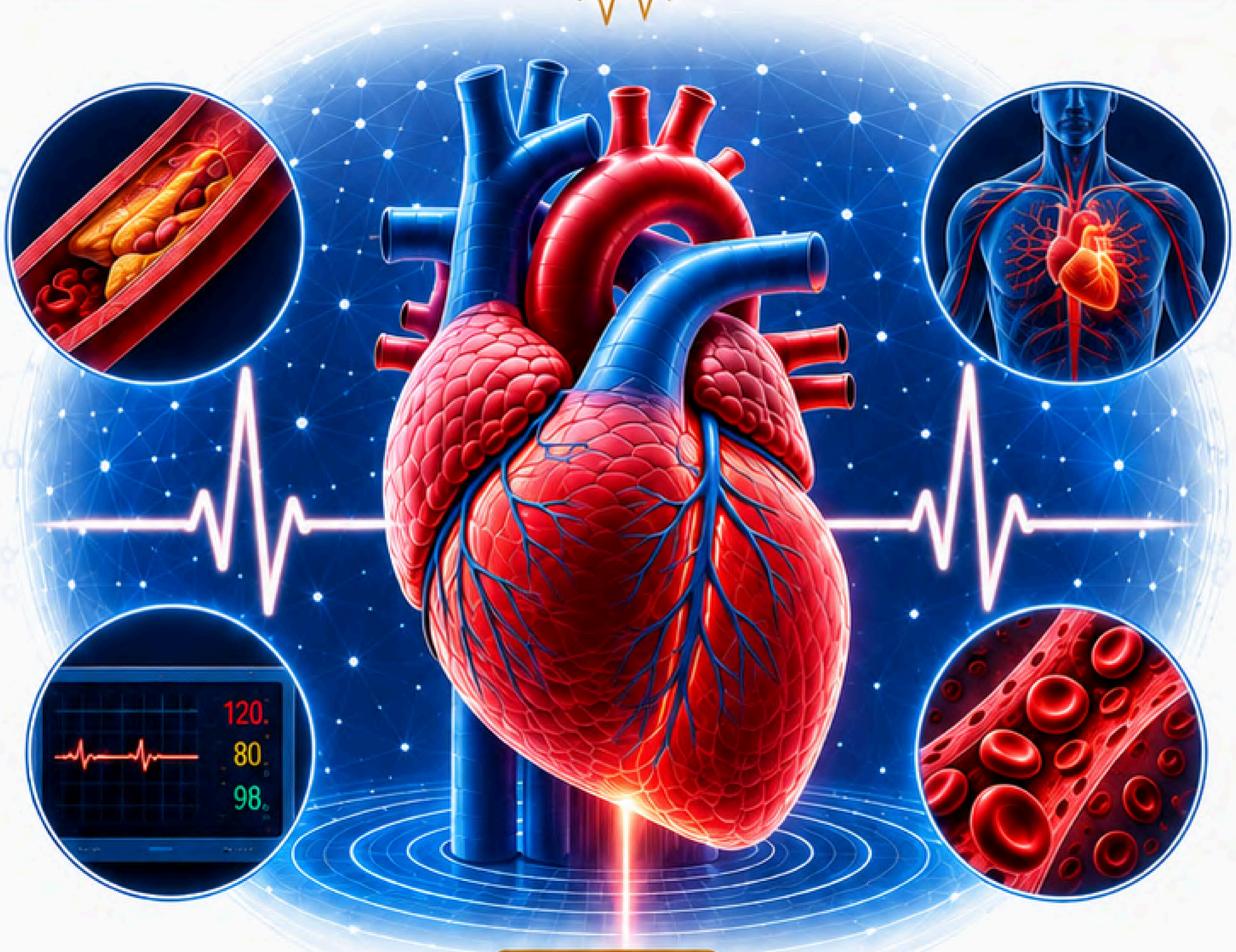
3RD INTERNATIONAL CONFERENCE ON

CARDIOLOGY AND CARDIOVASCULAR INNOVATIONS



THEME:

INNOVATING CARDIOVASCULAR CARE: BRIDGING SCIENCE, TECHNOLOGY, AND CLINICAL PRACTICE

CARDIO 2026

July 21-22, 2026 | Vienna, Austria

ISBN: 978-1-917892-47-6

JULY 21–22, 2026 | VIENNA, AUSTRIA

International Conference
Day-1 (July 21, 2026)

08:30-09:30 Registrations & Opening Remarks

Plenary Forum

09:00-09:30

Title: The Impacts of Climate Disruption on Human Health and What We in Healthcare Can Do About It
Dr. Susan Deering, University of Toronto, Canada

09:30-10:00

Title: Patients Oriented Scientific Research
Dr. Cong-Yi Wang, Huazhong University of Science & Technology, China

10:00-10:30 Networking Break + Group Photo

Keynote Presentations (10:30 - 11:30)

10:30-11:00

Title: Advances in cell-based delivery of oncolytic viruses as therapy for lung cancer
Prof. Ralph Meuwissen, Ege University, Turkey

11:00-11:30

Title: Protein Methylation, a Wrestler for Chromatin Structure, Modulates the Risk of Metabolic Disorders
Dr. Cong-Yi Wang, Huazhong University of Science & Technology, China

Vienna, Austria

International Conference
Day-1 (July 21, 2026)

Technical Session- I (11:30 - 13:10)

11:30-11:55

Title: Integrated Metabolic and Topical Therapy for Cellulite in Women With Metabolic Syndrome and Insulin Resistance: A Protocol Using Tirzepatide and G21 Topical Formulation

Prof. Adamidis Sotirios, Athens Medical Center, Greece

11:55-12:20

Title: Vascular type Ehlers-Danlos syndrome with intra-abdominal hemorrhage due to ruptured hepatic aneurysm: A case report

Dr. Masaou Tanaka, Wakayma medical university, Japan

12:20-12:45

Title: Association of intradialytic pulse-rate average real variability with adverse outcomes in maintenance hemodialysis patients with diabetes

Ms. Yiping Qiu, Zhejiang Chinese Medical University Affiliated College of Integrated Traditional Chinese and Western Medicine, China

12:45-13:10

Title: Possible mechanisms of action of glucagon-like peptide-1 receptor agonists on blood pressure beyond body weight

Prof. Hiroshi Itoh & Dr. Masami Tanaka, Midtown Clinic East, Japan

13:10 - 14:00 Lunch @ Restaurant

Technical Session-II (14:00 - 18:55)

International Conference
Day-1 (July 21, 2026)

14:00-14:25

Title: Injectable Hydrogel for Controlled Release of Insulin: In-vivo Diabetic Animal Model Study

Prof. Pralay Maiti, Indian Institute of Technology (Banaras Hindu University), India

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14:25-14:50

Title: Angiovac Percutaneous Aspiration of Aortic and Mitral Endocarditis

Dr. John C Lin, UCSF Health, USA

14:50-15:15

Title: Multilocus Genetic Risk Profiling of Atherosclerosis and Venous Thromboembolism in Azores and Mainland Portuguese Populations

Dr. Claudia Castelo Branco, Hospital of Divino Esprito Santo of Ponta Delgada, Portugal

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15:15-15:40

Title: Oura ring in cardiopulmonary monitoring and disease detection

Mr. Kaiden Lin, The Masters University, USA

15:40-16:05

Title: Global Standardized Guardrails for Cardiovascular Digital Therapeutics

Miss. Maria Palombini, IEEE, USA

16:05-16:25 Refreshment Break

16:25-16:50

Title: Area deprivation index predicts annual chronic kidney disease screening and chronic kidney disease development among patients with newly diagnosed hypertension and type 2 diabetes in a large midwestern health system: a retrospective cohort study

Dr. Mary Ingle, Advocate Health, USA

16:50-17:15

Title: Environmental radon exposure and COVID-19 mortality during the pre-vaccination period: potential epidemiological links and its implications

Prof. Stephanie Melinda Jonathan & Dr. Gilles Maignant, University cote d'azur, France

17:15-17:40

Title: Improving Door-to-ECG Time in Acute Myocardial Infarction: A Closed-Loop Audit from a Tertiary Care Center in Peshawar

Dr. Nazia Waheed, South Infirmary Victoria University Hospital, Ireland

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17:40-18:05

Title: Association between macular ganglion cell layer- inner plexifom layer and diabetic retinopahty

Dr. Romano Vrabec, Merkur University Hospital, Croatia

18:05-18:30

Title: Ozempic's positive and negative impact on the heart
Miss. Julianne Lin, The Master's University, USA

18:30-18:55

Title: Recent Developments in Cardiac surgery in Zimbabwe

Dr. Simukayi Percy Machawira, Parirenyatwa Hospital, Harare zimbabwe

DAY 01 CONCLUDES

International Conference
Day-2 (July 22, 2026)

Keynote Presentations (10:00 - 11:00)

10:00-10:30

Title: Main Cardiac Histopathologic Alterations in the Acute Phase of Trypanosoma cruzi Infection in a Murine Model

Prof. Paz María Salazar Schettinoz, FACULTAD DE MEDICINA UNAM, Mexico

10:30-11:00

Title: UTE MRI Can Detect Bone Quality Degradation in Diabetes

Prof. Jiang Du, University of California, USA

Refreshment Break (11:00-11:20)

Poster Presentations (11:20-11:50)

Poster-1

Title: Impact of Skin Hydration on Microvascular Function and Wound Healing in Diabetic Foot Patients

Prof. Seung Kyu Han, Korea University College of Medicine, South Korea

Poster-2

Title: A Diagnostic Challenge: Disseminated Histoplasmosis Presenting as Adrenal Insufficiency and Recurrent Hypoglycemia in a Diabetic Patient

Dr. Mohammad Anwarul Bari, Sir Salimullah Medical College, Bangladesh

International Conference
Day-2 (July 22, 2026)

Poster-3

Title: Retained drainage tube fragment after thyroidectomy presenting as a palpable neck mass: a case report

Prof. Min Ho Park, Chonnam National University, South Korea

Poster-4

Title: Cannabidiol differentially regulates cell cycle and metabolism of iPSC-derived cardiac fibroblasts from Duchenne muscular dystrophy patients and healthy controls.

Dr. Lesia Savchenko, Institute of Metabolic and Cardiovascular Diseases (I2MC), France

Poster-5

Title: Prognostic Significance of Beat-to-Beat T-Wave Amplitude Variability in Cardiovascular Diseases: A Narrative Review

Prof. Eiichi Watanabe, Fujita Health University, Japan

Poster-6

Title: Initial Shockable Rhythm as a Key Predictor of Favorable Outcomes in OHCA Patients without ST Elevation Undergoing PCI

Prof. Hyun Wook Ryoo, Kyungpook National University Hospital, South-korea

Poster-7

Title: Expanding the Genotypic Spectrum of Hereditary Transthyretin Amyloidosis: A Case Series of Patients with the Novel TTR p.Ala101Gly Variant

Nadiia Rineiska, Laboratory of Chronic Heart Failure, Belrus

Vienna, Austria

International Conference
Day-2 (July 22, 2026)

Poster-8

Title: STEMI Patients with LVEF ≤40%: Adherence to the Four Pillars of Heart Failure Therapy

Dr. Muhammad Bhatti, University Hospital Limerick, Ireland

Poster-9

Title: Targeting CD105 Through Inhaled siRNA Delivery: A Novel Therapeutic Strategy for Pulmonary Fibrosis

Dr. Erika Esposito, University of Naples, Italy

Poster-10

Title: Primary Hyperparathyroidism and RAAS Activation : Evidence for an Emerging Endocrine Axis

Dr. Yahi Abdelkader, Mother and Child Hospital of Army, Algeria

Poster-11

Title: Prevalence and Associated Factors of Obstructive Sleep Apnea Syndrome in Patients with Turner Syndrome: A Prospective Pilot Study

Dr. Djebbar Adel, Mother and Child Hospital of Army, Algeria

Technical Session- III (11:50 - 13:05)

11:50-12:15

Title: Alleviative effect of probiotics and prebiotics on dry eye in type 2 diabetic mice through the gut-eye axis

Dr. Jianfeng Long, Second Xiangya Hospital of Central South University, China

International Conference
Day-2 (July 22, 2026)

12:15-12:40

Title: Modelling the Differentiation History of Fibrogenic Cells: A Rule-Based Computational Model of Fibrosis Progression and Reversion

Dr. Matthieu Bouguéon, University College London, UK

12:40-13:05

Title: Prevention of Nanoparticle Exposure from Combustion Engines and Harmful Nanosize Bioaerosols

Prof. Jan Czerwinski, VERT Scientific Committee, Switzerland

Lunch @ Restaurant (13:05-14:00)

Session-III Continues...

14:00-14:25

Title: Reusable Fiberglass and Polyester Combined Total Contact Cast System for Treatment of Plantar Diabetic Foot Ulcers: Efficacy and Cost-Effectiveness

Dr. Alper Erkin, Kocaeli Academy Hospital, Turkey

14:25-14:50

Title: From Biomarker to Burden? Troponin Utilisation, Cost and Prognostic Performance in 3,106 Consecutive Patients

Dr. Shirisha, Aneurin Health Board, UK

International Conference
Day-2 (July 22, 2026)

14:50-15:15

Title: Nursing knowledge in cardio-oncology: results of an international learning needs-assessment survey

Mary Stuart, IWK Health Centre, Canada

15:15-15:40

Title: miRNA-driven downregulation of cholesterol biosynthesis through SREBP2 inhibition suppresses uveal melanoma metastasis

Dr. Pierre Hardy, University of Montreal, Canada

15:40-16:05

Title: Disparities in seasonal influenza vaccination in Europe

Dr. Bram Palache, University of Amsterdam, Netherlands

Refreshment Break (16:05-16:25)

DAY 02 CONCLUDES

International Conference
Day-2 (July 22, 2026)

VIRTUAL PROGRAM

JULY 22, 2026

CET Time Zone
09:00 AM

Meeting ID: 858 2178 6818
Passcode: Conf@2026

International Conference
Day-2 (July 22, 2026)

09:00-09:20

Title: Our Biology Working Against Us if We Want to Lose Weight

Prof. Joseph Proietto, University of Melbourne, Australia

09:20-09:40

Title: Epigenetic regulation in obesity-related kidney disease

Prof. Sonia Saad, Kolling Institute of Medical Research, University of Sydney, Australia

09:40-09:50 (Poster Presentation)

Title: The Hypothyroidism Conundrum in Thought Bubbles

Prof. Timothy Alexander Welborn, Australian Diabetes Society, Australia

09:50-10:10

Title: Molecular mechanisms of cardiovascular complications in intermittent hypoxia

Prof. Shin Takasawa, Nara Medical University, Japan

10:10-10:30

Title: Effect of D-β-Hydroxybutyric Acid on Body Fat in Japanese Adults: A Randomized, Double-Blind, Placebo-Controlled Study

Mr. Shohei Katsuya, Osaka Gas, Japan

10:30-10:40 (Poster Presentation)

Title: Renin-independent aldosteronism and chronic kidney disease in diabetes: Observational and Mendelian randomization analyses

Dr. Yi luo, Department of Endocrinology, Bishan Hospital of Chongqing Medical University, Chongqing, 402760, China

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10:40-11:00

Title: Stroke in individuals with hypertrophic cardiomyopathy and sleep apnea

Dr. Lin Chen, Cardiovascular Center, School of Medicine, China

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11:00-11:20

Title: Clinical outcomes of frozen-thawed blastocysts with twice noninvasive chromosome screenings

Prof. Kai Deng, Hebei Maternity Hospital, China

11:20-11:40

Title: Muscle-derived Estrogen: metabolism, mechanisms, and exercise-induced changes

Prof. Rengfei SHI, Shanghai University of Sport, China

11:40-12:00

Title: Elevated Frontal QRS-T Angle as a Predictor of Cardiovascular Risk in Graves´ Disease: A Comparative Study

Mr. Zhen-wang, The Second Affiliated Hospital of Anhui Medical University, China

International Conference
Day-2 (July 22, 2026)

12:00-12:20

Title: TBA

Dr.Yao-Kuang Huang , Taipei Medical University, Taiwan

12:20-12:40

Title: Echinochrome guarding effect against sodium arsenite-induced hepatorenal toxicity in rats

Dr. Ahmed Abdelghany Damanhory, Batterjee Medical College, Saudi Arabia

12:40-13:00

Title: Real-World Evidence on Long COVID-19 in Greece: A Multicenter, Cross-Sectional Study (LONCOV2)

Dr. Panagiota Styliara, MENARINI HELLAS, Greece

13:00-13:20

Title: Arrhythmogenic risk of cenobamate in patients with myocardial lesions by inhibition of Nav1.5 and Cav1.2 ion channels

Bogdan Amuzescu, University of Bucharest, Romania

13:20-13:40

Title: When the Stream Refuses to Flow: Use of Three Paclitaxel-Releasing DCB Balloons for the Treatment of an Occluded RCA in an 81-Year-Old Patient With STEMI

Magdalena Kwiatkowska, Medical University of Warsaw, Poland

International Conference
Day-2 (July 22, 2026)

13:40-14:00

Title: Autoimmune diseases in type 1 diabetes: Often overlooked?

Dr. Ludwig-Schaaf, Max Planck Institute Psychiatry, Germany

14:00-14:20

Title: Utility of Breath-Holding Time in Monitoring Acute Neuromuscular Respiratory Failure in Bulbar-Onset Myasthenia Gravis: A Case Report

Dr. Saboor Zulfiqar, University Hospitals Birmingham NHS Trust, UK

14:20-14:40

Title: Hypertrophic Pulmonary Osteoarthropathy as an Initial Manifestation of Lung Cancer

Sarra K Mohamed Ahmed , Walsall healthcare NHs trust, UK

14:40-15:00

Title: Study risk factors, clinical profile, and outcome in hospitalized COVID-19 geriatric patients

Pankaj sahu, Salisbury NHS foundation trust, UK

15:00-15:20

Title: Students' Perspective on Integrating Online Clinical Scenarios with Virtual Anatomy Teaching

Abdulshakor S Ali, UK

Vienna, Austria

International Conference
Day-2 (July 22, 2026)

15:20-15:40

Title: Telemedicine: a bridge over knowledge gaps in pediatric health care

Dr. Evelyn Eisenstein, University of the State of Rio de Janeiro, Brazil

15:40-15:50 (Poster Presentation)

Title: Effect of aged garlic extract on blood pressure and other cardiovascular markers in hypertensive patients and its relationship with dietary intake

Dr. Tiago Marcel Santos Vila-Nova, University of Sergipe, Brazil

15:50-16:10

Title: Combination of a Micronutrient Mixture, Probiotics, Omega3, and Collagen Peptides may Prevent and Improve Treatment of Diabetes

Prof. Kedar N Prasad, Engage Global, USA

16:10-16:30

Title: Outcomes of a Virtual 10-Week COVID-19 and Psychosis Program in an HMO:

Sallee & Renwick, Kaiser Permanente, North-America

16:30-16:50

Title: Emerging Consensus in Corticosteroid Therapy for Severe Community-Acquired Pneumonia: A Two-Decade Evidence Review

Dr. Alejandro chapa-rodriguez, Cape fear valley medical center, USA

International Conference
Day-1 (July 21, 2026)

16:50-17:10

Title: Eliminating Hypoxia During Paralytic Intubation: A Progressive Animal Series

Dr. Chris Salvino, Saint Francis Health System, USA

17:10-17:20 (Poster Presentation)

Title: The Alive "Cardiac Voodoo" - Concomitant status epilepticus, atypical posterior reversible encephalopathy syndrome and Takotsubo cardiomyopathy

Dr.Luiza Harutyunyan's, California Touro University, USA

17:20-17:40

Title: Transthyretin cardiac (TTR) amyloidosis, polyneuropathy and dementia

Rodica Elena Petrea, California Touro University, USA

DAY 02 VIRTUAL SESSION CONCLUDES

GLOBAL EXPERTS
ONE PLATFORM

INNOVATIVE RESEARCH
EVIDENCE BASED

INTERNATIONAL
COLLABORATION

BETTER HEALTHCARE
BETTER FUTURE

Vienna, Austria | July 21–22, 2026

3rd International Conference on

Cardiology and Cardiovascular Innovations

July 21-22, 2026 | Vienna, Austria

Bogdan Amuzescu[1], Alexandru Dan Corlan[2], Beatrice Radu[1], Andreea Larisa Mateias[3], Florian Armasescu[1], Sorin Draga[4], Teodor Asvadur Şulea[5], Maria Mernea[1], Andrei-José Petrescu[5]

[1] Dept. Biophysics & Physiology, Faculty of Biology, University of Bucharest, Splaiul Independentei 91-95, 050095 Bucharest, Romania
[2] Cardiology Research Unit, University and Emergency Hospital of Bucharest, Splaiul Independenţei 169, 050098 Bucharest, Romania
[3] Dept. Biotechnology, University of Verona, Verona, Italy
[4] Biotehnos SA, Bucharest, Romania
[5] Biochemistry Institute of the Romanian Academy, Bucharest, Romania

Arrhythmogenic risk of cenobamate in patients with myocardial lesions by inhibition of Nav1.5 and Cav1.2 ion channels

Cenobamate is a highly effective third generation antiseizure drug used for treatment of adults with focal onset seizures. We performed whole-cell patch-clamp experiments on HEK293T cells with persistent/inducible expression of human cardiac ion channel isoforms hNav1.5 (INa), hCav1.2 (α1c+β2+ α2δ1) (ICaL), hKv7.1+minK (IKs), and hKv11.1 (hERG) (IKr) and Ncyte® ventricular cardiomyocytes, finding apparent cenobamate IC50 of 87.6µM (peak INa), 46.5µM (late INa), and 509.75µM (ICaL). In experiments on Ncyte® ventricular cardiomyocytes APD90 was reduced with 28.6±13.5% (mean±SD) by cenobamate 200µM. With multi-pulse protocols we estimated hNav1.5 state-specific blocking/unblocking rates: for open-state k_{ob}=0.00215µM^{-1}ms^{-1}, k_{ob}^{-1}=0.189ms^{-1}, for inactivated-state k_{ib}=0.0006698µM^{-1}ms^{-1}, k_{ib}^{-1}=0.18252ms^{-1}. We developed an open conformation hNav1.5 3D model and used it to assess binding affinity via molecular docking and MD followed by MM/PBSA for wild-type channels and 8 point mutants, finding by docking an estimated K_d=90.37µM for wild-type and lower for N1463K(rs1064795922) (27.62µM), N1463Y(rs199473614) (38.13µM), and M1766R(rs752476527) (36.84µM). Applying these data to a 50-cardiomyocytes string with reduced gap-junction coupling (1000pS/pF) yielded for cenobamate 17µM a conduction velocity of 8.0 cm/s and even lower for mutants N1463K, N1463Y, M1766R. Marked INa inhibition by cenobamate raises the theoretical possibility of cardiac arrhythmia induction at therapeutic concentrations in the context of preexisting myocardial pathology, in the presence of action potential conduction and repolarization heterogeneity, via mechanisms consistent with known effects of class Ib antiarrhythmics (Roden DM 2014 Card Electrophysiol Clin 6(4): 695–704). The arrhythmogenic risk could be more elevated for the three point mutants with higher predicted cenobamate binding affinity than wild-type. In addition, ICaL inhibition may contribute to the QT-shortening effects reported in pre-approval animal studies and clinical trials.

doi.org/10.51219/URForum.2026.Bogdan-Amuzescu

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Keywords: cenobamate, Nav1.5, ventricular cardiomyocyte tissue model, molecular docking, molecular dynamics, point mutant

Biography

Bogdan P. Amuzescu, MD, PhD, researcher of ion channel biophysical properties, mathematical modeling of complex biological systems. Fellowships at Katholieke Universiteit Leuven (2000-2003). Currently associate professor at Dept. Biophysics & Physiology, Faculty of Biology, University of Bucharest. Managerial experience: advisory board of Romanian Society of Neuroscience (2004-2012), Romanian Society against Epilepsy (2015). Research of biophysical and pharmacological properties of ENaC/Deg and TRP channels, applied research in cardiac electrophysiology and cardiac safety drug testing. Expert reviewer of journals like European Journal of Pharmacology. Author of >40 research articles, 6 books/book chapters. Member of Biophysical Society, AAAS, FENS, and other scientific societies.

doi.org/10.51219/URForum.2026.Bogdan-Amuzescu

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Conference Proceedings By

UNITED RESEARCH FORUM
(CONNECT WITH RESEARCH WORLD)

3rd International Conference on

Cardiology and Cardiovascular Innovations

July 21-22, 2026 | Vienna, Austria

Eiichi Watanabe, Yoshihiro Sobue

Division of Cardiology, Department of Internal Medicine,
Fujita Health University Bantane Hospital, Nagoya, JAPAN

Prognostic Significance of Beat-to-Beat T-Wave Amplitude Variability in Cardiovascular Diseases: A Narrative Review

Research Question
Does beat-to-beat T-wave amplitude variability (TAV) provide prognostic information across cardiovascular diseases?

Background
TAV reflects short-term fluctuations in ventricular repolarization, serving as a marker of electrical instability. Elevated TAV has been linked with ventricular arrhythmias and mortality, but its role is not standardized.

Purpose
This narrative review evaluates the prognostic significance of TAV across genetic, structural, and ischemic cardiovascular conditions.

Methods
Key peer-reviewed studies reporting outcomes related to TAV were synthesized, including investigations in long QT syndrome, Chagas disease, cardiac resynchronization therapy (CRT), Brugada syndrome, idiopathic ventricular arrhythmia, and acute coronary syndrome.

Results
In congenital long QT syndrome, higher TAV predicted arrhythmic vulnerability beyond QTc (Extramiana et al., 2010). In Chagas disease, TAV was independently associated with all-cause and arrhythmic mortality (Ribeiro et al., 2011). Following CRT, reductions in TAV paralleled clinical and electrical response, suggesting modifiability (Zizek et al., 2012). In Brugada syndrome, combining TAV with late potentials improved identification of high-risk patients (Yoshioka et al., 2013). Among patients with frequent ventricular ectopy or without structural heart disease, TAV stratified susceptibility to ventricular tachyarrhythmias (Sobue et al., 2011; Ichikawa et al., 2016). In the TWIST study, Holter-derived TAV carried prognostic value in patients with ventricular tachyarrhythmias complicating acute coronary syndrome (Makino et al., 2023).

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Conclusion

Across diverse populations, TAV consistently reflects repolarization instability and conveys prognostic value independent of conventional parameters. Its responsiveness to therapy and complementarity with substrate markers highlight its clinical potential. Standardization of methodology and prospective multicenter validation are needed to establish TAV as a practical tool in cardiovascular risk stratification.

Keywords: sudden death, arrhythmia, repolarization, electrocardiogram

Biography

Eiichi Watanabe, MD, PhD (b. 1961, Koriyama, Japan) is Professor of Cardiology at Fujita Health University Bantane Hospital, Aichi. He completed his MD at Yamagata University, residency at St. Luke's International Hospital, and PhD at Nagoya University, with postdoctoral training at Louisiana State University. His research focuses on digital cardiology, sudden death risk, and remote monitoring of cardiac devices. He has authored over 130 peer-reviewed articles and serves as a board member of the Japanese Heart Rhythm Society, among other professional societies.

doi.org/10.51219/URForum.2026.Eiichi-Watanabe

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Conference Proceedings By

UNITED RESEARCH FORUM
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3rd International Conference on

Cardiology and Cardiovascular Innovations

July 21-22, 2026 | Vienna, Austria

Hyun Wook Ryoo

Kyungpook National University Hospital, South-korea

Initial Shockable Rhythm as a Key Predictor of Favorable Outcomes in OHCA Patients without ST Elevation Undergoing PCI

Background

Identification and management of the underlying cause of out-of-hospital cardiac arrest (OHCA) are closely associated with patient outcomes. Among potential etiologies, cardiogenic causes are of particular importance. Although the timing and indications for coronary angiography (CAG) after OHCA have been extensively investigated, clear criteria for its implementation in patients without ST-segment elevation (STE) remain incompletely defined.

Methods

This study analyzed OHCA patients using a citywide, prospectively collected, population-based clinical registry, the Daegu Emergency Medical Services Registry (DEMSRe). Adult OHCA cases recorded in Daegu, Republic of Korea, between January 1, 2018, and December 31, 2022, were screened. We evaluated clinical outcomes among patients who underwent CAG in the absence of STE on the initial electrocardiogram. Favorable outcomes were defined as survival to hospital discharge and good neurological recovery, corresponding to Cerebral Performance Category (CPC) scores of 1 or 2. Factors associated with favorable outcomes were assessed.

Results

Among 6,320 OHCA cases, 371 patients underwent CAG, of whom 258 (69.5%) had no STE on initial electrocardiography. Percutaneous coronary intervention (PCI) was performed in 105 patients (40.7%). An initial shockable rhythm was independently associated with survival to hospital discharge (adjusted odds ratio [aOR] [15.84], 95% confidence interval [CI] [1.95 - 128.88], p = [0.010]) and favorable neurological outcome (CPC 1–2; aOR [21.41], 95% CI [2.71 - 169.00], p = [0.004]).

Conclusion

In the in-hospital management of OHCA survivors, early CAG in the absence of STE was associated with favorable outcomes in selected patient subgroups, particularly those presenting with an initial shockable rhythm. These findings suggest that clinical characteristics may be important when considering early CAG in OHCA patients without STE because of necessity of PCI.

doi.org/10.51219/URForum.2026.Hyun-Wook-Ryoo

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Biography

Professor Hyunwook Ryu is a Professor in the Department of Emergency Medicine at Kyungpook National University in South Korea. He is an experienced academic and medical professional with expertise in emergency medicine and acute care. His work encompasses clinical practice, medical education, and academic research, with a commitment to improving the quality and effectiveness of emergency healthcare. As a faculty member at Kyungpook National University, Professor Ryu contributes to the education and training of medical professionals while actively engaging in the advancement of emergency medicine. His professional interests include the management of acute and critically ill patients, evidence-based emergency care, and the development of improved approaches to emergency medical practice. Through his academic and clinical activities, he continues to contribute to the advancement of emergency medicine and to the delivery of high-quality patient care.

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doi.org/10.51219/URForum.2026.Hyun-Wook-Ryoo

3rd International Conference on

Cardiology and Cardiovascular Innovations

July 21-22, 2026 | Vienna, Austria

John Lin MD[1], Rohit Sundrani MD[2], Ajay Patel MD[3], Shamsuddin Khwaja MD[1]

[1]*UCSF Health, Fresno, USA*
[2]*Cardiovascular Consultants Heart Center, Fresno, USA*
[3]*California Cardiovascular Institute, Bakersfield, USA*

Angiovac Percutaneous Aspiration of Aortic and Mitral Endocarditis

Intro

Endocarditis is a daunting pathology.Septic shock, cardiopulmonary failure, cognitive compromise, and embolic shower distinguish these from outpatient valve cases. Even in the era of percutaneous and surgical intervention, these patients are not ideal candidate and can further deteriorate despite best medical treatments. In recent years, we have seen percutaneous approach to tricuspid endocarditis, submitted to FDA with Angiovac, AngioDynamics Inc. However, limited case reports are noted on the aortic and mitral endocarditis.

Methods

We report a retrospective case series on the Angiovac application on the aortic/mitral endocarditis (vegetation 1cm plus) on extremely high risk patients in a compassionate use between 2022-2025. Sentinel embolic protection was used.

Results

Eight Angiovac applications were for aortic endocarditis. Patients' STS score was at least 8%. The approach was a retro-femoral arterial. 60% extraction were achieved in 5/8 cases. 30-day mortality: two were made comfort care per family's decision. No technical mortality was noted intraop or within 30 days

Six Angiovac cases were done for mitral endocarditis. The STS score was at least 5%. The approach was transeptal. 70% extraction was achieved in 4/6 cases. 2/6 cases required percardiocentesis. 30-day mortality: one patient was made comfort care and another passed on pod#15. There were no intraoperative mortality.

Conclusion

Angiovac appeared to be feasible first approach for difficult septic mitral/aortic endocarditis. It should become another option in tackling endocarditis along with IV antibiotics and valve surgery.

Keywords: Angiovac, Angiodynamics, aortic endocarditis, mitral endocarditis, septic shock

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doi.org/10.51219/URForum.2026.John-Lin

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Biography
John C Lin MD, Cardiothoracic Surgery.

Robotic cardiothoracic surgeon with over 10 years of experience (practices in central California, as part of UCSF Health, USA).

Formerly an aerospace engineer at Boeing Co, Los Angeles, California, USA.

Expertise in coronary artery bypass surgery, aortic surgery, ventricular assist device and robotic thoracoscopic segmentectomy and esophagectomy.

Current research focus on left sided endocarditis Angiovac aspiration and lung cancer robotic surgery. Other aspiration include service at Kenya, Africa, Tenwek hospital cardiothoracic institute.

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Julianne Lin, The Master's University, Santa Clarita, USA
Kaiden Lin, The Masters's University, Santa Clarita USA
Ruth Beltran MS3, California Health Science University, College of Osteopathic Medicine, Clovis, USA
Ava Viera, Biola University, La Mirada, USA
John Lin MD, UCSF Health, Fresno, USA

Ozempic's positive and negative impact on the heart

Intro

Ozempic (semaglutide) is a GLP-1 receptor agonist, a class of drugs that mimics the glucagon-like-peptide-1 hormone naturally produced in the gut. It stimulates insulin secretion, suppresses glucagon release, and delays gastric emptying. Heart disease is the number one killer for people with type 2 diabetes and obesity.Excess weight elevates blood pressure, cholesterol, and systemic inflammation. In leading up to Ozempic's approval, multiple landmark trials were necessary to prove its efficacy and safety.

Methods

Using MEDLINE, we look retrospectively at the landmark trials that establish Ozempic as the diabetic drug and observe its cardiac impacts.Its negative cardiac effects were also examined.

Results

In SUSTAIN-6 trial (2016), 3000+ patients with diabetes, Ozempic reduced the risks of major adverse cardiovascular events (MACE) by 26%. In SELECT trial (2023), 17,000+ overweight/obese patients without diabetes, Ozempic cut MACE risks by 20%. The drug does elevate heart rate, has questionable effects on heart failure, and has reports of pancreatitis. Liraglutide and Dulaglutide showed modest MACE effect (13%, 12%) while Exenatide showed no MACE effect (0%).

Conclusion

Ozempic has become very popular in the last several years in the diabetic and obese patient populations. Its cardiac impact has thus been trended as overall positive although side effects are slowly being reported. We expect in the years to come more study will elucidate those effects.

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Keywords: Ozempic, Semaglutide, Glucagon-like-peptide-1, SUSTAIN-6 trial, SELECT trial.

Biography

Julianne Lin, The Master's University

Student in the Biological Sciences Department,will be applying to pharmacy school in one year.

Current research interest includes recently FDA approved drugs, its mechanism of action and its safety profile.

Other interests include global mission and have participated in oversea work in Mexico and Albania

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Ruth Beltran MS3, California Health Science University, College of Osteopathic Medicine, Clovis, USA
John Lin MD, UCSF Health, Fresno, USA

Oura ring in cardiopulmonary monitoring and disease detection

Intro

Cardiovascular disease remains the leading cause of death worldwide, claiming 18 millions lives annually. Most of the research is driven by the medical community until recently when the technology sector began to create wearables to provide easy monitoring and early disease detection. Beginning with the Apple watch (Apple Inc), atrial fibrillation can now be monitored 24/7.Oura ring (Oura Inc), a second generation wearable, integrates cardiac and pulmonary metrics to report even more comprehensive health data.

Methods

We reviewed the MEDLINE database in the last two years for medical literature, meta-analysis pertaining to the Oura ring use in a clinically relevant setting. Oura ring based data were compared to clinically based monitoring device and its use in disease detection.

Results

Flores et al 2024 meta-analysis showed the ring provided accurate cardiac measurements, but ambivalent sleep parameters. Singh et al 2024 meta-analysis showed the ring with promising disease prediction (88% Covid-19, 95% atrial fibrillation). Khan et al 2025 meta-analysis, however, showed the ring provided accurate sleep parameters compared to the Flore et al 2024 study.

Conclusion

Most recent MEDLINE meta-analysis showed accurate cardiac measurements as these have longer developmental track (1st generation.). The meta-analysis for the sleep parameters results were more variable and have a shorter developmental track (2nd generation.) Further data validation will be necessary, but we foresee medical practitioners will need to become familiar with newer and newer wearable devices in order to provide optimal personalized care.

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Keywords: Oura ring, wearables, Apple Watch, atrial fibrillation, MEDLINE, sleep study

Biography

Kaiden Lin, Masters University.
Student in the Biology Department. Will be applying to medical school in the next month

Current research interests include Oura ring and Applewatch in monitoring cardiopulmonary health as well evolving news standards in trauma surgery

Other interests in global medicine and have participated in primary care/surgery in Haiti, Greece, and Kenya

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Cannabidiol differentially regulates cell cycle and metabolism of iPSC-derived cardiac fibroblasts from Duchenne muscular dystrophy patients and healthy controls

Duchenne muscular dystrophy (DMD) is associated with early cardiomyopathy characterized by progressive cardiac fibrosis and heart failure. The endocannabinoid signaling system (ECS) plays an important role in chronic inflammatory and fibrotic conditions and is dysregulated in the skeletal muscle of DMD patients at disease onset and may exacerbate DMD myopathies, since its pharmacological inhibition prevents locomotor impairment in dystrophic mice. Cannabidiol (CBD), a phytocannabinoid with reported modulatory effects on inflammatory and metabolic pathways, has been proposed as a potential therapeutic approach; however, its impact on cardiac fibroblast proliferation and metabolism in DMD remains unclear. This study aimed to evaluate whether CBD regulates cell cycle and metabolic function in human induced pluripotent stem cell (hiPSC)-derived cardiac fibroblasts from DMD patients and healthy controls. hiPSC-derived fibroblasts were treated with CBD at concentrations of 0.1–2 μM, and proliferation was assessed by cell counting. Metabolic function was analyzed using Seahorse extracellular flux assays, including measurements of oxygen consumption rate (OCR) and glycolysis stress tests. Statistical significance was determined using GraphPad Prism 9, with $p < 0.05$ considered significant. CBD treatment significantly increased the number of fibroblasts derived from healthy controls but had no effect on DMD-derived fibroblasts, indicating a genotype-dependent proliferative response. Metabolic analysis revealed that CBD enhanced glycolysis and glycolytic capacity in control cells, whereas glycolytic flux remained unchanged in DMD-derived fibroblasts. No significant changes in basal or maximal mitochondrial respiration or ATP production were observed in either group, suggesting that the differential proliferative response was primarily linked to glycolytic regulation. Together, these data show that CBD differently affects proliferation and glycolysis in hiPSC-derived cardiac fibroblasts depending on genotype, shedding light on metabolic mechanisms underlying altered fibroblast behavior in DMD cardiomyopathy.

Keywords: Duchenne muscular dystrophy, cannabidiol, cardiac fibroblasts.

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Biography

Dr. Lesia Savchenko is a postdoctoral researcher at the Institute of Metabolic and Cardiovascular Diseases (I2MC), Toulouse, France. Her research focuses on the role of the endocannabinoid system in cardiac fibroblasts in Duchenne muscular dystrophy using human iPSC-derived models. She earned her PhD in Internal Medicine from Poltava State Medical University, Ukraine.

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Piotr Kwiatkowski; **Magdalena Kwiatkowska**; Maciej Cieślik; Michał Jakubowski; Michał Malinowski: Aleksandra Świeca; Michał Dabrowski: Michał Kwiatkowski

Military Institute of Medicine – National Research Institute, Department of Invasive Cardiology, Warsaw, Poland; Medical University of Warsaw, Warsaw, Poland; Department of Pediatric, Cardiothoracic Surgery, The Children's Memorial Health Institute, Warsaw, Poland; Medical University of Gdańsk, Gdańsk, Poland

When the Stream Refuses to Flow: Use of Three Paclitaxel-Releasing DCB Balloons for the Treatment of an Occluded RCA in an 81-Year-Old Patient With STEMI

Managing STEMI in a patient with a recent ischemic stroke requires extreme caution. The need for urgent myocardial reperfusion must be balanced against the elevated risk of hemorrhagic complications, particularly intracranial bleeding[1]. When the culprit vessel is thrombus-rich and initially with slow flow, stent implantation may raise the risk of acute stent thrombosis[2]. DCB-only PCI offers a strategy that avoids permanent coronary implants and allows shortened DAPT, reducing both hemorrhagic and thromboembolic risks[3].

An 81-year-old man presented with inferior STEMI and new neurological deficits. CT excluded hemorrhage, permitting conservative stroke management and initiation of anticoagulation. Angiography showed ectasia and a proximally occluded RCA. A wire initially entered the side branch; IVUS-guided puncture enabled re-entry into the main vessel. Aspiration thrombectomy was partially effective[4]. Because stenting in a no-flow, ectatic artery would pose an unacceptably high risk of acute thrombosis and mandate prolonged DAPT, the team proceeded with DCB-only PCI (4.0/40mm/20atm/120s). TIMI III flow was achieved.

A staged reassessment 36 hours later revealed a residual distal thrombus, which was managed with additional aspiration and repeat DCB angioplasty using two balloons (4.0/30mm/16atm/120s and 4.0/40mm/16atm/120s). Final angiography revealed improved distal opacification and sustained patency[5]. The patient was discharged on shortened DAPT, as potent antithrombotic therapy markedly increases the risk of intracranial bleeding.

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Keywords: STEMI, DCB- only PCI, DAPT, stent thrombosis, IVUS- guided puncture

Biography

I'm Magdalena Kwiatkowska, a third-year student at Medical University of Warsaw. I have a strong interest in gynecology, obstetrics, and reconstructive medicine, which I have pursued since the beginning of my studies. I have actively participated in gynecological student research groups, gaining theoretical and practical knowledge. I have also attended and contributed to scientific conferences, both cardiological and gynecological, which has broadened my interdisciplinary perspective. I am also passionate about foreign languages, I have achieved a B2 level in German and continue to develop my proficiency in French. I am motivated to further expand my academic and clinical experience.

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Maria Palombini. MBA

IEEE (Institute for Electrical and Electronics Engineers), Piscataway, New Jersey, USA

Global Standardized Guardrails for Cardiovascular Digital Therapeutics

The work highlights the significant advancements in digital therapeutics (DTx) for caradiovascular including a variety of tools such as mobile apps and AI chatbots. With an estimated thousands of medical mobile health apps for blood pressure, diabetes, clinical diagnosis and disease management, heart monitoring and other cardiovascular-related conditions , it's clear that this landscape currently lacks consistent global regulation, safety standards, and ethical oversight. The security vulnerabilities and lack of regulated and standardized approach to data governance and algorithmic bias further cause patients, regulators and clinicians to lack confidence in the integrity and use of these tools. To address these critical gaps, the IEEE SA has established a global standardized framework of guardrails assessing apps for clinical efficacy, technical soundness and ethical design and use of AI. The global standardized frameworks are not only necessary to protect the patient's security, privacy and safety, enable more innovation from tech developers, but also has the potential to harmonize regulatory standards worldwide and assist governments in developing their own guidelines for reviewing these digital health therapeutics.

Keywords: mobile health, apps, digital therapeutics, guardrails, patient, (maximum 6)

Biography

As the global practice leader, Maria is leading a global community of transdisciplinary volunteer experts to openly collaborate and develop solutions to enable trust in and validation of breakthrough technologies/applications that will enable sustainable equitable access to quality care and improve wellness for all.

Maria is an entrepreneur having founded various companies including DisruptiveRx™ Media, the first information company to explain viable use cases of emerging technologies (Blockchain/DLT, IoTs) in the bio/pharma value chain.

Maria currently holds an MBA from the Rutgers Graduate School of Business and a BA and BS from Rutgers College at Rutgers University (USA). She is an accomplished leader, public speaker, and writer having presented at various industry events and published blogs and articles in trade and peer-review publications.

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Anecita Fadol, Geraldine Lee, Valerie Shelton, Kelly C Schadler, Asma Mohammed Younus, **Mary Stuart,** Lisa Nodzon and Edith Pituskin, Reehal, Priya

IWK Health Centre, Canada

Nursing knowledge in cardio-oncology: results of an international learning needs-assessment survey

Intro

With early detection and improvements in systemic and local therapies, millions of people are surviving cancer, but for some at a high cost. In some cancer types, cardiovascular disease now competes with recurrent cancer as the cause of death. Traditional care models, in which the cardiologist or oncologist assess patients individually, do not address complex cancer and cardiovascular needs. Nursing disciplines should be an integral part of holistic assessment in cardio-oncology care. To learn what educational needs nurses perceive important for provision of competent cardio-oncology nursing care, we undertook an international survey, aiming to understand their learning needs and preferred learning modalities.

Methods

A cross-sectional survey was developed by members of the International Cardio-Oncology Society (IC-OS) Nursing Research group. The survey was in English and consisted of 23 questions which include demographic information, clinical specialty (oncology, cardiology, or cardio-oncology), multiple-choice questions related to clinical topics that nurses might be interested in learning, and preferred methods of instruction.

Results

Three hundred and twenty-nine responses were received. The majority expressed interest in learning more about cardio-oncology related topics, primarily via pre-recorded webinars (n = 206, 67%) and live virtual meetings (n = 192, 63%). Formal programs leading to certification were highly endorsed (n = 247, 80%). In relation to specific cardio-oncology topics, there was a strong interest in learning more about specific cardiovascular toxicities, and their monitoring and management (n = 205, 66%).

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Conclusion

Cardio-oncology is a new field of expertise requiring competent nurses with current knowledge incorporating both specialties. The survey we conducted described the sample's characteristics, identified cardio-oncology learning needs and preferred methods of delivery. A cardio-oncology core curriculum based on the survey responses can offer convenient, accessible and learner-directed education for nurses worldwide. Ultimately, development of cardio-oncology nursing expertise will benefit cancer patients and survivors worldwide. The curriculum has been created and is available for health care providers.

Biography

Mary Stuart is a Nurse Practitioner at IWK Health Centre in Halifax, Canada. She has more than 20 years of experience in Medical Oncology and Hematology, having worked at the Hospital for Sick Children in Toronto. For the past six years, she has specialized in cancer survivorship and pediatric late effects, working across both adult and pediatric settings at Princess Margaret Cancer Centre and the Hospital for Sick Children.

Mary is currently based at IWK Health Centre in Halifax, where she is working to develop an Adolescent and Young Adult (AYA) survivorship program for pediatric cancer survivors in Nova Scotia. Her professional interests include long-term cancer survivorship, the management of late effects following childhood cancer treatment, and improving care pathways and support for adolescents and young adults transitioning from pediatric to adult healthcare services.

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Wakayama medical university, Wakayama city, Japan

Vascular type Ehlers-Danlos syndrome with intra-abdominal hemorrhage due to ruptured hepatic aneurysm: A case report

Vascular Ehlers–Danlos syndrome (vEDS) is a rare hereditary connective tissue disorder caused by mutations in the COL3A1 gene, resulting in fragility of arteries and hollow organs. Patients are at high risk of spontaneous arterial rupture and life-threatening hemorrhage. This case report describes a patient with vEDS who developed massive intra-abdominal hemorrhage due to rupture of a hepatic artery aneurysm.

The patient presented with sudden severe abdominal pain and hemodynamic instability. Laboratory findings indicated acute blood loss, and contrast-enhanced computed tomography revealed hemoperitoneum and an actively bleeding hepatic artery aneurysm. Given the patient's unstable condition and the known surgical risks associated with vEDS, transcatheter arterial embolization was selected as an emergency treatment. The procedure successfully achieved hemostasis and stabilized the patient without major complications.

Subsequent evaluation, including genetic testing, confirmed a pathogenic COL3A1 mutation, leading to a definitive diagnosis of vascular Ehlers–Danlos syndrome. This case highlights that visceral artery aneurysm rupture, although rare, should be considered in patients with unexplained intra-abdominal hemorrhage. It also emphasizes the importance of early recognition of vEDS and suggests that endovascular treatment can be a safe and effective alternative to open surgery in selected patients with this fragile vascular condition.

Keywords: Vascular Ehlers–Danlos syndrome, intra-abdominal hemorrhage, endovascular treatment

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Biography

Dr. Masaoh Tanaka is a medical professional affiliated with the Department of Emergency and Critical Care Medicine at Wakayama Medical University in Wakayama, Japan. His professional work is focused on emergency medicine and critical care, with an interest in the assessment and management of critically ill and emergency patients. Through his clinical and academic activities, Dr. Tanaka contributes to the advancement of emergency and critical care medicine and is engaged in professional and medical education activities. He is committed to providing high-quality patient care and advancing clinical practice through evidence-based medicine, research, and collaboration with fellow healthcare professionals. Based at Wakayama Medical University, Dr. Tanaka is part of a specialized medical environment dedicated to improving outcomes for patients requiring urgent and critical care.

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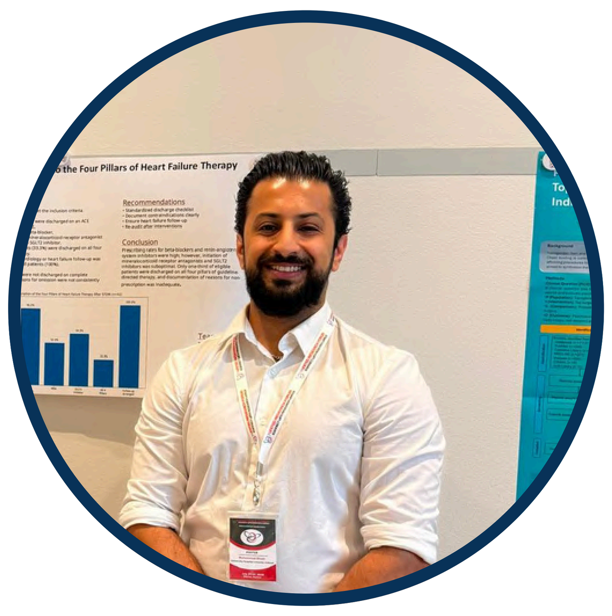

Dr Muhammad Bhatti, Dr Umer Khayyam, Dr Max Johnson, Dr Hanna Popiela

Senior House Officer (SHO), Department of Cardiology, University Hospital Limerick, Ireland

STEMI Patients with LVEF ≤40%: Adherence to the Four Pillars of Heart Failure Therapy

Patients with ST-elevation myocardial infarction (STEMI) and left ventricular ejection fraction (LVEF) ⩽40% are at high risk of developing heart failure and adverse cardiovascular outcomes. The 2022 ESC Focused Update of the Heart Failure Guidelines recommends four pillars of guideline-directed medical therapy (GDMT): ACE inhibitor/ARB/ARNI, beta-blocker, mineralocorticoid receptor antagonist (MRA), and SGLT2 inhibitor, unless contraindicated, yet real-world adherence at discharge remains suboptimal. This retrospective audit examined patients admitted with STEMI and LVEF ⩽40% to the Cardiology Department at University Hospital Limerick between April 2025 and April 2026, reviewing discharge prescriptions for all four GDMT pillars and assessing documentation of omission rationale and outpatient follow-up arrangements. Forty-two patients met the inclusion criteria. Prescription rates at discharge were: ACE inhibitor/ARB/ARNI 78.6%, beta-blocker 95.2%, MRA 52.4%, and SGLT2 inhibitor 64.3%. Only 14 patients (33.3%) were discharged on all four pillars of GDMT. Cardiology or heart failure follow-up was arranged for all 42 patients (100%). Where therapy was omitted, reasons were inconsistently documented. These findings demonstrate significant gaps in GDMT prescribing, particularly for MRA and SGLT2 inhibitors, and highlight inadequate documentation of omission rationale. A standardised heart failure discharge checklist, mandatory documentation of contraindications, and re-audit following quality improvement interventions are recommended to optimise post-STEMI care in line with current ESC guidelines.

Keywords: STEMI, Heart Failure, GDMT, SGLT2 inhibitor, MRA, Quality Improvement

Biography

Dr. Muhammad Bhatti is a Senior House Officer (SHO) in the Department of Cardiology at University Hospital Limerick, Ireland. He is actively involved in the assessment and management of patients with a broad range of cardiovascular conditions in both inpatient and acute care settings.

Dr. Bhatti is committed to continuous professional development and has participated in clinical research and academic activities aimed at improving patient outcomes. He is passionate about advancing cardiovascular care through education, research, and collaboration.

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[2]Institute of Genetics and Cytology of Belarus National Academy of Sciences, Minsk, Belarus

Expanding the Genotypic Spectrum of Hereditary Transthyretin Amyloidosis: A Case Series of Patients with the Novel TTR p.Ala101Gly Variant

Hereditary transthyretin amyloidosis (ATTRv) is a rare autosomal dominant multisystem disorder caused by pathogenic variants in the transthyretin (TTR) gene, resulting in progressive amyloid deposition in peripheral nerves and the myocardium. The rare TTR c.302C>T (p.Ala101Val) variant has been reported predominantly in patients with cardiac ATTRv, but clinical data remain limited. The aim of this study was to characterize the clinical phenotype associated with this variant in a Belarusian cohort. We analyzed clinical and genetic data from five unrelated Belarusian probands with ATTRv treated between 2024 and 2025. The pathogenic TTR c.302C>T (p.Ala101Val) variant was identified by Sanger sequencing in all patients. Diagnosis was confirmed by exclusion of AL amyloidosis and positive technetium-99m bone scintigraphy, with histopathological confirmation available in four cases. All patients demonstrated late disease onset (64-74 years). Four probands presented with a predominant cardiac phenotype characterized by amyloid cardiomyopathy, ventricular hypertrophy, heart failure, conduction disturbances, and atrial or ventricular arrhythmias, whereas one patient manifested primarily with recurrent arrhythmic events without overt cardiomyopathy. Neurological involvement was identified in all patients. Two individuals developed advanced biventricular heart failure and died within one year of diagnosis. Cardiac magnetic resonance imaging demonstrated extensive myocardial infiltration, while bone scintigraphy showed only low-to-moderate myocardial tracer uptake (Grade 1-2) despite significant cardiac involvement. Pedigree analysis confirmed autosomal dominant inheritance with incomplete, likely age-dependent penetrance. In conclusion, the TTR p.Ala101Val variant is associated with a late-onset ATTRv phenotype dominated by cardiomyopathy, arrhythmias, and neurological involvement. The relatively low sensitivity of bone scintigraphy in these patients highlights the importance of genetic testing and genotype-informed diagnostic strategies in suspected ATTR cardiomyopathy.

Keywords: hereditary transthyretin amyloidosis, amyloid cardiomyopathy, polyneuropathy, genetic analysis, endemic mutation

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Biography

Nadiia M. Rineiska, MD, PhD, is a researcher at the Laboratory of Chronic Heart Failure, State Institution Republican Scientific and Practical Centre “Cardiology” (Minsk, Belarus). Her research focuses on hypertrophic cardiomyopathy, arrhythmogenic cardiomyopathy, cardiac amyloidosis, Fabry disease, and other inherited and infiltrative cardiomyopathies. Her work encompasses molecular genetics, precision diagnostics, risk stratification, and prevention of adverse outcomes in patients with rare cardiovascular diseases. Dr. Rineiska is actively involved in clinical and translational cardiovascular research and has authored numerous publications in the fields of cardiomyopathy and heart failure.

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Nazia Waheed

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Improving Door-to-ECG Time in Acute Myocardial Infarction: A Closed-Loop Audit from a Tertiary Care Center in Peshawar

Acute myocardial infarction is the leading cause of heart disease worldwide. Timely diagnosis and management plan is paramount which is pinned on early electrocardiogram to minimize the doorto-electrocardiogram time. Our objective was to evaluate the timing of initial electrocardiogram of patients presenting with acute myocardial infarction at our local cardiac hospital in Pakistan and implement changes with a complete closed loop audit. Retrospective and prospective data of all patients who presented to the emergency room of Peshawar Institute of Cardiology from September 2022 till September 2023 was collected using the hospital management information system and electronic medical record. A total of 149 patients' data was collected and analyzed. The first cycle of the audit analyzed 29 patients, the second cycle of the audit analyzed 60 patients and the third cycle of the audit again analyzed 60 patients. In the first set of patients, it was observed that 17.2 percent of patients had door-to-ECG time of less than 10 minutes which was far from ideal. Therefore to cope with this delay in ECG time it was decided to set up a designated triage for ACS patients within the Emergency department. This was implemented and in the second cycle of the audit 43.3% of patients achieved the said target. During the third cycle when the initial registration and formal paperwork for admission to ER were removed then 75% of patients had their ECG done within 10 minutes of the presentation. This audit successfully identified the modifiable factors responsible for the delay in the first ECG which included a lack of staff, non-viability of triage, and paperwork. After working on these factors our target Door to ECG time of 75% was achieved.

Keywords: Acute myocardial infarction, ECG, Electrocardiogram, STEMI, ST-elevation myocardial infarction, Audit.

Biography

Highly dedicated medical professional with over 6 years of progressive experience in internal medicine, cardiology and acute care. Completed structured FCPS fellowship in both General Medicine and Cardiology at premier tertiary hospitals in Pakistan. Currently serving as Registrar General internal medicine at SIVUH Cork under HSE, Ireland.

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Paz María Salazar Schettino, Mariana C. de Alba Alvarado, Elia Torres Gutiérrez, Margarita Cabrera Bravo, Berenice González Rete, Edgar Zenteno Galindo,Martha Irene Bucio Torres

Facultad de Medicina, Universidad Nacional Autónoma de México, México City, México.

Main Cardiac Histopathologic Alterations in the Acute Phase of Trypanosoma cruzi Infection in a Murine Model

Symptoms in the acute phase of Chagas disease are usually mild and nonspecific. However, after several years, severe complications such as dilated heart failure and even death may arise in the chronic phase. Due to the lack of specific symptoms in the acute phase, the aim of this work was to describe and analyze the cardiac histopathology during this phase in a CD1 mouse model by assessing parasitism, fibrotic damage, and the presence and composition of a cellular infiltrate, to determine its involvement in the pathogenesis of lesions in the cardiac tissue. Our results indicate that the acute phase lasts about 62 days post-infection (dpi). A significant increase in parasitemia was observed since 15 dpi, reaching a maximum at 33 dpi (4.1×10^6). The presence of amastigote nests was observed at 15–62 dpi, with a maximum count of 27 nests at 35 dpi. An infiltrate consisting primarily of macrophages and neutrophils was found in the cardiac tissue within the first 30 days, but the abundance of lymphocytes showed an ⩾8-fold increase at 40–62 dpi. Unifocal interstitial fibrosis was identified after 9 dpi, which subsequently showed an ⩾16-fold increase at 40–60 dpi, along with a 50% mortality rate in the model under study. The increased area of fibrotic lesions revealed progression in the extent of fibrosis, mainly at 50–62 dpi. The presence of perivasculitis and thrombus circulation disorders was seen in the last days (62 dpi); finally, cases of myocytolysis were observed at 50 and 62 dpi. These histopathological alterations, combined with collagen deposition, seem to lead to the development of interstitial fibrosis and damage to the cardiac tissue during the acute phase of infection. This study provides a more complete understanding of the patterns of histopathological abnormalities involved in the acute phase, which could help the development of new therapies to aid preclinical testing of drugs for application in Chagas disease.

Keywords: acute Chagas disease, cardiac histopathology, pathogenicity, mouse model.

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Biography

Dr. Paz María Silvia Salazar Schettino is a full professor emeritus in the Department of Microbiology and Parasitology at UNAM, a member of the National System of Researchers (SNI), and a titular member of the Mexican Academy of Sciences, with 55 years of scientific and teaching career. She has led research on Chagas disease, publishing over 123 articles, two books, and 31 book chapters. She has trained numerous graduate students, coordinated national and international projects, and received multiple honors, including the Sor Juana Inés de la Cruz Medal (2013).

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Saint Joseph's Medica Center1, Stockton, CA, USA and California Touro University2, Vallejo, CA, USA

The Alive "Cardiac Voodoo" - Concomitant status epilepticus, atypical posterior reversible encephalopathy syndrome and Takotsubo cardiomyopathy

Aim

To report a life-threatening brain-heart comorbid clinical case with also intricate management.

Methods/Design

Case Report. 48-year-old female, with reported generalized tonic-clonic (GTC) seizure activity > 30 minutes at home, was brought unconscious to our hospital. One more recurring GTC seizure was witnessed in ED with no consciousness regain. SE treatment and intubation were performed in ED prior to admission to ICU.

Results

Brain MRI hospital day (HD) 1 revealed T2/FLAIR hyperintensities (HI) in the left parietal and bilateral parieto-occipital cortex. A diagnosis of posterior reversible encephalopathy syndrome (PRES) was made. Brain MRI on HD 2 showed improvement of all HI but 4.6/2.8 cm HI in the left parietal cortex, eventually diagnosed as brain mass. EKG on admission showed ST elevation in V1 segment. TTE on HD 2 revealed 1.3 cm left ventricle (LV) apical thrombus (LVAT), hypokinesia, LVEF of 10-15%. IV Heparin was initiated. Coronary angiogram was negative for significant coronary artery disease. Takotsubo cardiomyopathy (TC) was diagnosed. Repeat TTE (HD 8) showed improvement of LVEF to 35-40% and to 50-55% at 19 days post discharge. On HD 8, patient was extubated, had normal neurological examination but mood changes from known bipolar disorder. On HD10, patient was discharged against medical advice on Eliquis, Keppra and with follow-up care.

Discussion/Conclusions

Our clinical vignette highlights the importance of recalling the "cardiac voodoo" heart-brain syndrome and stresses the early EKG and TTE roles in a patient with life-threatening simultaneous occurrence of SE, PRES, left parietal brain mass, for to diagnose comorbid TC with LVAT, with no evidence of which occurred first. The major consequent therapeutic decisions pinpoint the low threshold for cardiac evaluation to mitigate the high-risk morbidity and mortality of such complex potentially fatal cases, when post-seizure TC could present atypically with only hypotension and tachycardia without dyspnea or chest pain.

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UNITED RESEARCH FORUM
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3rd International Conference on
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July 21-22, 2026 | Vienna, Austria

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Transthyretin cardiac (TTR) amyloidosis, polyneuropathy and dementia

Aims

To present transthyretin (TTR) cardiac and systemic amyloidosis as a cause of dementia at the crossroad of heart and brain associated pathology.

Methods/Design

Invited talk. The purpose is to discuss TTR cardiac and systemic amyloidosis as etiology of vascular or mixed dementia from a single case to registries. The talk will also detail mechanisms of vascular dementia including TTR brain amyloidosis, the current shifting paradigm from one single etiology to mixed dementia as a result of brain co-pathology in 70-80% of dementia cases, and the current knowledge of preclinical Alzheimer's disease cascade, accelerated in the presence of vascular risk factors.

Results

TTR cardiac and systemic amyloidosis with polyneuropathy is the result of altered TTR, a tetramer protein that misfolds and deposits as fibrils in the heart and other organs with TTR gene localized on ch18q12.1 and >80 confirmed pathogenic mutations. Clinical phenotype of TTR amyloidosis varies by mutation. TTR cerebral amyloid angiopathy (CAA) has been frequently reported in association with hereditary TTR cardiac amyloidosis, exceptionally with the wild-type TTR. TTR cardiomyopathy is non-invasively identified through echocardiography and amyloid cardiac scan and confirmed by tissue biopsy from other sites (abdominal fat, etc.) or direct endomyocardial. TTR-CAA could be diagnosed by extrapolating Boston criteria 2.0 for Abeta-amyloid CAA +- brain biopsy.

Conclusion

Though the number of people living with dementia is rising worldwide, to-date, dementia is 40% a potentially preventable disease, mostly through early initiation of AHA life's essential 8, plus few other modifiable risk factors. Nevertheless, TTR cardiac and systemic amyloidosis represents a unique genetic disorder and a rare singular etiology of vascular dementia in which dementia prevention resides primarily in early diagnosis of cardiac amyloidosis for patients to benefit from also specific existing treatments (TTR stabilizers and inhibitory oligonucleotide) and possible future drug trials, in addition to lifestyle modifications.

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Biography

Dr. Rodica Elena Petrea - born and raised in Romania - is an international neurologist with expertise in stroke and vascular dementia. At present, she lives and works in the USA. Dr. Rodica Elena Petrea achieved her medical doctor (MD) diploma from "Carol Davila" University of Medicine and Pharmacy in Bucharest, Romania (1995). She completed her neurology training both in Bucharest, Romania in 2000 and in U.S., in Boston, MA in 2007 before she was certified in neurology by both the Romanian Board of Neurology in 2000 and the American Board of Neurology and Psychiatry in 2008 and 2012. In 2012, she became a Diplomate of the American Board of Neurology and Psychiatry. She also completed a one-year PhD (Cardiac enzymes and EKG changes in acute ischemic and hemorrhagic strokes) at the Neurological Institute in Bucharest, Romania (2001); was awarded a three-month Pont Neuf neurology scholarship in Paris, France (2000-2001); and followed her main neurological curiosities with fellowships in vascular neurology/stroke, neurocognitive disorders, and a T32 post-doctoral research fellowship in cardiovascular epidemiology at Boston University, at the Framingham Heart Study, and at the Veteran Affairs Hospitals in Boston, MA, U.S. (2004-2008; 2020-2024). Dr. Rodica Elena Petrea held university appointments as Faculty at the University of Kentucky, Lexington, Kentucky, U.S. (2010-2012); at Creighton University, Omaha, Nebraska, U.S. (20122018); and her most recent appointment at California Touro University and Saint Joseph's Medical Center in Stockton, California, U.S. (since 2024). She has published over 50 peer-reviewed abstracts, posters, papers and two book chapters. She has done over 100 scientific lectures and presentations, and led discussions at regional, national and international conferences, mostly on acute stroke and stroke prevention. Her main research interests are original interesting clinical cases and epidemiological studies on heart-brain syndromes, brain aging, aortic disease and vascular risk factors, sex-differences among stroke patients, and vascular dementia. She has also focused on some rare syndromes and disorders such as Takotsubo cardiomyopathy and associated neurological conditions beyond stroke, TTR amyloidosis, dysphagia and opercular syndrome, genetic disorders such as CADASIL and other mono/polygenic associated disorders. She speaks Romanian, English and French. In her spare time, she enjoys music, art and travel.

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From Biomarker to Burden? Troponin Utilisation, Cost and Prognostic Performance in 3,106 Consecutive Patients

High-sensitivity cardiac troponin (hs-cTn) is an established diagnostic and prognostic biomarker in acute coronary syndrome (ACS). However, increasing utilisation outside traditional ACS pathways may influence its real-world prognostic performance. The study aimed to evaluate troponin utilisation across a large acute hospital population and determine whether elevated troponin concentrations retained prognostic discrimination when applied broadly across heterogeneous clinical presentations.

A retrospective cohort study was conducted at Grange University Hospital, Wales. Consecutive troponin requests performed between 1 January and 21 March 2024 were analysed. Troponin concentrations were classified according to the locally validated laboratory threshold (>54 ng/L). Diagnostic yield, departmental utilisation patterns and 365-day mortality outcomes were evaluated. Kaplan–Meier survival analysis was performed to assess prognostic discrimination.

A total of 3,106 patients underwent troponin testing. Normal troponin concentrations were observed in 2,618 patients (84%), while 488 patients (16%) demonstrated elevated values. Cardiology patients demonstrated substantially higher diagnostic yield than non-cardiology specialties, with elevated troponin concentrations identified in 64% and 10% of patients respectively. At 365 days, mortality was higher among patients with elevated troponin concentrations than among those with normal troponin values (9.0% vs 5.0%). Despite this difference, Kaplan–Meier analysis demonstrated no statistically significant separation of survival curves (log-rank p=0.60). Estimated direct laboratory costs exceeded £18,000 during the study period.

These findings suggest that widespread utilisation of hs-cTn across unselected hospital populations may attenuate the prognostic discrimination observed in higher-risk cardiac cohorts. Optimisation of troponin utilisation and repeat-testing pathways may improve diagnostic stewardship while maintaining patient safety.

Keywords: High-sensitivity troponin; Prognosis; Biomarkers; Kaplan–Meier; Acute coronary syndrome; Diagnostic stewardship

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Biography

I am an Internal Medicine trainee within Aneurin Bevan University Health Board, Wales, United Kingdom. My academic interests include cardiology and internal medicine along with inclination towards teaching and research. I have had a few case report publications and also have been organising teaching for my collegues and advising on career guidance to international doctors and foundation doctors.

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Conference Proceedings By

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Simukayi Percy Machawira

Parirenyatwa Hospital, Harare zimbabwe

Recent Developments in Cardiac surgery in Zimbabwe

Open heart surgery has become more readily available worldwide, especially in the West, whilst it remains elusive for the majority of the people in Sub-Saharan Africa, and Zimbabwe in particular. Efforts to provide the service began in the 1950s and open heart surgery became a regular service from 1989 to 2003. From 1997, Zimbabwe went through a phase of political and economic turmoil resulting in the disruption of meaningful service. This study seeks to make the case for prioritization of domestic resources toward open heart surgery, taken as learning from African countries that faced a similar predicament such as Ghana but who have since been able to sustain their programs. To ensure the success of the program, the following are necessary: the requisite personnel, equipment, consumables, and competitive remuneration. The plan is to work with Government, the private sector, and other players to harness resources toward sustainable open heart surgery in Zimbabwe. Open heart surgery has been resumed since 2023 and has been sustained through government and other partners support. Over ninety six patients have been operated since then, and we look at increasing the capacity for service provision.

Biography

Dr Simukayi Percy Machawira heads the Cardiothoracic Surgery unit at Parirenyatwa Group of Hospitals. He graduated from the University of Zimbabwe in MBCHB and MMed Surgery. Dr Machawira went to the University of the Witwatersrand where he attained Fellowship in Cardiothoracic Surgery. He returned to Harare and joined Parirenyatwa Hospital. He has been instrumental in the recommencent of Open Heart Surgery in 2023 at the hospital. He is passionate in a locally sustainable Open Heart Surgery program. He advocates for the program locally, regionally and on the international front. Dr Machawira would like to see the establishment of a center of Excellence and local training of Cardiothoracic surgery specialists.

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