled 189 patients (mean age 49.3±7.2 years; 121 women and 68 men) diagnosed with insulin resistance.

Results: The TG/G index revealed significant correlations with several clinical and laboratory parameters. Heart failure was present in 16% of patients, while effective antihypertensive treatment was observed in 92%. Elevated TG/G levels (>1.7 mmol/L) correlated with increased ESR, hemoglobin, leukocytes, neutrophils, lymphocytes, platelets, and LDL cholesterol ($p<0.001$). Echocardiographic analysis showed impaired diastolic function in 91 patients and a mean left ventricular mass index of 77.9±0.04. Carotid ultrasound revealed intima-media thickening in 24 individuals, strongly correlating with TG/G values and the presence of atherosclerotic plaques.

Importantly, microbiome sequencing indicated that elevated TG/G index values were associated with the presence of Bacteroidaceae, Prevotella copri, Enterobacter asburiae, and the phyla Firmicutes and Proteobacteria. The enrichment of pro-inflammatory Proteobacteria suggests that microbial imbalance may contribute to insulin resistance and cardiovascular complications, potentially through metabolite-mediated inflammation.

Conclusion: The study demonstrates a strong link between the TG/G index and gut microbiome composition. Elevated TG/G values not only reflect metabolic and cardiovascular risk but are also associated with pro-inflammatory microbial shifts. These findings highlight the importance of integrating microbiome analysis with traditional clinical markers in assessing insulin resistance and CVD risk.

Biography

Abildinova Gulshara Zhusupovna was born in 1961 in the Republic of Kazakhstan. Geneticist of the highest category, doctor of medical sciences, professor, head of the laboratory of personalized genomic diagnostics in the hospital of the Presidential Administration of the Republic of Kazakhstan. Experience of scientific and pedagogical work for 36 years. Published 200 scientific articles, including 65 after the defense of doctoral dissertation, in international editions and recommended by the Higher Attestation Commission of the Republic of Kazakhstan, 5 methodical recommendations, 7 patents and 4 monographs. As a chief freelance geneticist of the Ministry of Health of the Republic of Kazakhstan. plays a major role in the improvement of medical and genetic care to the population of the Republic of Kazakhstan, effective implementation of the program of genetic screening of pregnant women and newborns, takes an active part in the system of protection of reproductive health of the population of the Republic of Kazakhstan; contributes to improving the level and quality of medical and genetic knowledge of doctors-geneticists and general practitioners, promotion of medical and genetic consultations.

ORAL PRESENTATION

Adibah Fathihah Mohd Azhari*, Sharifah Shafinaz Sh Abdullah

Universiti Teknologi MARA (UiTM), Puncak Alam, Selangor, Malaysia

Effect behavioural lifestyle modification among acute coronary syndrome: A scoping review

Background: The global issue of lifestyle modification among acute coronary syndrome (ACS) populations centres on low adherence to comprehensive lifestyle changes despite their proven critical benefits. Patients with acute coronary syndrome (ACS) often struggle to maintain healthy behaviors even though these modifications substantially reduce the risk of recurrent ischemic events and mortality. In acute coronary syndrome (ACS), the nurse's role is pivotal. It involves rapid assessment, timely medication intervention, continuous monitoring of vital signs and cardiac status, collaboration with interdisciplinary teams, and crucial patient education to support treatment adherence and lifestyle changes. Lifestyle modifications, including structured exercise programs, dietary changes, smoking cessation, and medication adherence, are a cornerstone of effective cardiac rehab programs. These interventions are tailored to individual patient needs and are often delivered by multidisciplinary teams, with increasing integration of technology and cultural tailoring to enhance reach and efficacy. Premkumar et al. (2022) stated that understanding these gaps is critical to designing more effective, equitable, and sustainable nursing interventions for diverse cardiac populations, particularly given that only 20-30% of eligible patients participate in cardiac rehab programs, with even lower rates among women, minorities, and rural populations. In this context we performed a scoping review of the effect behavioral lifestyle modification among acute coronary syndrome patients.

Method: We conducted a scoping review article of PubMed, Web of Science, and the Scopus to identify gaps and the effect behavioral lifestyle modification among acute coronary syndrome and to clarify the concept analysis for future research initiatives. We included studies of cardiac rehabilitation among acute coronary syndrome with the intervention involving behavioral lifestyle modification. We also included studies that measure the outcome of behavioral lifestyle modification on cardiovascular health.

Results: 274 article from Scopus (5 selected), 48 article from PubMed (none selected), and 137 from Web of Sciences (4 selected) were included. Studies were categorized into 2 effect lifestyle modification outcomes: quality of life and recurrent major adverse cardiovascular events. Lifestyle modification included diet, physical activity, smoking cessation and medication. The majority of studies on lifestyle modification show an improvement in quality of life (N=10 studies). 2 studies examined the major adverse cardiovascular events. 4 studies express that cardiac rehabilitation can improve the quality of life. One study emphasizes how diet modification is underutilized in the secondary prevention of acute coronary syndrome.

Conclusions: Most studies we reviewed found that behavioral lifestyle modification can improve quality of life for patients with acute coronary syndrome and prevent major adverse cardiovascular events.

Biography

Miss Adibah Fathihah is a postgraduate student from University Teknologi MARA (UiTM) Malaysia. She holds a bachelor's degree in nursing and wishes to inspire future nurses regarding health education in cardiovascular science.

ORAL PRESENTATION

Agussalim

Parepare School of Nursing, Makassar, South Sulawesi, Indonesia

Innovations in cardiac nursing: Evidence-based strategies for optimizing patient outcomes in acute and critical care

Background: Innovations in cardiac nursing, including evidence-based interventions and advanced patient management strategies, are essential to improve outcomes in acute and critical care settings. Despite growing interest, limited research has examined the combined impact of standardized nursing interventions on patient outcomes across multiple hospitals in Indonesia.

Objective: To evaluate the effectiveness of evidence-based cardiac nursing strategies in optimizing patient outcomes in acute and critical care patients across eight Type B hospitals in Indonesia.

Methods: A causal-comparative study was conducted from January 2022 to January 2025 involving 140 patients diagnosed with acute or critical cardiac conditions. Standardized nursing interventions, including early mobilization, tailored pharmacological management, and patient education, were implemented across all sites. Outcome measures included mortality, length of hospital stay, readmission rates, and adherence to treatment. Statistical analyses were performed using Pearson's correlation to determine the relationship between nursing strategies and patient outcomes.

Results: Implementation of evidence-based cardiac nursing strategies demonstrated a significant and strong positive correlation with improved patient outcomes. Early mobilization reduced length of stay by 20%, adherence to pharmacological management decreased readmission rates by 15%, and structured patient education improved treatment compliance by 25%.

Conclusion: Evidence-based innovations in cardiac nursing significantly enhance patient outcomes in acute and critical care. These findings support the integration of standardized, research-informed nursing strategies into routine practice to optimize patient recovery and safety.

Biography

Dr. Agussalim, S. Kp, MSN, DNS, Graduated as a nurse from Labuang Baji Nursing School in 1996, then Bachelor of Nursing Science from University of Binawan 2005. Then Master of Science Nursing 2008, and Doctor of Nursing Science from SPUP Philippines.

ORAL PRESENTATION

Almammadov Fazil Choban

PhD in Internal Medicine, Department of Family Medicine, Azerbaijan Medical University, Baku, Azerbaijan

Associations between cardiac and renal biomarkers in patients with type iv cardiorenal syndrome

Background: Type IV cardiorenal syndrome (CRS) results from chronic kidney disease (CKD) causing structural and functional cardiac impairment. Persistent renal dysfunction drives myocardial remodeling, neurohormonal activation, inflammation, endothelial dysfunction, anemia, and mineral metabolism disturbances, increasing cardiovascular risk. While individual cardiac and renal biomarkers predict adverse outcomes, their interrelationships in Type IV CRS are not fully understood. Clarifying these associations may improve understanding of shared mechanisms and enhance risk stratification.

Objective: To evaluate associations between selected cardiac and renal biomarkers in patients with Type IV CRS.

Methods: This study included 39 patients with Type IV CRS and CKD stages II–IV, all exhibiting chronic heart failure (CHF) class III–IV per NYHA classification. The control group comprised 31 age- and sex-matched healthy individuals without structural or functional cardiac or renal abnormalities. The mean age was 52.6 years in patients and 59.0 years in controls; 16 (41.0%) patients were male, 23 (59.0%) female; 15 patients (38.5%) were <60 years, 24 (61.5%) ≥60 years. CHF developed post-myocardial infarction in 32 patients (82.1%), and 7 (17.9%) had a history of stroke. Serum levels of kidney injury molecule-1 (KIM-1), cystatin C, liver-type fatty acid-binding protein (L-FABP), and neutrophil gelatinase-associated lipocalin (NGAL) were measured by ELISA. NT-proBNP and BNP were quantified using electrochemiluminescence immunoassays. Galectin-3, apoptosis-inducing factor (AIF), fibroblast growth factor-23 (FGF-23), endothelin-1, and VEGF-A were assessed by ELISA. Continuous variables were expressed as median and interquartile range (IQR). Intergroup comparisons were performed using the Mann–Whitney U test, and correlations were assessed by Spearman's rank correlation coefficient (ρ); $p<0.05$ was considered significant.

Results: Renal biomarkers were significantly elevated versus controls: plasma NGAL Me = 167.2 ng/mL (3.8-fold, $p<0.001$), plasma KIM-1 Me = 206.8 pg/mL (6.6-fold, $p<0.001$), urinary KIM-1 Me = 1643.2 pg/mL (3.5-fold, $p<0.001$), L-FABP Me = 18.1 ng/mL (8.2-fold, $p<0.001$), cystatin C Me = 4.93 mg/L (6.6-fold, $p<0.001$). Cardiac biomarkers were also markedly elevated: BNP Me = 1026 pg/mL (20.5-fold, $p<0.001$), NT-proBNP Me = 1743 pg/mL (26.8-fold, $p<0.001$), FGF-23 Me = 152.9 pg/mL (3.2-fold, $p<0.001$), endothelin-1 Me = 19.8 pg/mL (3.4-fold, $p<0.001$), VEGF-A Me = 117 pg/mL (3.2-fold, $p<0.001$), AIF Me = 14.6 ng/mL (13-fold, $p<0.001$), galectin-3 Me = 25.2 ng/mL (3.6-fold, $p<0.001$).

Spearman correlation analysis revealed strong positive associations between renal and cardiac biomarkers. NGAL, KIM-1, L-FABP, and cystatin C were significantly correlated with BNP, NT-proBNP, endothelin-1, AIF, galectin-3, FGF-23, VEGF-A, and urinary KIM-1 ($\rho = 0.432–0.955$; $p<0.001$). Plasma KIM-1 and L-FABP exhibited particularly robust correlations with all cardiac biomarkers ($\rho = 0.744–0.951$; $p<0.001$), highlighting the tight interdependence of renal injury and cardiac dysfunction. FGF-23, endothelin-1, and BNP correlations further support their role in the pathophysiology of cardiorenal interaction. These associations emphasize that worsening kidney function directly contributes to cardiac stress, while cardiac dysfunction may reciprocally exacerbate renal injury.

Conclusion: Type IV CRS is characterized by significant dysfunction in both renal and cardiac systems, with strong bidirectional correlations between renal injury and cardiac stress markers. These findings underscore the clinical value of integrated biomarker assessment for monitoring disease severity and guiding management in patients with Type IV CRS.

Biography

Dr. Fazil Almammadov is a nephrologist and PhD in Medical Sciences. He graduated from Azerbaijan Medical University and Astrakhan State Medical Academy, where he also completed internship training in surgery. He has undertaken advanced training in chronic kidney disease and dialysis management in Azerbaijan and Moscow. Dr. Almammadov has served in various clinical and administrative positions, including Head of Hemodialysis Department and hospital chief physician. Since 2017, he has been the Director of Narimanov Medical Center. His research focuses on dialysis-related hemodynamic disorders and cardiorenal syndrome. He is the author of more than twenty scientific articles and one methodological manual.

ORAL PRESENTATION

Dr. Amitabh Yaduvanshi*, Dr. Vikas Kataria, Dr. Mohit M Bhagwati, Dr. Ishita Yaduvanshi

Holy Family Hospital, New Delhi, India

Advancement in management of hypertension: Renal denervation therapy

Overview: This presentation explores the evolution, mechanism, clinical evidence, and patient selection for renal denervation (RDN) as a therapy for hypertension, especially resistant cases.

Background and Need: Resistant Hypertension is highlighted as a major clinical challenge, defined as blood pressure above target despite using at least three antihypertensive agents (including a diuretic) at maximum tolerated doses, or controlled BP requiring four or more medications. The presentation emphasizes the global struggle with hypertension control rates.

Pathophysiology: The overactive sympathetic nervous system (SNA) is identified as a key driver of hypertension, leading to increased renin release, RAAS activation, sodium retention, and reduced renal blood flow—all culminating in elevated blood pressure. Historical context is provided with references to early surgical sympathectomy procedures.

Renal Denervation: Mechanism and Procedure

- Renal denervation disrupts the sympathetic signaling between the kidneys and the brain, reducing blood pressure by ablating renal nerves using targeted radiofrequency energy. This is a minimally invasive, device-based approach with no permanent implant and is independent of patient adherence.
- The Symplicity Spyral™ system is described in detail, including its catheter and generator technology, which allows precise, safe, and versatile ablation of renal nerves in both main and branch arteries.

Anatomical and Functional Evidence: The presentation provides anatomical evidence for RDN efficacy, showing that treating both main and branch renal arteries results in greater nerve destruction and less variability in outcomes. Functional evidence includes histological findings and clinical trial data demonstrating sustained blood pressure reduction for up to 3 years and beyond in over 3,200 patients.

Patient Selection

- **Ideal candidates for RDN include:**

1. Patients with resistant hypertension
2. Those with uncontrolled hypertension on fewer medications due to intolerance or non-adherence
3. High cardiovascular risk patients (e.g., with end-organ damage or prior CV events).

Safety and Efficacy: RDN has demonstrated an excellent safety profile, with minimal impact on renal function and vascular safety events. No significant decline in kidney function or device-related adverse events has been reported in large clinical programs and meta-analyses. The European Society of Hypertension now recommends RDN as a safe and effective complementary treatment strategy.

Real-World Experience and Case Studies: The presentation includes real-world case studies of patients with complex hypertension, polypharmacy, and non-compliance, demonstrating the practical benefits and outcomes of RDN.

Key Takeaways: Renal denervation is a promising, procedure-based therapy for hypertension, especially in patients who are difficult to treat with medications alone. It offers sustained blood pressure reduction, a favorable safety profile, and is now endorsed by major hypertension societies as a complementary option to lifestyle and pharmacological therapy.

Biography

Dr. Amitabh Yaduvanshi is a distinguished Senior Interventional Cardiologist and Head of Cardiology at Holy Family Hospital, New Delhi. With over 20 years of expertise, he excels in managing complex cardiac conditions through innovative, patient-focused interventions. A gold medalist in MBBS and MD from Maulana Azad Medical College, he holds a DM from G.B. Pant Hospital. Prestigious fellowships include FACC, FESC, FSCAI, and FICC; he serves as Honorary Professor, International College of Cardiology. His proficiency covers thousands of coronary angioplasties, RF ablations for SVT/AF, and device implantations (AICDs, CRT-Ds, MRI pacemakers). Pioneering Renal Denervation for resistant hypertension and ECMO advancements, he introduced Rotational Angiography and Bluetooth pacemakers regionally. As Asia-Pacific Heart Rhythm Society's sole Indian representative, he speaks globally and has 6+ publications.

ORAL PRESENTATION

Bachar Al Haj*, Imam T Ritonga, Martin J. Austermann, Marco V. Usai

St. Franziskus Hospital, Muenster, NRW, Germany

The rheolytic thrombectomy AngioJet™ is a safe and technically feasible method for treating acute and sub-acute occluding lesions in the visceral arteries

Background: The aim of this study is to evaluate the safety and feasibility of the AngioJet™ device in the endovascular treatment of visceral ischemia with stenotic or occlusive lesions.

Methods: Retrospective analysis of patients treated for visceral artery occlusion with thrombectomy using the AngioJet™ (Boston Scientific, MA, USA). Inclusion criteria: patients with stenotic or occluding lesion in visceral arteries including renal and mesenteric arteries, who received endovascular treatment with AngioJet™.

Results: Eighteen patients with acute and sub-acute visceral arteries occlusions underwent endovascular thrombectomy. In twelve cases the procedure was successful, and the patients were discharged with patent target arteries. Four cases required re-intervention and two cases ended with a fatal complication. The technical and clinical success rate in our study was 88,9% (sixteen out of eighteen), these patients were discharged from hospital with patent target arteries.

Conclusions: The thrombectomy using the AngioJet™ device is an effective and feasible method for the treatment of stenotic or occluding lesions of the visceral arteries with rapid post-interventional clinical improvement and minimal adverse events.

Biography

Dr. Bachar Al Haj is a resident doctor in the Department of Vascular and Endovascular Surgery at St. Franziskus Hospital in Münster, Germany. He is presently enrolled as a PhD student at the University of Münster. Dr. Al Haj has participated in various volunteer projects and has recently published extensively on the endovascular treatment of visceral ischemia.

ORAL PRESENTATION

Bachar Al Haj*, Imam T Ritonga, Marco V. Usai, Martin J. Austermann

St. Franziskus Hospital, Muenster, NRW, Germany

Comparison of endovascular aspiration thrombectomy vs. rheolytic thrombectomy for occluded reno-visceral arteries: A single center experience

Background: The aim of this study was to compare the effectiveness and the safety of endovascular therapy with rheolytic thrombectomy using the AngioJet™ vs. aspiration thrombectomy using the Penumbra CAT™ for treatment of the visceral ischemia caused by occluding lesions in the visceral arteries.

Methods: A retrospective data collection was conducted from patients treated between January 2013 and December 2024. Totally of 57 cases have been diagnosed with mesenteric or renal ischemia and treated by endovascular means in a tertiary institution. Fifteen patients were treated with only with AngioJet™ device, whereas 34 patients were treated primarly with Penumbra™ device. Primary endpoints were a combination of technical success and mortality, secondary endpoint were return to the operating theatre within 30 days, major cardio and cerebrovascular events, access site complications, end organ damage which includes dialysis or bowel resection.

Results: A total of 57 endovascular thrombectomies were performed on 49 patients with visceral ischemia using the AngioJet™ and Penumbra CAT™ devices with an average age of 68.27 years (68.27±10.4), including 36 males and 13 females. The overall success rate was 89.94% (51 out of 57), and the patients were discharged with a patent target artery. A total of 15 procedures were performed using the AngioJet™ device. In 7 cases, the superior mesenteric artery was the affected artery, and in the remaining 8 cases, the renal arteries were affected. This resulted in a technical success rate of 93.33% (14 out of 15). No recurrence was observed. Overall, 80.00%(12 cases) were performed through surgical cut down and under general anesthesia. A total of 34 procedures were performed with the Penumbra™ device, with 15 cases targeting mesenteric arteries, 19 targeting renal arteries. A total of eight recurrent cases were documented. In 85.29% (29 out of 34) of cases, vascular access was obtained through a surgical cut technique, while in 94.1% (32 out of 34) of cases, the intervention was conducted under general anesthesia. The documented technical success rate was found to be 88.23% (30 out of 34).

Conclusions: In this single center experience both devices are both feasible and safe. However, the AngioJet™ demonstrated higher safety and effectiveness, as well as reduced invasiveness and the recurrence rate.

Biography

Dr. Bachar Al Haj is a resident doctor in the Department of Vascular and Endovascular Surgery at St. Franziskus Hospital in Münster, Germany. He is presently enrolled as a PhD student at the University of Münster. Dr. Al Haj has participated in various volunteer projects and has recently published extensively on the endovascular treatment of visceral ischemia.

ORAL PRESENTATION

Belousov AN[1*], Belousova EYu[2]

[1]Kharkiv National Medical University, Ukraine

[2]Laboratory of Applied Nanotechnology of Belousov, Kharkiv, Ukraine

Magnetite nanoparticles as modulators of erythrocyte electrophoretic mobility in toxemic conditions: A nanomedical strategy for hemorheological correction

A decrease in erythrocyte electrophoretic mobility serves as an important diagnostic marker of pathological conditions associated with impaired gas exchange, microcirculation, and tissue trophism, often leading to systemic hypoxia and deterioration of the patient's clinical status. This study investigates the potential of magnetite nanoparticles (MCS-B) to modulate these properties in a targeted and controlled manner. Erythrocytes were obtained from peripheral blood of practically healthy individuals and patients with clinical signs of toxemia. The physicochemical parameters of magnetite nanoparticles were studied using the magnetically controlled sorbent MCS-B. Erythrocyte electrophoretic mobility was measured using an electrophoresis apparatus according to the method of Burlakova et al. (1956). The optimal effective dose of MCS-B was determined by evaluating erythrocyte electrophoretic mobility at different blood-to-sorbent volume ratios (3:1, 2:1, 1:1). A novel approach is proposed to enhance erythrocyte electrophoretic mobility in patients with toxemia through treatment with magnetite nanoparticles. In vitro experiments demonstrated a statistically significant ($p < 0.001$) increase - nearly threefold - in erythrocyte mobility following exposure to MCS-B, compared to untreated controls. The optimal efficacy was observed at a blood-to-nanoparticle ratio of 2:1. Furthermore, application of a constant magnetic field with an intensity of 200–250 kA/m for 2-3 minutes resulted in effective removal of residual nanoparticles from blood samples ($p < 0.001$). The results highlight the biocompatibility and clinical potential of this nanomedical approach, which may serve as a basis for new therapeutic strategies in transfusion medicine, critical care, and regenerative therapy. The study addresses a pressing interdisciplinary challenge, bridging hematology, biophysics, and nanotechnology, with implications for both basic science and clinical implementation.

Biography

PhD, MD, Professor Andrey N. Belousov is Ukrainian medical scientist and pioneer in nanotechnology, who developed the world's first biocompatible nanomedical drugs (Micromage-B, MCS-B, ICNB), officially registered and introduced into clinical practice since 1998. His work established a translational foundation for medical nanotechnology, linking fundamental biophysics with clinical applications in detoxification, hemocorrection, and neuroprotection. The published more 340 scientific works on results application of nanotechnology preparation in experimental and practical medicine. At now Andrey Belousov - the Head of Laboratory Applied Nanotechnologies, Professor of Kharkiv National Medical University, Ukraine.

ORAL PRESENTATION

Prof. Dr. Biswajit Majumder[1*], Dr. Ratul Ghosh[2], Dr. Suvadeep Biswas[3]

[1]Head of Department, Dept. Of Cardiology, R.G. Kar Medical College & Hospital, Kolkata, West Bengal, INDIA

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A study on pattern of regional wall motion abnormality in NSTEMI patients and its correlation with electrocardiographic findings in a Tertiary Care Hospital in Kolkata

Background: Non–ST-elevation myocardial infarction (NSTEMI) often presents with variable electrocardiographic and echocardiographic features. Regional wall motion abnormality (RWMA) on echocardiography reflects myocardial ischemia, but its correlation with electrocardiographic (ECG) findings in NSTEMI is not well established.

Objectives: To assess the pattern of regional wall motion abnormalities in NSTEMI patients and evaluate their correlation with ECG findings in a tertiary care hospital in eastern India.

Methods: This cross-sectional, observational study included 158 consecutive NSTEMI patients admitted between February 2023 and August 2024. Clinical data, ECG findings, and transthoracic echocardiography were analyzed. Patterns of RWMA were documented and compared across different ECG finding groups.

Results: Regional wall motion abnormality was observed in 39.9% of patients. Inferior wall hypokinesia was the most common RWMA, followed by anterior and anterolateral wall hypokinesia. Most patients were aged 61–80 years, with male predominance. The majority belonged to urban areas and had associated comorbidities and substance addiction. Chest pain was the most frequent presenting symptom. A significant proportion of patients had no ST–T changes on ECG. Among those with ECG abnormalities, ST-segment depression in leads V1–V6 was the most common finding. Statistical analysis showed no significant correlation between ECG changes and the presence or distribution of RWMA on echocardiography.

Conclusion: Approximately two-fifths of NSTEMI patients demonstrated RWMA on echocardiography, most commonly involving the inferior wall. However, ECG findings did not reliably predict the presence or location of RWMA. These results highlight the limitations of relying solely on ECG for myocardial localization in NSTEMI and underscore the importance of a multimodal diagnostic approach for accurate assessment and management.

Biography

Dr. Biswajit Majumder is a senior interventional cardiologist with over 20 years of experience. He holds MBBS, MD (Medicine), and DM (Cardiology) degrees from the University of North Bengal and University of Calcutta, and is a Professor

and Head of the Department of Cardiology at R G Kar Medical College, Kolkata. A Fellow of the ACC, FSCAI, ESC, and ICC, Dr. Majumder has published extensively in national and international journals and has performed over 15,000 coronary angiographies and 1,500 angioplasties.

ORAL PRESENTATION

Ermoshkin Vladimir Ivanovich

Rosnou, Moscow, Russia

The cause and mechanism of atherosclerosis requires revision

A thorough investigation of the causes of atherosclerosis in humans has been conducted. Additionally, experimental and scientific data on the causes of atherosclerosis from published articles on the Internet were investigated. Participated in several medical conferences, and there are several published articles in Russian and English. I have concluded that the primary cause of atherosclerosis is periodic leakage of arterial blood into the venous bed. This leads to a drop in tissue pressure in the stretched muscle layer of the arteries. Endothelial dysfunctions occur, then LDL is sucked into the endothelial crevices (i.e., LDL infiltration). Over time, damaged endothelium and intima lead to tissue inflammation. First of all, infiltration occurs in the area of arterial bifurcations. Why there? Bifurcation zones are the zones with the lowest "hydraulic strength". Further plaques can occur in other places of the arteries.

Biography

Ermoshkin Vladimir Ivanovich was born on February 13, 1948. In 1978, he graduated from the Physics Department of Moscow State University. He worked as a physicist in several institutions. Then he worked at RosNOU as a research physicist. He published about 15 medical articles in Russian in 2015-2025. There are about 5 articles in English in the same years.

ORAL PRESENTATION

Prof.Dr. Hasan Aydin
University Of Health Sciences, Türkiye

Coronary CT Angiography (CCTA) and the role of structured reporting in contemporary CAD management

Introduction: Coronary Computed Tomography Angiography (CCTA) is a noninvasive, cost-effective, and rapid heart imaging test essential for the early and accurate detection, diagnosis, and risk stratification of Coronary Artery Disease (CAD). CCTA uses an intravenous injection of iodine-containing contrast material and CT scanning to determine if plaque buildup has narrowed the coronary arteries. CCTA is recommended for assessing patients presenting with acute chest pain (to exclude significant obstructive CAD) and in intermediate- to high-risk patients with stable chest pain.

Methods and technique: To achieve diagnostic quality scans, technical and patient factors must be optimized. This typically involves pharmacological agents like beta-blockers to control the heart rate (if >65 BPM) and nitroglycerin to promote coronary vasodilation. Patient preparation requires avoiding caffeinated products and certain medications (e.g., Viagra or similar) and requires breath-holding during the scan to minimize motion artifacts. The resulting images provide greater detail of soft tissue and blood vessels than traditional X-rays, allowing visualization of internal organs, bone, and potential extracardiac findings (e.g., aortic abnormalities, pulmonary embolism).

Reporting and clinical relevance (CAD-RADS 2.0): Consistent and concise CCTA reporting is standardized using the Coronary Artery Disease–Reporting and Data System (CAD-RADS) 2.0. This structured system informs the overseeing cardiologist and serves as a reference for subsequent procedures, such as Invasive Coronary Angiography (ICA). CAD-RADS 2.0 classifies findings based on stenosis severity (0 to 5) and incorporates overall plaque burden (P1 to P4).

Crucially, the system utilizes several modifiers:

1. **HRP (High-Risk Plaque):** Added if two or more features—including low-attenuation plaque, positive remodeling, spotty calcification, or napkin-ring sign—are present. HRP is associated with an increased risk of acute coronary syndrome, independent of stenosis degree.
2. **I (Ischemia):** Used when non-invasive functional techniques (such as CT-FFR or stress CTP) define the hemodynamic significance of a stenosis (typically CAD-RADS 3 or 4A lesions).

Conclusion: CCTA is non-invasive and avoids the catheter placement complications and lengthy recovery time associated with ICA. By integrating detailed anatomical findings with assessments of

plaque vulnerability (HRP) and functional significance (I), the standardized CAD-RADS 2.0 approach allows radiologists to provide crucial, actionable data, directly guiding cardiologists in determining appropriate patient management, particularly in determining whether ICA or functional assessment is the necessary next step for severe stenoses (CAD-RADS 4A/4B).

Biography:

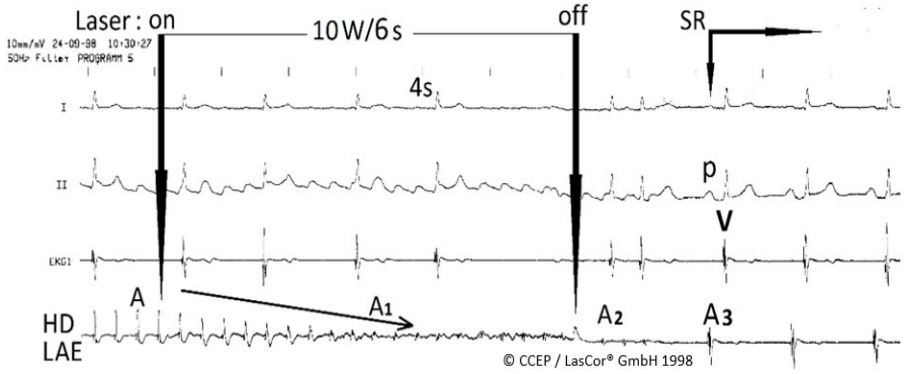
Prof. Dr. Hasan Aydin is a Professional Radiologist in Intervention-Abdominal Radiology and Neuroradiology. He holds a PhD from Hacettepe University and Prof. Degree from University of Health Sciences. Hasan has been working now in a specific Oncology hospital and has published more than 100 papers. Hasan is currently the director of the Genito-urinary Radiology in University of Health Sciences Ankara Oncology Research hospital in Türkiye.

ORAL PRESENTATION

Helmut Weber

CCEP Center Taufkirchen, Bavaria, Germany

Laser catheter ablation of long-lasting chronic persistent Atrial Fibrillation (AF)



Graphical abstract: High Density (HD) lasermapping guided AF ablation: gradual abatement of local atrial potential amplitudes (AA1) with abolishment in 4s. This 7th laser impact aimed at the posterior left atrial wall achieved recurrence to sinus rhythm (SR) A2A3 in the 8th second.

Background: After successful HD-lasermapping guided ablation of various cardiac tachyarrhythmias AF ablation was attempted in 48 patients (50-81, 69±7.6 years, female 28) with drug resistant (3.5 trials) l-lpAF (≥12 months), and with various comorbidities. All were in AF at the beginning of the procedure.

Methods: First, side selective interatrial septal laser puncture was performed by using the optical fiber set ISPunctureLas®. The puncture set was then replaced by the open-irrigated laser catheter RytmoLas® and 1064nm laser applications at 15W/10-15s (14-26; 19 ± 4 per patient) were first aimed at endocardial areas of the left atrial (LA) posterior wall with the largest, most regular electrical potentials. HD Laser- mapping guided ablation was performed systematically under normothermic conditions while avoiding interfering with the electrophysiologic monitoring principles, without electrical hum during laser application. When the entire posterior LA wall was devoid of electrical activity additional lines of ablation were done if needed. The catheter was then withdrawn, and laser impacts were aimed at the right atrial postero-sepal area and if needed at the roof, the basis of atrial appendage, the sinus nodal regions, etc. until stable sinus rhythm was achieved. Abolishment of electrical potentials in the HD-Lasermapping was achieved in 4-11s (8 ± 1.5s). No other mapping procedure was used. Total procedure duration was 82-175min (118 ± 72min). X-ray exposure times ranged from 15-82min (23 ± 12min). Regular follow-up was performed by 24h Holter monitor following the procedure and by clinical checkup and ECG at rest after 3 weeks, three months, 6 months, and one year intervals in the outpatient clinic or by the house doctor, or a cardiologist. Total follow-up was 9 months to 29.3 years (8.2 ± 6.5 years).

Results: The unique HD-Lasermapping visualized immediate real-time laser effects on the monitor. Laser treatment that was without complications, all the patients were in sinus rhythm and off medication. However, after 3 to 4 months 15 patients (31%) needed repeat studies for various arrhythmias including AF in two patients. After redo procedures all were in sinus rhythm except one patient with recurrent AF that was symptom free and refused the redo procedure. Quality of life improved significantly in all the patients and during final follow-up control all except two were off medication and in sinus rhythm (success rate = 96%). Left atrial dimensions decreased significantly after AF ablation ($p<0.0001$). D-dimer serum levels showed that the laser is not thrombogenic.

Conclusions: By using the open-irrigated laser catheter RytmoLas® 1064nm Laser ablation is a tissue specific, non-contact, low power – short duration, normothermic, non-thrombogenic, ablation procedure, representing the safest and most effective long-term treatment of AF.

Biography

Dr Weber graduated 1962 at the University Victor Babeş, Timişoara, Rumania, relocated in Germany 1969, is an epidemiologist, specialist of Internal Medicine, consultant cardiologist, electrophysiology, specializing in cardiovascular laser catheter interventions. Worked at the Georg-August-University Göttingen, the Ludwig-Maximian-University Munich, and Central Laser Laboratory of the Helmholtz Center Munich. He is currently director of the Clinical Cardiac Electrophysiology Center Taufkirchen Department Research – Development – Education, Taufkirchen, Germany.

ORAL PRESENTATION

Dr. Iris-Panagiota Efthymiou
IFSA, London, UK

AI in cardiology: What clinicians need and what policymakers must decide

Artificial intelligence is rapidly entering cardiology, shaping diagnostics, risk prediction, imaging interpretation, and clinical decision support, yet its integration raises unresolved clinical, ethical, and policy questions. This talk examines how AI systems are currently used across cardiology, where they add value, and where they risk distorting clinical judgment. While algorithmic tools can process large datasets, detect patterns beyond human perception, and support earlier intervention, they do not replace responsibility, contextual reasoning, or accountability. In cardiology, errors carry immediate and irreversible consequences. This makes overreliance on opaque models a clinical and governance risk rather than a technical one. The abstract argues that AI in cardiology should be assessed not only by accuracy metrics but by its impact on patient outcomes, clinician autonomy, trust, and equity of care. It explores the tension between speed and safety, innovation and regulation, prediction and explanation. Particular attention is given to bias in training data, unequal performance across populations, and the shift of liability from human decision-makers to hybrid human–machine systems. For clinicians, the challenge lies in maintaining clinical judgment while using AI as a tool rather than an authority. For policymakers, the challenge lies in regulating systems that evolve faster than existing legal and ethical frameworks. The talk proposes a responsibility-centered approach to AI adoption in cardiology, where transparency, auditability, and human oversight are non-negotiable. AI can support cardiology, but only if its limits are clearly defined and its use aligned with professional ethics and public accountability.

Biography

Dr Iris-Panagiota Efthymiou is a Senior Lecturer at the Institute for Study Abroad, in University of Roehampton (Future learn) and RCL. She has also taught at the University of Greenwich, the University of East London, and other European Universities. With more than 20 years of experience in entrepreneurship, international affairs, and executive leadership, she combines academic expertise with global policy engagement. She has delivered over 400 keynote speeches across 30 countries on four continents, addressing international institutions, governments, and academic forums. Her policy influence includes work with UK parliamentarians through the All-Party Parliamentary Group on AI, as well as collaborations with diplomats, business leaders, and international organisations. She has served as a college director, founded a public affairs consultancy, and spoken at the United Nations Headquarters in Geneva. She is a Board Member of HAPSc and a Member of the Academic Board of LabHEM at the University of Piraeus, Greece. Dr Efthymiou has authored 20 books, more than 60 peer-reviewed articles and book chapters, and serves as Chief Editor of the Journal of Politics and Ethics in New Technologies and AI. Her research and public work focus on behavioral economics, AI ethics, healthcare, and public policy. She holds a PhD in Behavioral Economics, a Master's in Health Economics and Management, and a Bachelor's in Economics. Her work consistently advocates for transparency, inclusivity, and fairness in shaping technology, healthcare, and the future of work.

ORAL PRESENTATION

Mamedov M.N.

National Medical Research Center for Therapy and Preventive Medicine, Moscow, Russia

Treatment of atrial fibrillation in elderly patients: The impact of anticoagulants on the risk of stroke

The prevalence of atrial fibrillation (AF) increases with the aging population. Complications associated with AF treatment also increase significantly in older adults aged 75 years or older. The effectiveness of catheter ablation may be less convincing than that of antiarrhythmic drug therapy for rhythm control in patients aged 75 years or older; however, it is considered a safe and effective strategy for treating AF refractory to drug therapy.

In addition to heart rate and rhythm control, stroke prevention is crucial in the treatment of AF. Given the high risk of stroke in individuals aged 75 years or older with AF, the benefits of stroke prevention with anticoagulants outweigh the risk of bleeding. Therefore, regardless of the presence of other risk factors, elderly individuals with AF should receive oral anticoagulants. Overall, a shared decision-making approach is crucial in the management of AF in the elderly.

Biography

Professor Mekhman Mamedov graduated from the Moscow Medical Academy named after I.M. Sechenov in 1993. He continued his medical residency at the Central Clinical Hospital of the Presidential Administration of the Russian Federation. In 1997 Dr. Mamedov received his PhD degree in the National Research Center for Preventive Medicine of the Ministry of Healthcare of the Russian Federation for research titled "Metabolic syndrome components in patients with arterial hypertension". In 2001 he wrote his doctoral thesis on "Clinical and biochemical features of metabolic syndrome and its pharmacological management". He has been working in the National Medical Research Center for Therapy and Preventive Medicine for 31 years, beginning as a researcher and eventually becoming the head of the secondary prevention of cardiovascular diseases.

He is the author of 530 scientific works, 18 monographies in Russian, 6 monographies in English and 3 patents. Hirsch Index: RSCI — 41, Scopus — 7, Web of Science — 8. Under Dr. Mamedov's supervision, 10 PhD and 1 doctoral thesis have been defended. Recently, Professor Mamedov M.N. has initiated 12 research projects. Professor Mamedov M.N. annually gives lectures in Russia and other countries. His research interests include: cardiometabolic disorders, lipid metabolism disorders, male health issues, cardiovascular risk assessment and correction, early markers of atherosclerosis, prediabetes and diabetes mellitus, risk factors and cardiovascular disease epidemiology, cardio-oncology, and comorbidities in internal medicine. Dr. Mamedov is the editor-in-chief of the "International heart and vascular disease journal".

ORAL PRESENTATION

Dr. Nur Balzureen Suhaimi*, Dr. Colin Stirrat
FY2 Resident Doctor, NHS Lothian, Scotland

Improving atrial fibrillation management in NHS Lothian: A quality improvement update of the local AF pathway

Background: Atrial fibrillation (AF) is one of the most common arrhythmias encountered in acute and inpatient settings within NHS Lothian. Despite the availability of local guidelines, variability in AF management and lack of confidence among junior doctors remain challenges, particularly in acute presentations. Clear, up-to-date, and user-friendly guidance is essential to support safe and effective decision-making.

Aim: This quality improvement (QI) project aimed to update the existing NHS Lothian AF pathway to improve clarity, usability, and clinical relevance, with a specific focus on supporting junior doctors in the assessment and management of AF.

Methods: A review of the current NHS Lothian AF guideline was undertaken and compared against up- to-date national guidance and evidence-based practice. Key areas of ambiguity and complexity were identified through informal feedback from junior doctors. The pathway was revised to simplify decision-making, improve flow, and emphasise practical management steps, including rate versus rhythm control, anticoagulation considerations, and escalation criteria.

Results: The updated AF pathway provides a clearer, more structured approach to AF management, with improved accessibility and clinical applicability. Feedback from junior doctors suggested increased confidence in managing AF, particularly in acute and on-call settings. The revised pathway aims to promote consistent, guideline-aligned care across NHS Lothian.

Conclusion: Updating the NHS Lothian AF pathway as a QI initiative has improved the usability of local guidance and supported junior doctors in managing AF more confidently and safely. Ongoing education and feedback will be essential to sustain improvements and further optimise AF care within the organisation.

Biography

Dr. Nur Balzureen Suhaimi is a medical doctor originally from Malaysia and a graduate of the University of Aberdeen. She is currently working as an FY2 Resident Doctor in NHS Lothian, based in Edinburgh. She has a strong interest in clinical research, quality improvement, and medical education, alongside a growing passion for cardiology. Dr. Suhaimi is particularly motivated to improve guideline accessibility and junior doctor confidence in managing common acute medical conditions through practical, clinically focused quality improvement projects.

ORAL PRESENTATION

Dr. Osama Elmaraghi
Elite hospital, Egypt

Advancing the care of heart failure and T2DM

Heart failure is a clinical syndrome caused by a structural and/or functional cardiac abnormality, resulting in a reduced cardiac output and/or elevated intracardiac pressures at rest or during stress. Heart failure poses a significant global disease burden more than 60 million patients worldwide have heart failure. Approximately 50% of patients diagnosed with heart failure will die within 5 years.

There are 589 million patients with diabetes mellitus all over the world. People with diabetes have a 2- to 5-fold higher risk of developing HF. On the other hand, more than 30% of patients with heart failure also have diabetes. Patients with heart failure and diabetes have a worse prognosis than those without diabetes.

Prognosis of Patient with HF Following a Worsening HF event is Characterized by Repeated HF Event Despite the Use of Current Therapy. Resulting in Reduced Cardiac Function and Associated with Increase Mortality Risk, so early screening of HF in diabetic patient is important.

That is why 2024 ADA Guidelines for the first time that the use of cardiac biomarkers for HF risk prediction has been included in diabetic patient ADA Standards of Care in Diabetes—2025 Consider screening adults with diabetes by measuring a natriuretic peptide (B-type natriuretic peptide [BNP] or N-terminal pro-BNP [NT-proBNP]) annually to facilitate prevention of stage C heart failure.

Biography

Dr. Osama Elmaraghy a senior consultant of Diabetes. He graduated from Alex. University, Egypt and had P.G.D.D. Leicester, UK. He is also sharing 6 chapters of Chronic Heart failure textbook, Elsevier, USA. April 2024, and sharing 2023 ICC/ISC Guideline for the management of HF. He has published many papers in world heart journal and European heart journal and shares many conferences as a speaker and chairperson. before he was working at Jahra hospital and Naeem diabetic center in Kuwait, now Dr. Osama working as a senior consultant of diabetes at Elite hospital, Álex Egypt.

ORAL PRESENTATION

Pranjal P. Gujarathi[1*], Shrikant Joshi[2]

[1]SVKM NMIMS Global University, School of Pharmacy and Technology Management, Dhule, Maharashtra, India

[2]Maliba Pharmacy College, Uka Tarsadia University, Bardoli, Gujarat, India

Cardioprotective potential of Machilus macrantha against adriamycin-induced cardiotoxicity: An in vivo study

Background: Machilus macrantha Nees (Lauraceae), commonly known as Gulmau, is a large tree found in Bihar and the Deccan Peninsula (Western Ghats of Maharashtra), India. In-silico biological activity predictions of its alkaloid machiline have revealed fibrinolytic activity, oxygen and free radical scavenging ability, and cardiotonic potential. Phenolic compounds isolated from M. macrantha have also demonstrated free radical scavenging, cytoprotective, and calcium channel antagonistic activities.

Purpose: Reactive oxygen species (ROS) overproduction and calcium overload are key factors involved in ischemia and oxidative stress-induced cardiac injury. The present study aimed to evaluate the antioxidant potential and cardioprotective effect of the methanolic extract of Machilus macrantha roots against doxorubicin-induced cardiotoxicity in rats.

Methods: In vitro antioxidant activity of the methanolic extract was evaluated using the DPPH radical scavenging assay. Cardioprotective activity was assessed in Albino Wistar male rats using a doxorubicin-induced cardiotoxicity model. Animals were pre-treated orally with methanolic extract of M. macrantha (100 and 200 mg/kg). Electrocardiographic (ECG) changes, hemodynamic parameters, cardiac injury markers, and antioxidant enzyme levels were evaluated.

Results: The methanolic extract showed significant antioxidant activity in the DPPH assay. Doxorubicin administration produced marked ECG alterations (depressed ST segment, decreased R–R and QRS intervals, and increased QT interval) and increased serum levels of cardiac injury markers such as CK-MB, LDH, and lipid peroxidation (LPO). It also significantly reduced endogenous antioxidant enzymes including catalase (CAT), superoxide dismutase (SOD), and reduced glutathione (GSH). Pre-treatment with M. macrantha extract significantly improved ECG parameters, reduced CK-MB, LDH, and LPO levels, and restored CAT, SOD, and GSH levels compared with disease control animals.

Conclusion: The methanolic extract of Machilus macrantha roots exhibits significant cardioprotective and antioxidant effects against doxorubicin-induced cardiotoxicity, likely through restoration of endogenous antioxidant defense systems and improvement of electrocardiographic abnormalities.

Biography

Pranjal P. Gujarathi is a currently serves as an Assistant Professor in the Department of Pharmacology at SVKM NMIMS

Global University, School of Pharmacy and Technology Management, Dhule, Maharashtra, India and Ph.D. Scholar at Bhagwan Mahavir University, Gujarat, India, and she has collaborated with Bhabha Atomic Research Centre, India, as a Senior Research Fellow, focusing on the toxicity assessment of radiopharmaceuticals. She has secured research grants exceeding ₹1 lakh from various Indian funding agencies. Her research contributions span neuroprotection, dermatology, cardiology, and complementary and alternative system of medicine, with numerous published research and review papers. Additionally, she has authored five books and contributed to over five book chapters with national and international publishers. Mrs. Gujarathi has been invited as a speaker at prestigious international and national conferences in Malaysia, the USA, China, the UK, etc, both within and beyond India. She also holds a position as editor and reviewer team member of various national journals. Her outstanding research and presentation skills have earned her multiple national and international awards, including recognition as the Best Presenter. She has also been honoured with the Best Woman Researcher Award by the Bureau of Indian Standards and more than 10 awards in national and international Conferences.

ORAL PRESENTATION

Dr. Prashant Sakharam Bhokardankar, Professor and HOD

Rasshastra Bhaishajya Kalpana Dept., Datta Meghe Ayurvedic Medical College Hospital and Research Centre, Nagpur, Maharashtra, India

Integrating ayurveda into preventive cardiology and heart disease management

The prevalence of cardiovascular diseases (CVDs) has significantly increased in recent years due to environmental changes, heavy diets, and lifestyle modifications. As a result, the term "hridroga," which refers to heart-related conditions in Ayurveda, has grown in popularity. Heart attacks, peripheral artery disease, rheumatic heart disease, congenital heart disease, heart failure, hypertension, coronary heart disease, and cerebrovascular diseases like stroke are all included in the broad category of cardiovascular diseases (CVDs). According to Ayurveda, imbalances in the three doshas are the main cause of heart-related illnesses, and treating CVDs involves a difficult task of reestablishing their equilibrium. Throughout history, herbal treatments have been an essential part of human healthcare, with many traditional medical systems using them to treat a wide range of illnesses. One of the oldest and most well-known traditional medical systems in the world is Ayurveda. Through interventions pertaining to diet (Ahara), lifestyle (Vihara), seasonal routines (Ritucharya), yoga, everyday routines (Dinacharya), and rejuvenation therapies (Rasayana), this review paper examines the critical role Ayurveda plays in preventing, controlling, and evaluating CVDs. The study clarifies how Ayurveda's all-encompassing method tackles the underlying causes of CVDs and provides insightful information about lifestyle changes, herbal remedies, and preventative measures. This review attempts to offer a thorough perspective on the potential of Ayurveda in addressing the growing prevalence of cardiovascular problems in contemporary society by combining traditional wisdom with current scientific understanding.

Biography

Dr Prashant Bhokardankar is not just a leading figure in the field of Ayurveda; He is a trailblazer redefining the realms of traditional medicine. With a BAMS degree and an MD in Ayurveda specializing in Rasshastra from the prestigious Govt. Ayurveda College Nanded, he has dedicated his career to advancing the pharmaceutical aspects of Ayurveda since 2005. As a dynamic Professor and Head of the Department at DMAMCHRC Nagpur, he inspires the next generation of Ayurvedic practitioners while simultaneously contributing to the global discourse on traditional medicine. His impressive tenure includes impactful roles at renowned pharmaceutical companies such as Dabur and Arya Vaidya Pharmacy, where he honed his expertise in the Ayurveda pharma sector. Dr. Bhokardankar is a prolific researcher, with numerous national and international publications in indexed journals to his name. His commitment to the field extends beyond academia, as he has organized various seminars and workshops, passionately sharing the wisdom of Ayurvedic medicine. As a sought-after speaker at international conferences across Spain, France, Italy, and Dubai, Dr. Bhokardankar continues to bridge the gap between ancient wisdom and modern science, showcasing the relevance of Ayurveda on a global platform. His work as a principal investigator on multiple funded research projects further underscores his dedication to advancing Ayurvedic pharmaceutical knowledge. With his extensive experience and visionary outlook, Dr. Bhokardankar truly embodies the spirit of innovation within the world of Ayurveda.

ORAL PRESENTATION

Qiong Yuan[1*], Jun Zhang[1], Xueting Yu[1], Gan Qiao[2], Sihui Zheng[3], Chao Zhang[1], Siyi Tang[2], Xiaoping Gao[1], Yu Wang[2], Yajun Yu[1], Jun Cheng[1], Zhen Kuai[4], Chunxiang Zhang[1]

[1]Key Laboratory of Medical Electrophysiology, Ministry of Education & Medical Electrophysiological Key Laboratory of Sichuan Province, Southwest Medical University, Luzhou, China

[2]School of Pharmacy, Southwest Medical University, Luzhou, China

[3]Pharmacy, Medical College, Wuhan University of Technology and Science, Wuhan, China

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DICAR-JP regulates ribosome migration, a new theory of mitochondrial protein production

DICAR, a circular RNA, is known to play a cardioprotective role in diabetic cardiomyopathy (DCM). DICAR-JP is a short fragment of DICAR that represents its active functional domain. We showed that DICAR and DICAR-JP interact with nascent polypeptide–associated complex alpha subunit (NACα) to regulate the expression of the nascent peptide of oxoglutarate dehydrogenase L (OGDHL). Disruption of OGDHL expression reverses the metabolic reprogramming observed in diabetic cardiomyocytes. DICAR-JP facilitates the translocation of nascent OGDHL peptides from the cytoplasm to the mitochondria and plays a key role in regulating the migration of ribosomes from the endoplasmic reticulum to the mitochondria. This mechanism, which we term “ribosome migration,” represents a novel conceptual framework. We also optimized the DICAR-JP RNA sequence and found that DICAR-JP45 exhibits significant cardioprotective effects against heart remodeling in DCM, comparable in efficacy to empagliflozin, a clinically approved inhibitor of sodium–glucose co-transporter-2. In conclusion, we propose a new drug library of endogenous nucleic acids and a new molecular framework, “ribosome migration”, which implicates the DICAR-JP/NACα/OGDHL nascent peptide axis in metabolic reprogramming associated with DCM. Moreover, DICAR-JP45 shows strong potential as a nucleic acid–based therapeutic candidate for treating DCM.

Biography

Dr. Qiong Yuan is a professor of pharmacology, and specialize in cardiovascular pharmacology. She holds a PhD in Pharmacology from Central South University. Dr. Yuan has worked in Wuhan University of Science and Technology and Southwest Medical University on cardiovascular diseases and has published extensively on diabetic cardiomyopathy. She been engaged in the research on the pathogenesis of cardiovascular and cerebrovascular complications in diabetes.

ORAL PRESENTATION

Dr. Ahmed Y. Azzam[1], MD, MEng, DSc(h.c.), FRCP, Dr. Maha Saleh Alghamdi[2], Dr. Reem Alsheikh[3*]

[1]Physician-Scientist-Engineer, West Virginia University

[2]University of Albaha, Saudi Arabia

[3]Assistant professor, KSU-HS, Jeddah, Saudi Arabia

Low dose vs. higher doses of colchicine for secondary prevention of ischemic stroke and cardiovascular disease. An updated grouped meta-analysis of landmark trials

Introduction: The role of colchicine in secondary cardiovascular prevention remains unclear and debatable when it comes to optimal dosing strategies and patient selection. We conducted a systematic review and meta-analysis comparing low-dose versus higher-dose colchicine for secondary prevention of ischemic stroke and adverse cardiovascular events.

Methods: We searched multiple scientific databases until February 20th, 2025 for randomized controlled trials comparing colchicine with placebo in patients with previous history of ischemic stroke, cardiovascular disease or cardiovascular events. Primary outcome was ischemic stroke incidence; secondary outcomes included adverse cardiovascular events (ACE), myocardial infarction (MI), and mortality. We performed subgroup analyses based on dosing (≤0.5 mg/day vs >0.5 mg/day), age, gender predominance, and trial sample size. Quality assessment used GRADE framework and Cochrane Risk of Bias 2 tool.

Results: Sixteen trials (n=24,967) were included. Low-dose colchicine significantly reduced ischemic stroke risk (RR 0.74, 95% CI 0.59-0.92, p-value= 0.007), especially in younger patients (younger than 65 years-old; RR 0.36, 95% CI 0.17-0.78, p-value= 0.009). Colchicine significantly reduced ACE (RR 0.72, 95% CI 0.65-0.80, p-value<0.001) and MI (RR 0.79, 95% CI 0.66-0.95, p-value= 0.010), with greater benefits observed with low-dose regimens and single daily dosing. Mortality outcomes showed no statistically significant differences.

Conclusions: Low-dose colchicine (0.5 mg daily) appears superior to higher doses for secondary stroke and cardiovascular events prevention. The significant reduction in cardiovascular events, coupled with neutral mortality effects, supports its use as adjunct therapy in selected patients for secondary prevention.

Biography

Dr. Reem Mohammed Alsheikh, Assistant Professor in King Saud University for Health Science, Consultant Family Medicine in National Guard Primary Health care center, in Jeddah, Saudi Arabia. I have a clinical experience for more than twenty years, trainer for residency program for sixteen years, I am currently Residency Program Director of Family Medicine program for Western Region, National Guard.

ORAL PRESENTATION

Dr Rohit Mody, MD, DM, FACC, FESC, FSCAI, FAPSIC, FRSM, FCSI

Mody Harvard Cardiac Institute & Research Centre by Park Group, Bathinda (151001), Punjab, India

Cardiogenic shock: Latest status of all mechanical support devices

Background: Despite developments in revascularization, the mortality rate via cardiogenic shock (CS) caused by acute myocardial infarction (AMI) is still high. With the goal to preserve end-organ function, unload the left ventricle, and boost systemic perfusion, mechanical circulatory support (MCS) devices have been developed. The indications and clinical roles of widely used devices, such as the intra-aortic balloon pump (IABP), veno-arterial extracorporeal membrane oxygenation (VA-ECMO), and micro-axial flow pumps (mAFP/Impella), have been revised by recent randomized trials and guidelines.

Methods: Using all of the available scientific content from the provided presentation, a thorough synthesis of current evidence, updated guidelines, and device-specific clinical data was carried out. The outcomes of significant trials (IABP-SHOCK II, ECLS-SHOCK, ECMO-CS, and Danger Shock), hemodynamic effects, selection criteria, and practical applicability in various healthcare settings were all given particular focus. In order to arrive at an integrated interpretation, both textual data and device-specific diagrams were analyzed.

Results: Routine IABP use in AMI-CS showed no mortality benefit and has been downgraded to a Class III recommendation, although it remains valuable in mechanical complications such as papillary muscle rupture and ventricular septal defect, and in resource-limited environments due to affordability, accessibility, and safety. VA-ECMO demonstrated no survival advantage when initiated early in AMI-CS and was associated with increased complications, restricting its role to salvage use in refractory shock or E-CPR scenarios. In contrast, the micro-axial flow pump received upgraded guideline support following the Danger Shock trial, which showed a 26% relative mortality reduction at 180 days in rigorously selected STEMI-CS patients. Because enrollment criteria were narrow, only a minority of real-world patients meet eligibility, highlighting the importance of precision phenotyping and exclusion of non-salvageable physiology. Additional emerging strategies—such as ECPELLA for biventricular shock and modern RV support devices—offer complementary hemodynamic advantages.

Conclusions: In contemporary MCS management for AMI-CS, routine device application is being replaced by selective, physiology-driven support based on patient phenotype, shock severity, and resource context. IABP is still effective for some indications and low-resource settings, VA-ECMO is now only used for rescue, and AFP is now the suggested course of treatment for carefully chosen STEMI-CS patients. Optimizing results requires careful patient selection, early identification of

reversible physiology, and system-of-care strategies that take timing, expertise, and device availability into account.

Biography

Dr Rohit Mody is a highly accomplished interventional cardiologist, academic leader, and healthcare entrepreneur with a strong national and international footprint. He serves as CEO of Mody Harvard Institutes & Research Centres and holds senior leadership roles across the Park Group and Clearmedi Group of Hospitals. Dr Mody has authored 99 peer reviewed publications, 15 editorial board memberships, and is actively involved in guideline-oriented research. He is a regular faculty at multinational cardiology conferences, delivering lectures and live-case teachings worldwide. His work focuses on complex coronary interventions, innovation, education, and expanding equitable, high-quality cardiac care across India and beyond.

ORAL PRESENTATION

Ruth A. Rasmussen[1*], PhD RDN; Susan B. Sisson[2], PhD RDN; Jonathan D. Baldwin[3], MS; Norman Hord[4], PhD, MPH, RDN; Kathrin Eliot[5], PhD, RDN; Leah Anderson[5], PhD, RDN; Mary J. Gowin[6], PhD, MPH; Brook D. Scott[7], MD; Darlene Wortham[7], RN

[1]Liberty University, School of Health Sciences, Public and Community Health, Virginia, USA

[2]University of Oklahoma Health Sciences Center, College of Allied Health, Department of Nutritional Sciences, Oklahoma, USA

[3]University of Oklahoma Health Sciences Center, College of Allied Health, Department of Rehabilitation Sciences, Oklahoma, USA

[4]Oklahoma State University, College of Education and Human Sciences, Department of Nutritional Sciences, Oklahoma, USA

[5]University of Oklahoma Health Sciences Center, College of Allied Health, Department of Nutritional Sciences, Oklahoma, United States of America (USA)

[6]University of Oklahoma Health Sciences Center, College of Medicine, Department of Family Medicine, Oklahoma, USA

[7]Oklahoma Heart Hospital, North Campus, Center for Intensive Cardiovascular Rehabilitation, Oklahoma, USA

Our research comparing traditional and pritikin intensive cardiac rehabilitation outcomes

Purpose: The objective of this study was to assess differences in dietary behavior and clinical risk factor outcomes and explore predictors of change among patients participating in traditional and pritikin intensive cardiac rehabilitation (CR).

Methods: This secondary analysis of cardiac registry data from 2015-2021 included patients participating in traditional CR (n=420) or Pritikin intensive CR (n=1005) at a single hospital site. Dietary behavior outcomes included the Rate Your Plate measure while clinical risk factor outcomes included fasting lipids, blood pressure, anthropometrics, functional outcomes, and psychosocial assessment. Analysis of covariance examined a difference in Rate Your Plate scores between CR groups. Multivariate analysis of covariance was used to determine differences in clinical risk factor variables between CR groups. Predictors of change in dietary behavior and clinical risk factors were determined through multiple bivariate linear regression models within each CR group.

Results: Both CR programs led to significant improvements though more change was observed among Pritikin intensive CR participants in dietary behavior, anthropometrics, and fasting lipids. Status as a current or recent smoker were not significant predictors of dietary behavior. Male sex, status as a current or recent smoker, beta blockers and angiotensin-converting enzyme inhibitors prescribed were not significant predictors of total cholesterol, low-density lipoprotein cholesterol, high-density lipoprotein cholesterol, or non-high-density lipoprotein cholesterol for traditional and Pritikin intensive

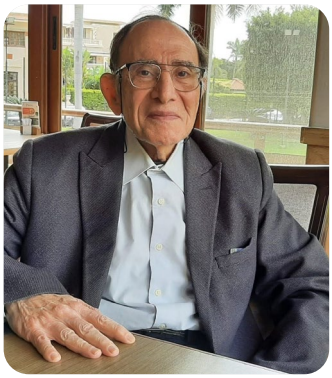
CR groups. There were not significant predictors of blood pressure, body mass, or waist circumference.

Conclusion: Although participation in either CR program yielded cardiometabolic benefits, Pritikin intensive CR patients exhibited significantly greater improvements in dietary behavior and clinical risk factors.

Biography

Dr. Ruth Rasmussen is an Assistant Professor for Liberty University's School of Health Sciences. She attained her Master of Arts in Dietetics ('12), Master of Science in Nutritional Science ('13), and PhD in Nutritional Sciences ('22) at the University of Oklahoma Health Sciences Center. She worked for 7 years as an outpatient cardiac rehabilitation dietitian and educator within Pritikin Intensive Cardiac Rehab at the Oklahoma Heart Hospital in Oklahoma City. Her research focuses on nutritional intake and healthy food access of children and cardiovascular health among intensive and traditional outpatient cardiac rehabilitation patients in Oklahoma.

ORAL PRESENTATION



Samir Morcos Rafla, MB, ChB (Hon.), PhD, FACC, FESC, FHRS
Alexandria University, Egypt

Predictors of sudden death in congenital arrhythmogenic syndromes

Background: Genetic heart diseases are common causes of sudden cardiac death (SCD) in young individuals, and are typically divided into inherited cardiomyopathies and primary electrical heart diseases. Hypertrophic cardiomyopathy (HCM) and arrhythmogenic cardiomyopathy (ACM) are both cardiomyopathies that increase the risk of SCD.

Objective: To define risk predictors of SCD. Primary electrical diseases that are more commonly seen in clinical practice include Brugada syndrome (BrS) and long QT syndrome (LQTS). Risk stratification for SCD is a must in managing patients with these genetic heart diseases. Numerous risk factors have been identified, and risk prediction models have been developed to estimate the risk of sudden cardiac death (SCD). These tools assist clinicians and patients in making decisions about the use of prophylactic implantable cardioverter-defibrillators (ICDs).

Conclusions: This paper examines the current literature on risk stratification in ARVC and other ACMs, such as BrS and LQTS, and summarizes current recommendations for using ICD.

Biograpghy

Samir Morcos Rafla, MB, ChB (Hon.), PhD, FACC, FESC, FHRS, Professor Emeritus of Cardiology Alexandria University, Dr. Rafla is a Fellow of the American College of Cardiology (FACC), an Emeritus Fellow of the European Society of Cardiology (FESC), and a Fellow of the Heart Rhythm Society (FHRS). He is also a member of the European Heart Rhythm Association (EHRA) and a Senior Member of the Egyptian Society of Cardiology. He completed a research fellowship at the Cleveland Clinic Foundation in Ohio, USA (1983–1984), where he further advanced his expertise in cardiac electrophysiology. Dr. Rafla's primary areas of expertise include cardiac electrophysiology and echocardiography. He has authored four medical books and published more than 100 scientific papers in peer-reviewed journals. His work has received over 540 citations, with an H-index of 7 according to Google Scholar and ORCID. Awards: Award for Scientific Encouragement, Alexandria University (1994), Award for Scientific Distinction, Egyptian Medical Syndicate (February 2008). Research Profiles: ORCID: https://orcid.org/0000-0001-8688-6532

ORAL PRESENTATION

Sanjeev Sirpal

Department of Social and Preventive Medicine, School of Public Health ESPUM, University of Montreal, Montreal, QC, Vitalite Health Network, Edmundston, NB, Canada

The role of the food environment on cardiometabolic health: Evidence from a large cross-sectional study on type II diabetes risk

Background: There is a demonstrated association between nutritional habits and metabolic diseases, specifically type II diabetes. Emerging studies demonstrate that the food environment potentially has an impact on individual and population type II diabetes risk. This study evaluates the association between the food environment and type II diabetes risk among adult residents across six metropolitan regions of Quebec.

Methods: A quantitative research design with cross-sectional analyses was employed using a subsample of 8,405 adults from the CARTaGENE cohort. Exposures to food environments were operationalized using 1000-meter buffer zones around residential addresses. Five density indicators and three proximity measures for grocery stores, convenience stores, and fast-food restaurants were calculated. Logistic regression analyses assessed associations between these indicators and self-reported type II diabetes, adjusting for potential confounders.

Results: Results showed an absence of statistically significant relationships between proximity to most food outlets (closest convenient stores and fast-food restaurants) and individual type II diabetes status. In contrast, the material deprivation index of a neighborhood was positively and significantly associated with type II diabetes risk. Residing in a “food desert” was the only geographic indicator statistically significantly positively associated with type II diabetes risk in both univariate (OR = 1.42; 95% CI: 1.05, 1.90) and multivariate models (OR = 1.56; 95% CI: 1.12, 2.18).

Conclusions: The study found no significant relationship between individual type II diabetes status and most food environment factors, though neighborhood socioeconomic indicators showed significant associations. Furthermore, residing in a "food desert" significantly increased individual type II diabetes risk. Public health measures to curb type II diabetes should concomitantly address individual risk factors, pertinent aspects of the food environment, and neighborhood socioeconomic indicators.

Biography

Dr. Sanjeev Sirpal is a physician, medical researcher, and public health scholar. He holds a Doctor of Medicine (M.D.) and a certification in Family Medicine. He has co-authored several academic publications on topics such as chronic disease management, cardiometabolic health, and public health. In addition to his clinical and epidemiological research into the social determinants of health, he is a prolific inventor.

ORAL PRESENTATION

Sergey Suchkov[1-13*], Mark Hendrikx[14], Noel Rose[15,16], Aleks Gabibov[17], Matt Springer[18]

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[2]InMedStar, Russia

[3]China Hong Kong Innovation International Business Association, Hong Kong

[4]New York Academy of Sciences, USA

[5]EPMA (European Association for Predictive, Preventive and Personalized Medicine), Brussels, EU

[6]ISPM (International Society for Personalized Medicine), Japan

[7]PMC (Personalized Medicine Coalition), Washington, USA

[8]AMEE (Association for Medical Education in Europe), Centre for Medical Education, Dundee, Scotland

[9]ACS (American Chemical Society), Washington, DC, USA

[10]AHA (American Heart Association), Dallas, TX, USA

[11]ARVO (The Association in Research in Vision & Ophthalmology), Rockville, MD, USA

[12]ISER (International Society for Eye Research), Anchorage, AK USA

[13]The Russian Academy of Natural Sciences, Moscow, Russia

[14]Center for Cardiac Surgery, Hasselt University, Hasselt, Belgium

[15]Johns Hopkins Center for Autoimmune Disease Research and PAHO/WHO Collaborating Center for Autoimmune Disorders, Johns Hopkins Medical Institutions, Baltimore, MD, USA

[16]Harvard Medical School, Boston, MA, USA

[17]Institute for Bioorganic Chemistry, Russian Academy of Sciences, Moscow, Russia

[18]Dept for Cardiology, UCSF, S-F, CA, USA

Antibody-proteases as unique biomarkers, potential targets and translational tools of the next step generation to be used in personalized and precision cardiology practice

Catalytic Abs (catAbs) are multivalent immunoglobulins (Igs) with a capacity to hydrolyze the antigenic (Ag) substrate. In this sense, proteolytic Abs (Ab-proteases) represent Abs to provide proteolytic effects. Abs against Cardiac Myosin (CM) with proteolytic activity exhibiting targeted cleavage of CM molecule are of great value to monitor stages of autoimmune inflammation in patients with autoimmune myocardi-tis (AIM) and persons-at-risk.

AIM is just one of the chronic organ-specific autoimmune diseases resulting in a destruction of cardiac tissue by different tools, including highly aggressive and destructive autoAbs. Some of these autoAbs may also have a functional role in patients, as suggested by in vitro data as well as by preliminary clinical ob-servations, though further work is in progress to clarify this important issue. And along with canonical Abs, some of the families proven to occur are Abs possessing with catalytic (proteolytic) activity (catAbs or abzymes) and thus to belong to Abs with a feature of functionality! Such Ab-proteases have been found in a series of autoimmune disorders, including multiple sclerosis, autoimmune thyroiditis, etc.

The unique clinical case is a family of Ab-proteases detectable in AIM to cleave CM. Of great interest is the evolution of Ab-associated proteolytic activity at different stages of the disease progression. The ac-tivity of Ab-proteases was registered at the subclinical stages 4-12 months prior to the clinical illness. The activity of the Ab-proteases revealed significant correlation with scales of autoaggression and the disabil-ity of the patients with AIM as well. So, the activity of Ab-proteases and its dynamics tested would con-firm a high subclinical and predictive value of the tools as applicable for monitoring protocols.

So, further studies on Ab-mediated CM degradation and other targeted Ab-mediated proteolysis may pro-vide biomarkers of newer generations to monitor and to treat AIM patients at clinical stages and to prevent the disorder at subclinical stages in persons-at-risks to secure the efficacy of regenerative manipulations and for assessing the disease progression and predicting disability of the AIM patients and persons-at-risks.

Biography

Sergey Suchkov was born in the City of Astrakhan, Russia, in a family of dynasty medical doctors. In 1980, graduated from Astrakhan State Medical University and was awarded with MD. In 1985, Suchkov maintained his PhD as a PhD student of the I.M. Sechenov Moscow Medical Academy and Institute of Medical Enzymology. In 2001, Suchkov maintained his Doctor Degree at the National Institute of Immunology, Russia. From 1989 through 1995, Dr Suchkov was being a Head of the Lab of Clinical Immunology, Helmholtz Eye Research Institute in Moscow. From 1995 through 2004 - a Chair of the Dept for Clinical Immunology, Moscow Clinical Research Institute (MONIKI). In 1993-1996, Dr Suchkov was a Secretary-in-Chief of the Editorial Board, Biomedical Science, an international journal published jointly by the USSR Academy of Sciences and the Royal Society of Chemistry, UK.

At present, Dr Sergey Suchkov, MD, PhD, is: Director for Center of Biodesign of N.D. Zelinskii Institute for Organic Chemistry of the Russian Academy of Sciences, Moscow, Russia; Senior Scientific Advisor of China Hong Kong Innovation International Business Association, Hong Kong; R&D Director of InMedStar, Russia. Member of the: Russian Academy of Natural Sciences, Moscow, Russia; New York Academy of Sciences, USA; American Chemical Society (ACS), USA; American Heart Association (AHA), USA; European Association for Medical Education (AMEE), Dundee, UK; EPMA (European Association for Predictive, Preventive and Personalized Medicine), Brussels, EU; ARVO (American Association for Research in Vision and Ophthalmology); ISER (International Society for Eye Research)

ORAL PRESENTATION

Shubhangi Humbre, L. Shah, A. Lokhande, P. D'Costa, V. Lobo
King Edward Memorial Hospital, Pune, India

To evaluate the predictive value of Neutrophil To Lymphocyte Ratio (NLR) to predict New Onset Atrial Fibrillation (NOAF) in septic shock

Introduction: Atrial Fibrillation (AF) is the commonest arrythmia in septic shock. It is common during first 72 hours of the septic shock. An exact cause of this is not known, although inflammation is the proposed cause by many. NLR is emerging as a new cost effective marker in various inflammatory conditions including sepsis.

Objectives: We observed the NLR values on day 1, 3 and 5 of all patients admitted or who developed septic shock during their ICU stay. The day of onset, length of ICU stay, number of episodes and resolution of shock were observed.

Methods: 97 adult patients admitted in various intensive care units of King Edward Memorial Hospital, Pune, who had septic shock during their ICU stay, were included. Continuous ECG monitoring was done. NLR value >3.53 was considered as a positive value or test. (normal value is 0.78 to 3.53)

Exclusion criteria: Neutropenia, immunosupression, pregnancy, pre-existing AF or valvular heart disease and other causes of shock.

Results:

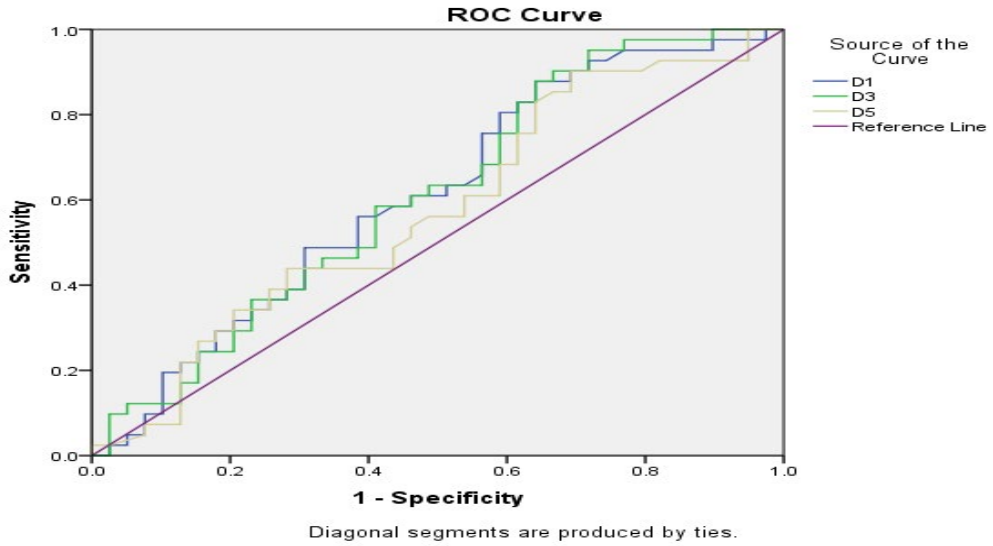
Table 1: Sensitivity analysis of NLR

Sensitivity analysis	Day 1	Day 3	Day 5
Sensitivity	91.5%	95.6%	90.2%
Specificity	20%	14.6%	17.7%
Negative predictive value (NPV)	71.4%	77.8%	66.6%
Positive predictive value (PPV)	51.8%	51.7%	50%

Table 2: AUC

NLR	AUC	Standard Error	p value	95 % C.I.
Day 1	0.611	0.064	0.088	0.486-0.735
Day 3	0.610	0.064	0.089	0.486-0.735
Day 5	0.575	0.065	0.250	0.448-0.702

Figure 1: ROC curve.



Conclusions: NLR has a good sensitivity to predict NOAF in septic shock but lacks specificity. The cut off value for NLR of 3.53 on day 3 has better predictive value for NOAF in septic shock than on day 1 and day 5.

Biography

I have done my medical graduation from BJ medical college, Pune, India. I have done my post graduate training in Anaethesiology. I have done my fellowship in critical care and currently working as a consultant in critical care medicine. I am also a post graduate teacher in critical care medicine. My interests-Antimicrobial stewardship, Hemodynamics, Echocardiography and Research.

ORAL PRESENTATION

Urazalina Saule

NPJS, Kazakh National Medical University Named After S.D Asfendiarov, Almaty, Republic of Kazakhstan

Danon disease (clinical case)

Background: In 1981 Morris Danon described 2 patients with severe hypertrophic cardiomyopathy as a glycogen storage disease of the heart. Danon disease is a rare X-linked dominant genetic disorder that manifests with the clinical triad of cardiomyopathy, skeletal myopathy, and intellectual disability. It is caused by genetic mutations in the lysosome-associated membrane 2 (LAMP2) gene, with most mutations leading to an absence of LAMP2 protein.

Material: The young man at 22 years old with asthenic body type and low intellectual level; his main complaints were general weakness, heart palpitations. Family history -his mother had a pacemaker implanted at the age of 34 due to sick sinus syndrome. Father is healthy.

Methods: EKG, EKG monitoring by Holter, doppler-echocardiography, cardiac magnetic resonance, laboratory tests, genetics test.

Results: Biochemical tests showed that elevated level of ALT was 5,8 times higher than normal; AST - 4,8 times; The level of CFK was also increased with mostly elevation of MB fraction and the level of troponin was normal. EKG revealed high ECG voltage with repolarization abnormalities, Wolff-Parkinson-White (WPW) syndrome (pre-excitation syndrome). In EKG monitoring by Holter were found 160 episodes of supraventricular tachycardia, 1119 extrasystoles, maximum heart rate -122 bit/min. Echocardiogram and cardiac magnetic resonance imaging showed severe left ventricular hypertrophy: LV myocardial mass index -246g/m2, wall thickness parameter-0,61; EFLV-60%, GLSmean= -16,4. Retinal examination showed changes in retinal pigment. Genetic test – a mutation c.928G>A was detected in exon 7 of the LAMP2 gene: x-linked dominant inheritance pattern. The mother was a carrier of the mutant gene, which she passed on to her son.

Conclusions: An x-linked dominant inheritance pattern in conjunction with hypertrophic cardiomyopathy in young male, skeletal myopathy, retinopathy, intellectual disability and immunohistochemistry with LAMP2 protein deficiency strongly suggests Danon disease.

Biography

PhD, professor Saule Urazalina is a cardiologist specializing in functional methods of diagnostics as EKG, Echocardiography, EKG monitoring by Holter. She graduated from the 1-st Moscow medical university named after I.M. Sechenov. She engaged in scientific work at the Russian cardiology research and production complex and defended doctoral dissertation on the topic of subclinical atherosclerosis. Dr. Saule Urazalina completed the clinical-theoretical program in the modern methods of echocardiography in Tel-Aviv Sourasky medical center affiliated to Tel-Aviv university. She is currently the professor of cardiological department in Kazakh National Medical University named after S.D Asfendiarov.

ORAL PRESENTATION

Yasser Mohammed Hassanain Elsayed
Egyptian Ministry of Health, Cairo, Egypt

Yasser's electrocardiographic palpitations wave with bilobed apical floating heart syndrome in Yasser's fibrillation-A strange innovative cardiovascular and radiological discoveries-A case report

Rationale: Atrial fibrillation (AF) is the most common arrhythmia. It is known leading cause of ischemic cerebrovascular accidents. Yasser's fibrillation (sinusoidal AF) or mixed AF is a new cardiovascular discovery. The partial sino-atrial nodal function has an essential role in the presence of sinusoidal AF (Yasser's fibrillation) or mixed AF and its interpretation. Sinusoidal AF (Yasser's fibrillation) or mixed AF may be balanced between AF and normal sinus rhythm.

Patient concerns: A 23-year-old, single male farmer Egyptian patient was presented to the physician outpatient clinic with Yasser's fibrillation (Sinusoidal AF) and chest pain. The patient was referred and admitted to the intensive care unit (ICU) for AF with chest pain. Diagnosis Yasser's electrocardiographic wave with Bilobed Apical Floating Heart Syndrome in a young with Yasser's fibrillation (Sinusoidal atrial fibrillations) and a strange extremely rare associated rhythms.

Interventions: Chest X rays, electrocardiography, oxygenation, IV amiodarone, and echocardiography.

Outcomes: Dramatic response and excellent outcomes were the results.

Lessons: Bilobed Apex heart with Floating Heart syndrome is an innovative cardiovascular and radiological discovery. The Bilobed Apex heart with Floating Heart syndrome with "Yasser's Electrocardiographic Palpitations Waves" and off-phenomenon post-amiodarone IVB injection are remarkable innovative constellations. "Yasser's Electrocardiographic Palpitations Waves" was shortly described as a superficial upright wave associated with unusual palpitations. Bilobed Apex heart with Floating Heart has no known cause. It is mostly congenital. The senses of sudden heart stoppage, generalized fatigue, vertigo, acute confusion, generalized body relaxation, a sense of separation from the environment, and a sense of no abnormality within minutes of amiodarone IVB injection are an off-phenomenon.

Biography

Dr. Yasser Mohammed Hassanain Elsayed is a scientist, critical care physician, cardiologist, and independent researcher at the Egyptian Ministry of Health. He has (153) publicized articles with (22) Innovations. They included (3) "Yasser's sign",

(6) "Yasser's phenomenon", (1) "Yasser's modification", (1) "Yasser's maneuver", (1) "Yasser's method", (1) "Yasser's test", (4) "Yasser's syndrome", (1) "Yasser's fibrillation", (1) "Yasser's Procedure", (1) Yasser's ECG palpitations wave, (1) Factitious Yasser's Infarction, and (1) "Yasser's Criterion". He was an international speaker in (34) Conferences, reviewed (309) articles, was an honorable editor for (275) Journals, (13), Conferences OCM, and was an instructor in (12) official and (118) non-official training. He has (50) COVID-19 publicized articles; He was nominated for big prizes such as Breakthrough Prize, Einstein Prize, etc. He gained (more than 177) excellence certificates.

ORAL PRESENTATION

Zakirova G.A

Tashkent State Madical Universitet, Tashkent, Uzbekistan

Features of renal blood flow indicators in patients with chronic heart failure depending on the degree of renal dysfunction

Cardiovascular comorbidity involving chronic heart failure (CHF) and renal dysfunction (RD) represents a major clinical problem due to its high prevalence and association with increased mortality and adverse outcomes. Impaired myocardial contractility in CHF leads to reduced renal perfusion, activation of neurohormonal mechanisms, and progressive deterioration of renal function, thereby aggravating the course of heart failure. Assessment of renal hemodynamics may provide additional prognostic and pathophysiological insights into cardiorenal interactions.

Purpose: To investigate renal blood flow parameters in patients with CHF depending on the severity of renal dysfunction.

Materials and methods: The study included 205 patients with CHF classified according to the New York Heart Association (NYHA): class I (n=59), class II (n=91), and class III (n=55). The mean age was 60.5±7.16 years. Renal function was assessed by estimating glomerular filtration rate (eGFR) using the CKD-EPI formula based on serum creatinine levels. Patients were divided into two groups according to eGFR (>60 ml/min and ≤60 ml/min). Doppler ultrasonography of the right and left renal arteries was performed to determine peak systolic velocity (Vs), end-diastolic velocity (Vd), mean velocity (Vmean), pulsatility index (PI), and resistive index (RI).

Results: Progressive deterioration of renal hemodynamics was observed with increasing functional class of CHF. In patients with class I CHF, significant reductions in Vmean (by 41.9% and 36.5%) and Vd (by 22.4% and 3.1%) were noted compared with controls, along with increased PI and RI values ($p<0.001$). In class II CHF, more pronounced decreases in Vmean (55.9% and 57.2%), Vd (35.3% and 18.7%), and Vs (16.8% and 14.6%) were observed ($p<0.001$), accompanied by further increases in PI and RI. In class III CHF, renal blood flow impairment was even more severe, with Vmean reduced by up to 60.6% and Vd by 36.1% ($p<0.001$). Renal dysfunction (eGFR ≤60 ml/min) was independently associated with significantly reduced Vs (by 15.4% and 17.8%), Vd (by 17.1% and 18.3%), and increased RI (by 12.9% and 13.4%) and PI (by 9.9% and 11.1%) compared with patients with preserved renal function ($p<0.05–0.01$).

Conclusions: In patients with CHF, renal blood flow parameters progressively worsen with increasing functional class and declining eGFR. Doppler-derived renal hemodynamic indices (PI, RI, Vs, Vd, Vmean)

may serve as important markers of cardiorenal interaction severity and could be considered in risk stratification of patients with cardiovascular comorbidity.

Biography

Dr. Gulnoza Zakirova is a cardiologist and leading scientific researcher specializing in chronic heart failure and cardiorenal interactions. She holds a Doctor of Medical Sciences (DSc) degree. She works at the Republican Specialized Scientific Practical Medical Center of Therapy and Medical Rehabilitation and at Tashkent State Medical University, Uzbekistan. Her research focuses on the clinical, humoral, and genetic mechanisms of endothelial dysfunction in patients with chronic heart failure and renal dysfunction. Dr. Zakirova is the author of numerous scientific publications and actively participates in international scientific conferences in cardiovascular medicine.

BOOK OF ABSTRACTS

Poster Sessions

MAR 26-27

INTERNATIONAL CONFERENCE ON

CARDIOLOGY AND CARDIOVASCULAR SCIENCE

POSTER PRESENTATION

Dr. Affan Irfan
Mayo Clinic Health System, United States

Hormonal contraceptive use and new-onset heart failure

Background: Heart failure in young adults is uncommon and typically reflects underlying myocardial vulnerability rather than primary cardiomyopathy. Estrogen-containing oral contraceptive pills (OCPs) are widely used and generally considered safe, though their hemodynamic and metabolic effects in high-risk phenotypes remain incompletely understood.

Case: A 22-year-old woman with class II obesity (BMI 36) and no known cardiac history presented with acute decompensated congestive heart failure, manifesting as progressive dyspnea, orthopnea, and peripheral edema. She denied recent viral illness, pregnancy, substance use, or family history of cardiomyopathy. She reported self-directed use of over-the-counter estrogen-containing OCPs for approximately one year without prior medical evaluation.

On admission, she was tachycardic with mildly elevated blood pressure. Laboratory studies demonstrated elevated natriuretic peptides with normal troponin and inflammatory markers. Transthoracic echocardiography revealed a reduced left ventricular ejection fraction of approximately 30–35% with global hypokinesis, mild left ventricular dilation, secondary functional mitral regurgitation, and elevated filling pressures. Coronary disease and pulmonary embolism were excluded.

The patient was treated with intravenous diuresis and guideline-directed medical therapy for heart failure with reduced ejection fraction, with rapid symptomatic improvement. Estrogen-containing OCPs were discontinued during hospitalization.

Conclusion: This case does not suggest a causal relationship between estrogen-containing OCPs and cardiomyopathy. Rather, it raises the hypothesis that estrogen exposure may act as a hemodynamic, neurohormonal, or metabolic stressor capable of unmasking previously compensated myocardial dysfunction, particularly in the setting of obesity. Potential mechanisms include estrogen-mediated activation of the renin–angiotensin–aldosterone system, sodium and fluid retention, blood pressure instability, and interaction with cardiometabolic stress. Current guidelines address contraceptive safety in women with established cardiovascular disease but do not consider hormonal exposure as a modifier of incident heart failure risk. This case highlights a potential gap in sex-specific heart failure risk assessment and warrants further investigation.

Biography

Dr. Affan Irfan, a non-invasive cardiologist specializing in prevention. He holds a PhD in Cardiovascular Physiology from the University of Louisville, KY. Dr. Irfan has worked on research projects in estimating risk biases in guidelines, acute myocardial infarction diagnoses, and cardiac prevention. He is currently at the Cardiovascular Division of Mayo Clinic Health System and Rochester, USA.

POSTER PRESENTATION

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Hybrid RFR-FFR decision-making strategy for physiology-guided coronary revascularization in patients with non-ST elevation acute coronary syndrome

Objective: To developed a hybrid resting full-cycle ratio (RFR)- fractional flow reserve (FFR) decision-making approach for physiology-guided coronary revascularization in patients with non-ST elevation acute coronary syndrome (NSTE-ACS).

Materials and methods: This investigation comprised 253 NSTE-ACS patients (with 320 diseased vessels) who underwent invasive physiological evaluation at Cangzhou Central Hospital of Hebei Medical University between September 2021 and August 2023. The FFR threshold of ≤ 0.80 served as the reference standard for diagnosing functional coronary ischemia. Through exploratory analysis, a hybrid RFR-FFR method was developed to identify the "gray zones" of RFR measurements. The thresholds were set to reflect the upper boundary of high negative predictive values and the lower boundary of high positive predictive values, ensuring over 95% consistency with the FFR-alone methodology. Adenosine was employed solely for lesions with RFR values falling within these predefined thresholds, while the proportion of cases that could avoid adenosine in the hybrid model was quantified.

Results: When the concordance rate between the hybrid RFR-FFR model and the FFR-alone model reached 95.31%, adenosine use decreased significantly, showing a 56.56% reduction in vasodilator administration, coupled with positive and negative predictive values of 96.28% and 93.33%, respectively. As the zone requiring adenosine broadened, the correlation between the hybrid and FFR-alone strategies was strengthened, though the proportion of adenosine-free diseased vessels showed a corresponding decrease. The width of the adenosine-requiring zone was 0.04 RFR points (0.89–0.92) and 0.07 RFR points (0.87–0.93) at the 90% and 95.31% agreement levels, respectively.

Conclusion: The hybrid RFR-FFR decision-making approach has the potential to reduce adenosine dependence in some patients while maintaining a high degree of consistency with the FFR alone decision-making approach. With the expansion of the adenosine-requiring region, the correlation between the hybrid strategy and the FFR-alone strategy further improved.

Biography

Huanting Liu, a master's degree student, graduated from Guangdong Medical University with a degree in epidemiology and health statistics, specializing in data analysis and epidemiological research methodology, and her main research interests are in the epidemiology of cardiovascular chronic diseases.

POSTER PRESENTATION

Rouw Banua, Evander*, Nahumury, Anastasia, Tan, Janice Eloise

RSUD Abepura, Jayapura, Papua, Indonesia

First case of viral cardiomyopathy in young women in Papua

Background: A 22-year-old woman was administered with shortness of breath since one month ago, the symptoms appeared during activities and gets better when she is resting. Other symptoms included palpitations. Clinical examination was done with the findings of blood pressure 140/93 mmHg and respiratory rate 24 times/minute. On auscultation a S3 gallop was found. Electrocardiography was performed with a result of Sinus rhythm, heart rate 80 beats per minute and premature ventricular contractions. Echocardiography was performed with the results of left ventricular dilatation and ejection fraction of 33%(TEICH).

Methods: Case report on a patient with viral cardiomyopathy in young women, Patient was reviewed for clinical history, clinical examination and treatment.

Results: Patient was administered pharmacological therapy for heart failure treatment Administration of based on guidelines, such as furosemide, spironolactone, clopidogrel, digoxin, jardiance, atorvastatin and antihypertensives such as candesartan, and bisoprolol. In follow-up, the patient's symptoms of shortness of breath and palpitations have greatly decreased.

Conclusion: With the rise of incidence of heart failure in young women that is caused by cardiomyopathy. Early diagnosis and treatment is the key to increase quality of life and lowers the risk of hospitalization.

Biography

I am a medical doctor based in Jayapura, Papua, Indonesia. Since graduating from the Christian University of Indonesia, I have spent the last two years practicing at the Abepura Regional General Hospital. My clinical focus is currently centered on Cardiology.

POSTER PRESENTATION

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Single cell analysis of endothelial cells in male and female developing heart

Background: Sex differences exist in the circulatory system and the onset of cardiovascular diseases. While these differences are primarily attributed to sex hormones, it remains unclear when sex differences emerge in the cardiovascular system and when they begin to cause functional disparities. Our previous study using embryonic mice found that sex differences in the morphology of coronary vessels already exist at E17.5. It also revealed that female coronary vessels exhibit greater vasodilation capacity. However, it remains unclear how these sex differences form and how they relate to the sex differences observed later in development.

Methods: Embryonic mouse hearts were sorted using FACS to obtain cardiac endothelial cells for single-cell RNA sequencing. Each sample was labeled with cell-multiplexing oligos, allowing us to distinguish between male and female cells within a single dataset. Differentially expressed genes between E17.5 male and female embryos were used to determine sex in a public dataset.

Results: E17.5 mouse cardiac vascular endothelial cells were identified as artery, capillary1, capillary2, and vein. Females had a moderately higher proportion of arterial cells. Gene set analysis revealed that male vascular endothelial cells exhibited upregulated cell motility-associated genes, whereas those of females did not, but rather endothelial cell differentiation and response to laminar fluid shear stress. This result suggests that male and female endothelial cells exhibit distinct characteristics in achieving vascular maturation. To understand when the sex difference may have shown, E12.5 cardiac vascular endothelial cells were also analyzed. The gene expression was similar to that of E17.5, suggesting that the sex difference may be evident in earlier developmental stages.

Conclusion: This study suggests that gene expression patterns in cardiac vascular endothelial cells showed sex differences at E17.5 or earlier. This may explain the functional sex differences in coronary artery development at embryonic stages.

Biography

Ms. Shion Nagasawa is a researcher specializing in heart development and cardiovascular diseases. She holds a master's degree in Pharmaceutical Sciences from University of Shizuoka, Japan. She is currently a PhD student at Chiba University in Japan.

POSTER PRESENTATION

Tagaeva Dilnoza*, Masharipova Dilyafruz

Republican Specialized Scientific and Practical Medical Center for Therapy and Medical Rehabilitation, Tashkent, Uzbekistan

To evaluate the role of I/D polymorphism of the Angiotensin-Converting Enzyme (ACE) gene in patients

Aims: To study the ID polymorphism of the angiotensin-converting enzyme (ACE) gene in patients with chronic heart failure (CHF) of Uzbek nationality.

Methods and results: Genotyping of the ACE gene ID polymorphism was carried out in 114 patients with CHF and 51 healthy donors of Uzbek nationality. Comparison of the frequencies of alleles and genotypes of the studied gene among patients with CHF and the comparison group was carried out using the case-control method. When the frequencies of the alleles of the ID polymorphism of the ACE gene were analyzed, it was found that the incidence of the D allele was significantly higher in the group of patients with CHF (51.4 versus 40.25% in the control group), while the frequency of the functionally significant allele I was 48.6% in the CHF group, lower than in the control group (59.8%). However, statistical processing did not show any significant differences ($\chi 2 = 0.5$; $P = 0.4$; OR = 0.8; 95% CI 0.4828, 1.399). The frequency of the I/I genotype decreases in the group of patients with CHF (31%) compared to the control group (47.1%). According to the odds ratio, the risk of developing CHF in the presence of the I/I genotype is insignificant. The decrease in the frequency of the I/D genotype of the ACE gene among patients (35.2%) compared to the control group (25.5%) turned out to be close to significant differences, which means that the heterozygous genotype can be considered as a protective factor for the development of the disease ($\chi 2 = 1.3$; $p = 0.6$, OR = 1.6; 95% CI 0.7166, 3.522). It is interesting to note that in the group of patients we identified a tendency toward an increase in the number of carriers of the homozygous D/D genotype. The frequency of this functionally unfavorable genotype was 33.8%. These data further strengthen the position of the D/D genotype of the ACE gene as a marker associated with the formation of CHF.

Conclusions: Thus, the results of the study of the ACE gene locus under study revealed the role of the D/D genotype as an independent marker of CHF development.

Biography

Tagaeva Dilnoza is a cardiac rehabilitation specialist specializing in the study of cardiac diseases and rehabilitation treatment methods. She has participated in 4 Republican projects in this area and published numerous papers on cardiac diseases. She is currently the acting head of the Rehabilitation Laboratory at the Republican Specialized Scientific and Practical Medical Center for Therapy and Medical Rehabilitation Tashkent.

POSTER PRESENTATION

Dr. Husnain Abid, Dr. Yumna Usmani*

Sandwell and West Birmingham Hospitals, Birmingham, UK

Comparison of MIRACLE2 and NULL-PLEASE scores for predicting survival and neurological outcomes following out-of-hospital cardiac arrest

Aims: Early prognostication following out-of-hospital cardiac arrest (OOHCA) remains challenging. The MIRACLE2 and NULL-PLEASE scores have been developed to aid early outcome prediction; however, direct comparative data between the two are limited. This study aimed to evaluate and compare both scoring systems in predicting survival and neurological outcome after OOHCA.

Methods: This retrospective single-centre analysis included 39 consecutive patients who achieved return of spontaneous circulation following OOHCA. Demographic, clinical, and outcome data were extracted from electronic health records. For each patient, MIRACLE2 and NULL-PLEASE scores were calculated. The primary outcome was survival to hospital discharge; the secondary outcome was favourable neurological recovery, defined as a Cerebral Performance Category (CPC) ≤ 2. Predictive performance was assessed using receiver operating characteristic (ROC) analysis (area under the curve, AUC) and Mann–Whitney testing.

Results: A total of 39 patients were included; 26 (67%) survived to discharge, and 24 (63%) achieved favourable neurological outcomes. The MIRACLE2 score demonstrated poor predictive ability for both survival (AUC = 0.56, 95% CI 0.35–0.77, p = 0.60) and favourable neurological recovery (AUC = 0.52, 95% CI 0.33–0.72, p = 0.81). In contrast, the NULL-PLEASE score showed good discrimination for survival (AUC = 0.74, 95% CI 0.56–0.92, p = 0.01) and significant discrimination for poor neurological outcome (AUC = 0.27, 95% CI 0.10 0.44, p = 0.009; equivalent to 0.73 when oriented toward adverse prognosis). Overall, higher NULL-PLEASE scores were associated with mortality and poor neurological recovery, whereas MIRACLE2 failed to meaningfully discriminate outcomes.

Conclusion: Within this single-centre cohort, the NULL-PLEASE score outperformed MIRACLE2 in predicting both survival and neurological recovery following OOHCA. Higher NULL-PLEASE scores were strongly associated with mortality and poor neurological outcomes. These findings suggest the NULL-PLEASE score may provide superior early risk stratification and could aid decision-making in post-resuscitation care. Further validation in larger multicentre studies is warranted.

Biography

Dr Yumna Usmani is a foundation year two doctor who has worked at Sandwell and West Birmingham Hospitals and University hospitals Birmingham UK, rotating through medical and surgical specialties. She graduated from University of Leicester in 2024.

Thank You for Being a Part of CVS 2026

We extend our sincere appreciation to all speakers, participants, and partners who contributed to making this conference a success. Your active participation and dedication to advancing research and knowledge in cardiology and cardiovascular sciences are truly inspiring.

"Together, we advance heart health for a better tomorrow."

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