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4th International Webinar on

Cardiology

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WEBINAR PROGRAM

Day 1: December 05, 2024

Introduction: (15:45-15:50)

WEBINAR PRESENTATIONS	
15:50-16:10	**Title: No-touch technique for saphenous vein graft harvesting in coronary artery bypass surgery: A meta-analysis of randomized controlled trials**
	Tri Wisesa Soetisna, National Cardiovascular Center Harapan Kita Hospital, Indonesia
16:10-16:30	**Title: The role of stem cell therapy in managing Post-CABG atrial fibrillation: A therapeutic prospect**
	Jonathan Alvin Wiryaputra, National Cardiovascular Center Harapan Kita Hospital, Indonesia
16:30-16:50	**Title: Emerging multifaceted application of artificial intelligence in chest radiography: A narrative review**
	Victor Chigbundu Nwaiwu, Lincoln University College, Malaysia
16:50-17:10	**Title: Middle cerebral artery stroke in chronic heart failure patient: A case report**
	I Gusti Agung Ayu Diah Pradnya Paramita, Kasih Ibu Hospital, Indonesia
17:10-17:30	**Title: A new hope of CD133+ bone marrow stem cell for functional exercise capacity improvement in low ejection fraction coronary artery bypass graft patients: A clinical trial**
	Tri Wisesa Soetisna, National Cardiovascular Center Harapan Kita Hospital, Indonesia
17:30-17:50	**Title: Mycobacterium endocarditis: A rare case**
	Abu Zahid, Rangpur Medical College, Bangladesh
17:50-18:10	**Title: Anomalous drainage of left superior venacava into left atrium**
	Chandana Nc, Sri Jayadeva Institute of Cardiovascular Sciences and Research, India
18:10-18:30	**Title: Percutaneous Pulmonary Valve Implantation (PPVI): Analysis of cases in a Bangladeshi center**
	Nurun Nahar Fatema, Labaid Cardiac Hospital, Bangladesh
18:30-18:50	**Title: Dietary and exercise behaviour of secondary school girls in rural and urban settings**
	Anamica Adhikary, Kushtia Medical College, Bangladesh

18:50-19:10	**Title: A systematic review on acute kidney injury following cardiac surgery: Clinical outcomes with preventive strategies over the decades**
	K Sanvi, Al Azhar Medical College and Super Specialty Hospital, India
19:10-19:30	**Title: CT diagnostics of predictors of abdominal aortic aneurysm progression**
	Gela Getsadze, A N Bakulev National Medical Scientific Center for Cardiovascular Surgery, Russian Federation
19:30-19:50	**Title: A prospective study to determine the impact of patient counseling in decreasing the severity and recurrence of nephrolithiasis in adult patients**
	Vijayasankar Ramamoorthy, Vinayaka Mission's College of Pharmacy, India
19:50-20:10	**Title: A new method for quantifying the contractility of the left ventricular myocardium according to two-dimensional echocardiography**
	Eka Dvalishvili, AN Bakulev National Medical Research Center for Cardiovascular Surgery, Russian Federation
20:10-20:30	**Title: The association between psoriasis and atherosclerotic cardiovascular disease: A systematic review and meta-analysis of observational studies**
	Ifunanya Sheila Osigwe, Bronglais General Hospital, UK
	Break: 20:30-20:50
20:50-21:10	**Title: Atrial septal defect clinical guidelines 2023**
	Anastasiia Shcherbak, A N Bakulev Center for Cardiovascular Surgery of the Russian Ministry of Health, Russian Federation
21:10-21:30	**Title: Transcatheter tricuspid valve intervention: Our experience and the current status in the U.S.**
	Tadahisa Sugiura, Montefiore Medical Center/Albert Einstein College of Medicine, USA
21:30-21:50	**Title: The influence of environmental factors on the functioning of the cardiovascular system in children and adolescents**
	Sergey Kapranov, Donetsk National Medical University, Russian Federation
21:50-22:10	**Title: Using a modified CPD blood bag to store blood from either ECMO or RRT circuit blood in pediatric patients**
	James Neal, Mayo Clinic, USA
22:10-22:30	**Title: Blood pressure goals in the ICU**
	Karuna Puttur Rajkumar, Atrium Health Wake Forest Baptist, USA

22:30-22:50	**Title: Variation of ventricular repolarization in cancer patients on docetaxel therapy**
	Daniela Martinez Riveron, University of Medical Sciences of Havana, Cuba
22:50-23:10	**Title: Influence of cardiovascular risk on taste perception**
	Dulce María Soria Lara, Guanajuato University, Mexico
23:10-23:30	**Title: Masked cardiac tumor: Not everything is what it seems**
	Mateo Anquiz, Sanatorio Anchorena, Argentina

E-POSTER PRESENTATIONS

SCC-EP001	**Title: Application of peri-procedure echocardiography guide intervention**
	Uthen Bunmee, Mahidol University, Thailand
SCC-EP002	**Title: Psychological support for elderly cardiovascular disease patients: Emergency placement and the role of social workers**
	Zhang Fen, Tajen University, Taiwan
SCC-EP003	**Title: Diagnostic problem in acute myocardial infarction and vasospastic angina pectoris**
	Davor Horvat, General Hospital Karlovac, Croatia
SCC-EP004	**Title: The effectiveness of a fixed double combination (bisoprolol, perindopril) in patients with stable coronary artery disease and arterial hypertension different degrees**
	Ilona Golikova, National Scientific Center "M.D. Strazhesko Institute of Cardiology" of NAMS of Ukraine, Ukraine
SCC-EP005	**Title: Results of profundoplasty in comparison with femoral-popliteal bypass grafting in patients with critical lower limb ischemia associated with diabetes mellitus**
	Iago Sarkhanidze, Petrovsky National Research Centre of Surgery, Russian Federation
SCC-EP006	**Title: Unveiling a unique case of scimitar syndrome: Clinical significance and multidisciplinary management challenges in Pakistan**
	Gulalay Shamal, Médecins Sans Frontières France (OCP), Pakistan

Day 1 Concludes

Day 2: December 06, 2024

Introduction: (12:55-13:00)

WEBINAR PRESENTATIONS

13:00-13:20	**Title: The prevalence and associated risk factors for isolated systolic hypertension in Mongolia**
	Dechmaa Jagdal, Ach Medical University, Mongolia
13:20-13:40	**Title: Sensitivity, specificity, predictive values and accuracy of clinical diagnosis of acute stroke**
	Mahfuj-Ul-Anwar, Rangpur Medical College, Bangladesh
13:40-14:00	**Title: Association between arterial hypotension, chronic heart failure and apoptosis in people living with HIV**
	Olga Goryacheva, Perm State Medical University, Russian Federation
14:00-14:20	**Title: The influence of environmental factors on the functioning of the cardiovascular system in children and adolescents**
	Sergey Kapranov, Donetsk National Medical University, Russian Federation
14:20-14:40	**Title: Current perspectives on percutaneous coronary interventions in chronic total occlusions: Preparation, principles, and techniques**
	Ersin Doganozu, Ankara 29 Mayis State Hospital, Turkey
14:40-15:00	**Title: Dilation decoded: In silico analysis of transcriptomic data reveals key molecular mechanism of dilation in arrhythmogenic cardiomyopathy**
	Sandeep Kumar C, Jain (Deemed-to-be University), India
15:00-15:20	**Title: Challenges in pacing in right ventricular endomyocardial fibrosis**
	Nikhilkumar Patel, Aster Medcity, India
15:20-15:40	**Title: CT diagnostics of predictors of abdominal aortic aneurysm progression**
	Gela Getsadze, A N Bakulev National Medical Scientific Center for Cardiovascular Surgery, Russian Federation
15:40-16:00	**Title: Role of neck vessel doppler in correlation with coronary CT angiography for assessing coronary artery disease burden in diabetic women and men**
	Sankeerth Kendyala, Nizam's Institute of Medical Sciences, India

16:00-16:20	**Title: Sleep physiology as a promoter of cardiac risk**
	Tijana Bojic, Vinča Institute of Nuclear Sciences; University of Belgrade, Serbia
16:20-16:40	**Title: SCADLE, a new medical frontier**
	Gotabhaya Ranasinghe, National Hospital of Sri Lanka, Sri Lanka
16:40-17:00	**Title: A new method for quantifying the contractility of the left ventricular myocardium according to two-dimensional echocardiography**
	Eka Dvalishvili, A N Bakulev National Medical Research Center for Cardiovascular Surgery, Russian Federation
17:00-17:20	**Title: Cardiac assist devices-anesthesiologist consideration**
	Ana Andelkovic, University Clinical Centre of Serbia, Serbia
17:20-17:40	**Title: Patient experience in the TAVI procedures. TAVI nurse programme**
	Miryam Gonzalez Cebrian, University Hospital of Salamanca, Spain
17:40-18:00	**Title: Relationships between ECG cardiac intervals: Theory and applications**
	Minvydas Kazys Ragulskis, Kaunas University of Technology, Lithuania

E-POSTER PRESENTATIONS

SCC-EP001	**Title: Application of peri-procedure echocardiography guide intervention**
	Uthen Bunmee, Mahidol University, Thailand
SCC-EP002	**Title: Psychological support for elderly cardiovascular disease patients: Emergency placement and the role of social workers**
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SCC-EP004	**Title: The effectiveness of a fixed double combination (bisoprolol, perindopril) in patients with stable coronary artery disease and arterial hypertension different degrees**
	Ilona Golikova, National Scientific Center "M.D. Strazhesko Institute of Cardiology" of NAMS of Ukraine, Ukraine

SCC-EP005	**Title: Results of profundoplasty in comparison with femoral-popliteal bypass grafting in patients with critical lower limb ischemia associated with diabetes mellitus**
	Iago Sarkhanidze, Petrovsky National Research Centre of Surgery, Russian Federation
SCC-EP006	**Title: Unveiling a unique case of scimitar syndrome: Clinical significance and multidisciplinary management challenges in Pakistan**
	Gulalay Shamal, Médecins Sans Frontières France (OCP), Pakistan

Day 2 Concludes

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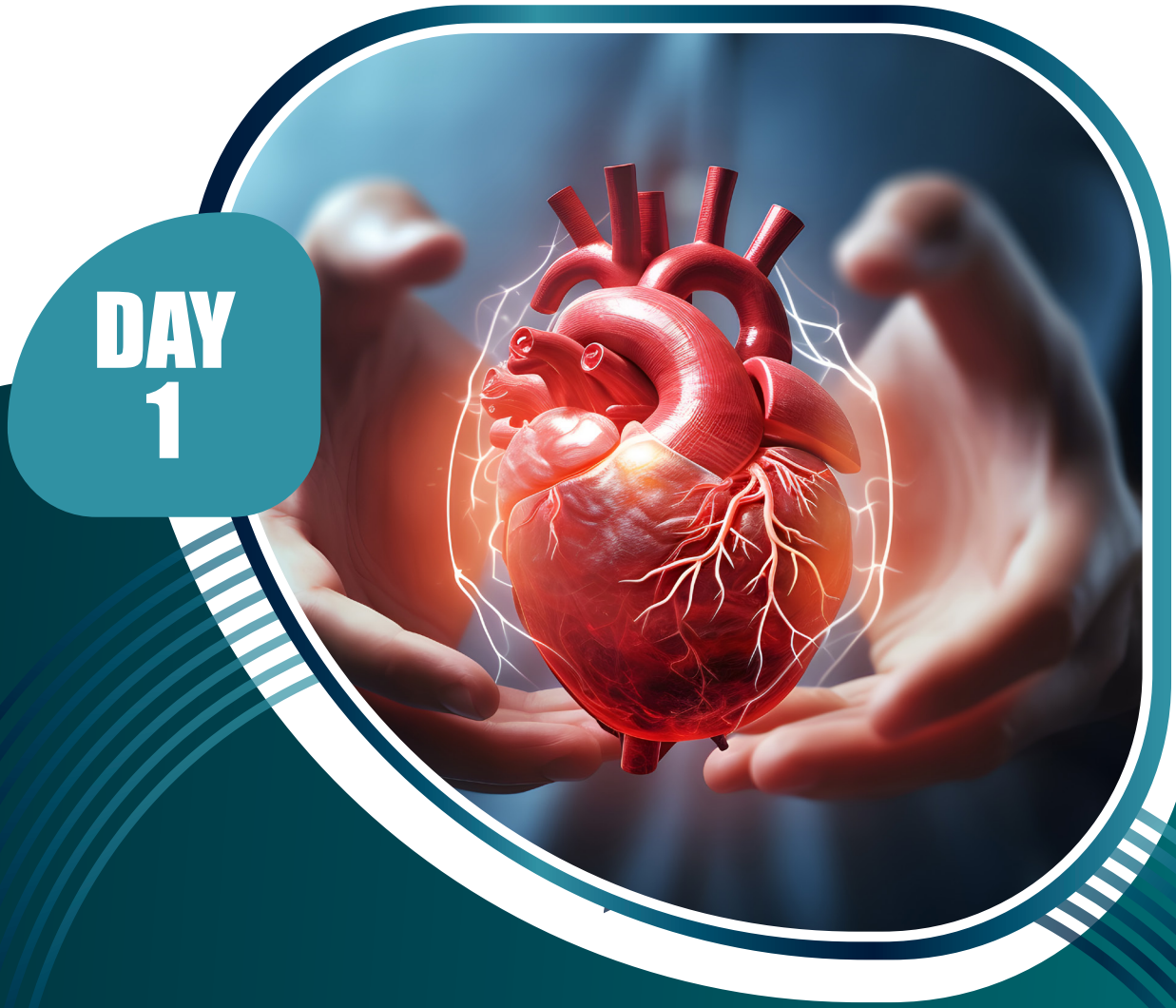
WEBINAR
PRESENTATIONS



DAY
1

No-touch technique for saphenous vein graft harvesting in coronary artery bypass surgery: A meta-analysis of randomized controlled trials

Tri Wisesa Soetisna

National Cardiovascular Center Harapan Kita Hospital, Indonesia

ABSTRACT

Objective: The No-Touch (NT) technique for Saphenous Vein Graft (SVG) harvesting has been gaining popularity as several trials have shown its superiority in maintaining graft patency. However, this technique's clinical outcome and safety are still disputed and the results vary widely. The aim of this meta-analysis of Randomized Controlled Trials (RCTs) was to assess the effectiveness and safety of this method.

Methods: The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were conducted for this systematic review and meta-analysis. A comprehensive search of the literature was carried out with Embase, Scopus, and PubMed databases. The articles underwent extensive evaluation and analysis.

Results: Six RCTs comparing the NT and Conventional (CON) techniques were included. Primary outcomes were measured using graft occlusion. Graft failure rates and clinical outcomes including Major Adverse Cardiac and Cerebrovascular Events (MACCE), all-cause death, myocardial infarction, repeat revascularization, and leg wound complications were evaluated as secondary outcomes. The NT technique significantly decreased graft occlusion (risk ratio (RR)=0.58; 95% confidence interval (CI)=0.46 to 0.72; $p < 0.001$) and failure (RR = 0.65; 95% CI = 0.54 to 0.77; $p < 0.001$). Safety analysis also showed no significant risk difference for clinical outcomes, and although significantly higher, leg complications in the NT technique are minor and avoidable.

Conclusion: The NT technique increases long-term graft patency with no significant risk difference for clinical outcomes compared to the CON technique. However, the leg wound complications are significantly higher in the NT technique compared to the CON technique

BIOGRAPHY

Tri Wisesa Soetisna is a senior adult cardiac surgeon in the cardiovascular thoracic surgery division at the National Cardiovascular Center Harapan Kita Hospital in West Jakarta. He is highly interested in stem cell research, specifically focusing on stem cell therapy for ischemic heart failure. In 2015, he underwent training in bone marrow puncture techniques for stem cell harvesting in Argentina, including delivery of stem cell therapy for coronary artery disease and direct injection during surgery. Since 2018, he has frequently served as a speaker on stem cell therapy for ischemic heart failure at various meetings organized by the Indonesian Cardiothoracic Surgery Association and the hospital where he works in. Additionally, he has published numerous articles about the stem cell therapy in various international medical journals indexed by Scopus since 2018. His research on stem cell therapy began during his doctoral studies in 2016 and continued until 2022. Currently, his research findings are under consideration for standard therapy by the Ministry of Health.

The role of stem cell therapy in managing Post-CABG atrial fibrillation: A therapeutic prospect

Jonathan Alvin Wiryaputra

National Cardiovascular Center Harapan Kita Hospital, Indonesia

ABSTRACT

Objective: This abstract aims to evaluate the relationship and potential therapeutic implications of stem cell therapy in patients who developed Atrial Fibrillation (AF) following Coronary Artery Bypass Graft (CABG) surgery, with a focus on its ability to reduce the incidence and severity of Postoperative Atrial Fibrillation (POAF) through myocardial regeneration and modulation of the underlying pathophysiological mechanisms.

Methods: A review of recent clinical studies, preclinical models, and meta-analyses was conducted to assess the impact of various types of stem cells (mesenchymal stem cells, cardiac progenitor cells, induced pluripotent stem cells) in patients with atrial fibrillation, particularly in the context of post-CABG AF. Emphasis was placed on the mechanisms of action, such as anti-inflammatory properties, fibrosis reduction, and electrophysiological stabilization, and their relevance to POAF.

Results: Preliminary studies suggest that Stem Cell Therapy (SCT) has the potential to improve atrial structural remodeling, reduce atrial fibrosis, and attenuate the pro-inflammatory environment that contributes to AF initiation and maintenance. In patients post-CABG, the anti-fibrotic effects of stem cells could be pivotal in reducing atrial electrical heterogeneity and promoting rhythm stabilization. Additionally, stem cells' paracrine signaling may counteract oxidative stress and endothelial dysfunction, both of which play a role in the development of POAF. However, the clinical application of SCT in this setting remains in its infancy, with few trials directly targeting post-CABG AF patients.

Conclusion: Stem cell therapy represents a promising frontier in the management of post-CABG atrial fibrillation by addressing key pathophysiological mechanisms such as fibrosis and inflammation. While early results are encouraging, large-scale randomized controlled trials are necessary to establish the efficacy, safety, and long-term outcomes of SCT in this population. Continued exploration could pave the way for novel, regenerative strategies to reduce the burden of POAF and improve overall patient outcomes after CABG surgery.

BIOGRAPHY

Jonathan Alvin Wiryaputra is a dedicated physician currently serving as the journal manager for the Annals of Indonesian Cardiothoracic and Vascular Journals, a publication managed by the cardiothoracic and vascular surgery program at the faculty of medicine, Universitas Indonesia. His expertise and leadership in the field have earned him recognition, as he has contributed to several large-scale national and international research projects at top referral hospitals in Indonesia. Throughout his academic journey, he has had the opportunity to broaden his knowledge and professional network by collaborating with clinicians and researchers in Taiwan and Japan. These international experiences have enriched his understanding of medical practices and strengthened his global connections in the field of cardiothoracic and vascular surgery.

Emerging multifaceted application of artificial intelligence in chest radiography: A narrative review

Victor Chigbundu Nwaiwu

Lincoln University College, Malaysia

ABSTRACT

Background/Objective: Chest radiography, otherwise known as Chest X-Rays (CXR) is the most in demand and widely performed investigation in radiology department; owing to the multiple combining effect of rise in prevalence of respiratory diseases globally and the growing need of heath assessment for pre-employment, pre-operative and migration purposes. However, this task is already proving overwhelming, placing an immeasurable burden of workload on radiographers, radiologist, and the entire health system; this has resulted in long waiting time, fatigue-based technical error, interpretation error, reporting delays and backlogs. To ameliorate this predicament, Medical Imaging has witnessed the introduction of Artificial Intelligence (AI). Thus, with the raid evolutionary trend in technology, this article seeks to review current state of evidence on AI use in CXR and level of progress made to minimize these errors and delays. In addition, point out challenges, as well as unfold areas for future research to better detection rates and improve overall clinical outcomes.

Methods: A search for relevant literature that focuses on AI in CXR was conducted with the help of certain keywords [Machine learning (ML), Chest radiography, Deep learning (DL), Natural Language Processing (NLP), Expert System (ES) and Fuzzy Logic (FL)]. Thereafter, a narrative logical approach to technically analysing and synthesizing findings across domains of AI (ML, DL, NLP, ES, FL) and robot technologies as it relates to CXR done.

Key Content and Findings: A thorough evaluation of the substance of evidence these studies bring to enhance overall workflow and health outcomes show that ML is very useful in performing administrative and imaging tasks such as exam scheduling, worklist management and image acquisition. On the other hand, DL is better suited for classification tasks on a broad spectrum of chest anomalies in CXR. However, a hybrid approach involving ML-DL, FL-DL and NLP-DL/ML technologies seems to further improve reporting accuracy and offer more insights into CXR interpretation. Further studies on training and refining models for clinical use in this perspective is demanded.

Conclusion: AI still in its early stages; this review to serve as road map to implementation and policy making, guide routine practice and improve clinical governance.

BIOGRAPHY

Victor Chigbundu Nwaiwu is a top radiographer professional, researcher and public speaker with vast experience across private firms, public facilities, Non-Governmental (NGOs) and international organizations. He holds BSc (Hons) radiography (Nigeria), post-graduate certificate in ultrasonography (Nigeria), MSc public health (UK), and will be rounding up his PhD in radiography (Malaysia) next year at the age of 31. He is an early career researcher, with some publications in scopus indexed journals and has earned numerous awards and accolades, including scholarships for both MSc and PhD studies. Having served as head of radiography in a clinical setting (2020-2021) at a very young age of 27, he has a proven track record of success delivering at the local, national and international stage; surely is a top addition to any team. He is open to lecturing and academic opportunities in any part of the world. He is highly fluent in English, is available for such roles and can be contacted via email or WhatsApp.

Middle cerebral artery stroke in chronic heart failure patient: A case report

I Gusti Agung Ayu Diah Pradnya Paramita

Kasih Ibu Hospital, Indonesia

ABSTRACT

Middle Cerebral Artery (MCA) stroke describes the sudden onset of a focal neurologic deficit resulting from hemorrhagic or ischemic disruption of the MCA's blood supply. Ischemic stroke is frequently divided into several etiological categories, including atherosclerotic, cardio embolic, lacunar, and cryptogenic. Chronic Heart Failure (CHF) is also common cause of ischemic stroke. A 66-year-old male patient came to the emergency room at Kasih Ibu Gianyar Hospital with complaints of suddenly not being able to talk since 8 hours before entering the hospital. There is weakness on the right side of the upper extremities, and weakness on the right and left lower extremities. The patient has a history of chronic heart failure since 3 years. A thorax x ray showed atherosclerosis. CT scan showed acute thromboembolic ischemic infarction in the left temporoparietal lobe in the left MCA territory. The causal relation between CHF and ischemic stroke represent manifestations of similar underlying risk factors, such as hypertension and diabetes mellitus. The pathophysiological mechanism of chronic heart failure can be at risk of causing a stroke infarction in large blood vessels in the brain such as the MCA, and patient MCA Stroke with CHF has high risk of recurrent stroke.

BIOGRAPHY

I Gusti Agung Ayu Diah Pradnya Paramita has completed his MD at the age of 25 years from Udayana University, USA. She is member of emergency department of Kasih Ibu Hospital, Indonesia. She has many experience of code stroke management and several scientific publication.

A new hope of CD133+ bone marrow stem cell for functional exercise capacity improvement in low ejection fraction coronary artery bypass graft patients: A clinical trial

Tri Wisesa Soetisna

National Cardiovascular Center Harapan Kita Hospital, Indonesia

ABSTRACT

Background: Patients with low ejection fraction who are undergoing Coronary Artery Bypass Graft (CABG) only have an insignificant improvement in ejection fraction. This condition will make a little hope to achieve an improvement in physical performance. But now, from a view study, CD133+ stem cells offer new hope for this situation. This study evaluates CD133+ bone marrow stem cells' role for functional exercise capacity improvement in low ejection fraction coronary artery bypass graft patients.

Methods: Thirty patients with ischemic heart disease who had ejection fraction <35% at the National Cardiovascular Center were randomized into 2 groups. The treatment group undergoes the CABG + CD133+ procedure and the control group undergoes the CABG only. All research subjects underwent follow-up before and 6 months after the procedure. Fraction ejection, scar size, wall motion score index, ventricular dimensions, myocardial perfusion measured by cardiac MRI, 6 Minutes Walking Test (6MWT) and Minnesota Living with Heart Failure Questionnaire (MLHFQ) as an additional parameter for physical performance and quality of life. Data was analyzed using SPSS version 21 for Windows.

Results: The results of the fraction ejection parameters showed a significant improvement in the treatment group, from 25.88±5.66% to 34.57%±11.31% compared to CABG only 30.18±3.85% to 31.61±7.89% (p=0.040), in the perfusion defect showed improvement but not significant, left ventricular end-systolic volume and left ventricular end-diastolic volume showed improvement with no significant result, scar size was found to be an improvement in the treatment group 10 persons (76.92%) compared to the control group 5 persons (38, 46%) (p=0.040), the wall motion score index and 6MWT showed a significant improvement in the treatment group (p=0.003 and p=0.03, respectively). The MLHFQ parameter showed improvement but not significant.

Conclusion: CD133+ stem cell implantation in patients with low ejection fraction who undergo CABG provides improved myocardial function and indirectly improves functional exercise capacity and patients' quality of life.

BIOGRAPHY

Tri Wisesa Soetisna is a senior adult cardiac surgeon in the cardiovascular thoracic surgery division at the National Cardiovascular Center Harapan Kita Hospital in West Jakarta. He is highly interested in stem cell research, specifically focusing on stem cell therapy for ischemic heart failure. In 2015, he underwent training in bone marrow puncture techniques for stem cell harvesting in Argentina, including delivery of stem cell therapy for coronary artery disease and direct injection during surgery. Since 2018, he has frequently served as a speaker on stem cell therapy for ischemic heart failure at various meetings organized by the Indonesian Cardiothoracic Surgery Association and the hospital where he works in. Additionally, he has published numerous articles about the stem cell therapy in various international medical journals indexed by scopus since 2018. His research on stem cell therapy began during his doctoral studies in 2016 and continued until 2022. Currently, his research findings are under consideration for standard therapy by the Ministry of Health.

Mycobacterium endocarditis: A rare case

Abu Zahid

Rangpur Medical College, Bangladesh

ABSTRACT

Mycobacterium Endocarditis is a very rare case. Endocarditis is referred to as the infection in the endocardium, the inner lining of the heart chambers and heart valves. Infective Endocarditis is associated with substantial morbidity & mortality. Several published studies have reported in-hospital mortality of 15 percent to 20 percent and 1-year mortality of 40 percent. In the United States alone, approximately 15,000 new cases of infective Endocarditis are diagnosed each year. The organism itself is exceptionally resistant to conventional antibiotics, requiring a particular combination of antibiotics (e.g., Isoniazid, Rifampin, Ethambutol, Pyrazinamide). The treatment duration can last for months. Mycobacterium Tuberculosis yet remains a global threat being a major cause of death. It has the potential to infect every organ of the body including heart. The very first cases of Tuberculous Endocarditis (TBE) were reported in 1892. Afterward, many other cases have been described, highlighting the significant morbidity and mortality associated with this manifestation of TB. TBE usually presents with miliary tuberculosis and most early cases were diagnosed on autopsy. Granulomas caused by Mycobacterium Tuberculosis have been observed at autopsy in heart, predominantly in the myocardium and endocardium, but rarely involving the coronary vessels and valvular structures. With the increasing application of prosthetic valve replacements in the treatment of Infective Endocarditis (IE), TB infections have begun to affect these as well as native valves. With the introduction of TB culture methods and drug therapy, the prognosis has improved. The rarity of this disease and the resistance of the bacteria and treatment duration makes it difficult to treat disease with a high mortality rate.

BIOGRAPHY

Abu Zahid completed his MD (Cardiology) in 2012. He is a life member of Bangladesh Cardiac Society and also a life member of Bangladesh Society of Cardiovascular and intervention(BSCI) . He is a member of ACC (American College of Cardiology), also a member of ACP and ESC. He is an assistant professor of cardiology department, Rangpur Medical College, Bangladesh. .He has over 20 publications, several book chapters more than 50 conferences . He has a large research work on heart failure, hypertension, dyslipidaemia . Presently he is working on the field of advanced HF . Interventional cardiology is also his field of interest.

Anomalous drainage of left superior venacava into left atrium

Chandana Nc

Sri Jayadeva Institute of Cardiovascular Sciences and Research, India

ABSTRACT

The anomalies of drainage of systemic venous communications to the heart are many. But only few cause significant hemodynamic alteration and thus, complications. When they do, they need to be surgically corrected. We report an unusual case of a patient who was found to have left pulmonary veins draining into the Left Superior Venacava (LSVC), which in turn was opening into the roof of the left atrium that had an unroofed coronary sinus morphology. Innominate vein was absent. LSVC was divided cranial to where the pulmonary veins were draining into it. Lower end was suture closed. Proximal part of the LSVC was anastamosed to left pulmonary artery.

BIOGRAPHY

Chandana is a consultant cardiac surgeon and associate professor from Sri Jayadeva Institute of Cardiovascular Sciences and Research, Bangalore. She has published original articles in various indexed national and international journals and is a member of the editorial board in various journals. She has orally presented scientific topics of interest in various forums and conferences across the state and country.

Percutaneous Pulmonary Valve Implantation (PPVI): Analysis of cases in a Bangladeshi center

Nurun Nahar Fatema

Labaid Cardiac Hospital, Bangladesh

ABSTRACT

Introduction: Percutaneous Pulmonary Valve Implantation (PPVI) was introduced in 2000 by Prof Philip Bonhoeffer to treat stenosis and regurgitation in a prosthetic conduit (artificial tube) in the Right Ventricular Outflow Tract (RVOT). Melody percutaneous valve effectively relieves stenosis (narrowing) and is very capable of treating regurgitant (loose) conduits. This conduits are placed initially in RVOT to treat some complex congenital diseases to allow unobstructed forward flow of blood from right ventricle to pulmonary artery. In this study we included the variety who had surgically implanted prosthetic valves and conduits which degenerates in course of time even calcified, leading to stenosis, regurgitation or both. We started PPVI in Combined Military Hospital (CMH) Bangladesh with Melody™ pulmonary valves on 25th December 2012 as first ever team of South Asia.10 As a resource constraint country it was difficult to introduce such expensive valve (3000 USD), moreover there was no health insurance system existing for civilian population. We aimed to see the outcome of our cases in this background.

Methods: A retrospective study on ten cases conducted in Combined Military Hospital Dhaka from December 2012 to December 2019. Inclusion criteria were dysfunctional conduit between Right Ventricle (RV) and pulmonary artery causing (a) Symptoms of exertional dyspnoea of various grade (NYHA II,III, IV) (b) RVEVD >150ml/m2+regurgitant fraction >40% (c) RVOT peak instantaneous gradient > 30 mm Hg. (d) RV dysfunction (RVEF<40%). Patient fulfilled above criteria were selected and outcome were analyzed.

Results: Mean age was 9.56 years + 2.96 years. Female (66.66%) outnumbered male (33.33%). Mean weight was 28.75 + 8.61 kg. Height varied from 137.5+17.52 cm. Age at the time of surgery was 4.25+ 2.72 years. Six cases (60.00%) had pulmonary atresia and four had tetralogy of Fallot (40.00%). Four cases had Aortic homograft (60.00%), two had pulmonary homograft (20.00%) and two had Bovine valved pericardial conduit (20.00%). Six cases had BT shunt followed by Rastelli operation (60.00%), two had ToF repair followed by redo surgery within one year (20.00%) and two had single surgery (20.00%). Eighteen mmm Ensemble was used in 66.66% cases. Immediate results were excellent with no results stenosis and regurgitation was noticed in 99.99% cases. In one case trivial pulmonary regurgitation was noticed. One patient developed bacterial endocarditis after three years of procedure and was treated.

Conclusion: Aim of PPVI is to prolong the life expectancy of conduits which were placed surgical from right ventricle to pulmonary artery. In our case series, we found that Melody valve is functioning well without any complications like infective endocarditis or stent fracture.

BIOGRAPHY

Nurun Nahar Fatema has passed MBBS in 1985 & FCPS in pediatrics in 1995. She was trained in Prince Sultan Cardiac Center in Riyadh, KSA in pediatric cardiology from 1996 to 1998. Later trained in Australia, UK, USA, India etc. Awarded with FRCP and FACC in 2009 and FSCAI in 2011.Working as chief pediatric cardiologist of CMH Dhaka since 1998 and HOD pediatrics since 2014. She is head and prof of paediatrics of Armed Forces Medical College since 2014. She is the pioneer pediatric cardiologist of Bangladesh. She performed more than 9000 pediatric cardiac interventions and innovated many new techniques in cardiac interventions. Her NNF protocol for PPHN and cyanotic spell is widely used and saving life of hundreds of newborns and children. She has about 100 publications in different national and international medical journals. She has participated in more than hundred national and international seminar and presented scientific papers. She received highest national and peace time military award from her country for contribution to medical science.

Dietary and exercise behaviour of secondary school girls in rural and urban settings

Anamica Adhikary

Kushtia Medical College, Bangladesh

ABSTRACT

Background and Objective: The increasing prevalence of unhealthy eating habits and sedentary lifestyles among adolescents, which often continues into adulthood, is a global public health problem. Many studies have so far addressed the nutritional status, dietary and exercise behavior of the urban adolescents. But there are few studies which compared the nutritional status, dietary and exercise behaviour of the rural adolescent girls with those of urban adolescent girls. The present study was aimed to make a comparative evaluation of food and exercise behaviour of secondary school girls between rural and urban settings.

Methods: This cross-sectional analytical study was conducted in the department of community medicine, Rajshahi Medical College, Rajshahi over a period of 12 months from January 2019 to December 2019.The data for the study were collected from 314 adolescent girls (from class 6 to class 10) from two secondary girls school of Kushtia, namely Panti Girls High School, a rural school and Kushtia Govt. Girls High School an urban school. Of the 314 girls (respondents), 140 were rural and 174 were urban residents. Students 1) having known chronic diseases like valvular heart disease or any other systemic diseases that may affect their nutritional status, 2) absent on the day of interview and 3) who refused to participate in the study were excluded. Data were collected from the respondents using a semi-structured questionnaire containing the variables of interest.

Result: The age of the respondents of secondary school girls ranged from 11 to 17 years with mean age being nearly 14 years in both rural and urban cohorts. Urban adolescent girls were heavier than their rural counterparts (22 and 20.9 kg/m2 respectively). The predominant indoor and outdoor exercises adopted by rural and urban girls were dancing and riding a bicycle respectively. While urban adolescent girls used to skip rope more commonly, rural girls prefer riding a bicycle and running as outdoor exercises more often than the urban girls. One-third (32.1%) of the rural girls and 17% of the urban girls met the WHO criteria of physical activity /exercise. Rural girls frequently watch TV, while urban girls prefer playing games or surfing social media on mobile or computer as a pastime. Besides, the urban girls were more often fond of listening music, reading a book and gardening compared to their rural counterparts with majority of the urban girls spent>1 hour each day on mobile/TV/computer. About 90% of the urban girls used to having breakfast more or less regularly as compared to 77% of the rural girls. Practice of taking major meals >2 times a day was significantly higher in the rural group than that in the urban group. However, taking light meals or snacks ≥ 2 times a day was much higher among urban respondents. Consuming milk, eggs and meat in most of the days in a week were frequently practiced by the urban girls than that by the rural girls. Although intake of vegetables was almost identical between the groups, consumption of fruits was much higher in the urban girls than that of the rural girls. There was significant association between dietary habit and residence with more than 55% of the rural adolescent girls having unhealthy dietary behavior as opposed to 41% of urban girls. The odds of having unhealthy dietary behavior were nearly 2 fold (95% CI=1.2-2.9) higher in rural girls than that in urban girls.

Conclusion: The study concluded that urban adolescent girls are usually heavier than the rural girls. About one in three rural girls and one in six urban girls meet the WHO criteria of physical activity /exercise suggesting that rural girls are more inclined to have good exercise behavior than do their urban counterparts. A significant association between dietary habit and residence is observed with risk of having unhealthy dietary behavior in rural girls is nearly double than that of urban girls.

BIOGRAPHY

Anamica Adhikary has completed MPH (Community Medicine) at the age of 32 years from Bangladesh Sheikh Mujib Medical University (BSMMU), Dhaka. I'm working as an assistant professor of department of community medicine at Kushtia Medical College, Kushtia, Bangladesh. I have 7 publications and working as a co-investigator of several health related projects of Bangladesh.

A systematic review on acute kidney injury following cardiac surgery: Clinical outcomes with preventive strategies over the decades

K Sanvi

Al Azhar Medical College and Super Specialty Hospital, India

ABSTRACT

Introduction: Acute Kidney Injury (AKI) is a common complication following cardiac surgery, contributing to increased morbidity and mortality. This systematic review aims to comprehensively evaluate the incidence, risk factors, and clinical outcomes associated with AKI post-cardiac surgery.

Methods: A systematic search of electronic databases was conducted to identify relevant studies published. Studies reporting on AKI incidence, risk factors, and clinical outcomes in adult patients undergoing cardiac surgery were included. Data were extracted and synthesizedfollowing PRISMA guidelines.

Results: A total of 23 studies were included in the review. AKI was associated with increased short and long-term morbidity and mortality, prolonged hospital stay, and higher healthcare costs. Encouraging outcomes were noted when dexmedetomidine, a highly selective α2-adrenergic receptor agonist, was administered during surgery. Two promising non-pharmacological strategies to reduce CSA-AKI are the use of a revolutionary renal guard (RG) system and the introduction of a KDIGO-based treatment bundle. Teprasiran, a new P2Y12 receptor antagonist, was found to significantly reduce the frequency and severity of AKI. The results of this review further highlight the significance of customised preventative measures and risk stratification.

Conclusion: Acute kidney injury is a significant complication following cardiac surgery, with considerable variability in its incidence and associated risk factors. Implementation of preventive strategies is crucial in mitigating AKI-related morbidity and mortality. Further research is warranted to optimize patient outcomes and healthcare resource utilization in this population.

BIOGRAPHY

K Sanvi, a driven and accomplished individual, is on journey to becoming a distinguished medical professional. Currently in her fourth year at Al Azhar Medical College and Super Speciality Hospital in India, she is set to graduate in 2025. With a stellar academic record, she attained 83% in IGCSE and 90% in CBSE for her 10th and 12th grades respectively. Despite the rigors of medical school, she has maintained an impressive academic standing. Sanvi's contributions extend beyond academia. Her research in mental health garnered recognition as promising paper of 2024. Her research project on post menopausal women QoL earned her the Metropolis Top 10 Researcher Award. Her dedication to advancing medical knowledge is evident through her publications and ongoing research projects. As a leader, she actively participates in professional organizations, serving as a member of the Indian Medical Association and holding leadership roles within her college. Sanvi is not only multilingual but also a mentor, fluent in English, German, Hindi, and Malayalam. With her passion for medicine, commitment to research, and leadership qualities, she is poised to make significant contributions to the healthcare field.

A prospective study to determine the impact of patient counseling in decreasing the severity and recurrence of nephrolithiasis in adult patients

Vijayasankar Ramamoorthy

Vinayaka Mission's College of Pharmacy, India

ABSTRACT

The present study concludes that the male gender and advancing age can increase the risk of formation of stones in kidneys. Various etiological risk factors that are promoting the formation and recurrence of renal stones identified in this study were a previous history of nephrolithiasis, low fluid intake, excess dietary inclusion of food items such as tomato, egg, yam, brinjal, grapes, red meat, sea food, cashew and alcohol.

BIOGRAPHY

Vijayasankar Ramamoorthy has completed his PhD from Bhagwant University, Ajmer, Rajasthan in the year 2016. He has 23 years of teaching experience and is working as associate professor, in the department of pharmaceutics, Vinayaka Missions University, Salem-636008. He has published around 25 publications in various reputed journals. He is the member of APTI, IPA. He has guided 5 PhD scholars and present guiding 3 PhD scholars. His publications are cited 25 times, with h-index 3.

The association between psoriasis and atherosclerotic cardiovascular disease: A systematic review and meta-analysis of observational studies

Ifunanya Sheila Osigwe

Bronglais General Hospital, UK

ABSTRACT

Psoriasis is a chronic immune-mediated disease affecting the skin, nails, and/or joints. It is associated with systemic inflammation and may also be linked to an increased risk of Atherosclerotic Cardiovascular Disease (ASCVD). A systematic review and meta-analysis of observational studies were used to determine the overall risk of ASCVD in patients with psoriasis and to evaluate the risk according to ASCVD type and the severity of psoriasis. Five electronic databases (MEDLINE via PubMed, EMBASE, Scopus, BASE, and Google Scholar) were searched for relevant studies in the English language from the beginning of their records to July 2023. Twenty-one observational studies (three cross-sectional, one case-control, and 17 cohort) were included in the review, representing a total of 778,049 patients with psoriasis and 16,881,765 control subjects without psoriasis. These studies had varying degrees of covariate adjustment, and thus, their findings may have been subject to residual confounding. Meta-analyses used the adjusted effect sizes and were based on the random-effects model. There was a significant association between psoriasis and ASCVD (cohort studies: hazard ratio (HR), 1.21; 95% confidence interval (CI), 1.14 to 1.28; $I2 = 63\%$; $p < 0.001$; non-cohort studies: odds ratio (OR), 1.60; 95% CI, 1.34 to 1.92; $I2 = 31\%$; $p = 0.23$). Psoriasis was also significantly associated with myocardial infarction, coronary artery disease, aortic aneurysm but not with ischaemic stroke. Pooled analysis in terms of the severity of psoriasis showed that both mild (cohort studies: HR, 1.17; 95% CI, 1.08 to 1.26; $I2 = 74\%$; $p < 0.001$; non-cohort studies: OR, 1.54; 95% CI, 1.25 to 1.90; $I2 = 0\%$; $p = 0.50$) and severe (cohort studies: HR, 1.43; 95% CI, 1.23 to 1.65; $I2 = 65\%$; $p < 0.001$; non-cohort studies: OR, 1.65; 95% CI, 1.29 to 2.12; $I2 = 25\%$; $p = 0.26$) psoriasis were significantly associated with ASCVD.

BIOGRAPHY

Ifunanya Sheila Osigwe is a foundation year 2 doctor in Bronglais General Hospital, Aberystwyth, United Kingdom. She is a postgraduate student at the University of Buckingham, United Kingdom, pursuing a master's degree in haematology. She was a coauthor of a systematic review and meta-analysis (the association between psoriasis and atherosclerotic cardiovascular disease: A systematic review and meta-analysis of observational studies) published in June 2024, and she is currently working on publishing a few other articles. She maintains a strong interest in general medicine and has a strong passion for teaching and research.

Atrial septal defect clinical guidelines 2023

Anastasiia Shcherbak

A N Bakulev National Medical Research Center for Cardiovascular Surgery, Russian Federation

ABSTRACT

Atrial Septal Defect (ASD) is one of the most common congenital heart diseases. It accounts for 7.1-8.7% of all congenital heart defects. Defects of this type have a poor clinical picture and are often asymptomatic. Some patients have minimal signs of circulatory failure, moderate delay in physical development and a tendency to recurrent respiratory infections. But the severity of symptoms increases in the 3rd-4th decade of life. The diagnosis of atrial septal defect is suggested by cardiac examination, chest x-ray, electrocardiography and confirmed by transthoracic echocardiography using color Doppler mapping mode. Laboratory diagnostic tests in patients with uncomplicated ASD are not specific. In the presence of heart failure in children of the first year of life with ASD, it is recommended to prescribe diuretics. Indications for drug treatment of heart failure in the presence of ASD may occur in premature infants of the first year of life with concomitant lung diseases. There are two methods of surgical treatment of ASD: X-ray endovascular with cardiac occluders and open-heart surgery (operation under artificial circulation). Endovascular or surgical treatment under cardiopulmonary bypass for ASD is recommended regardless of the presence of symptoms in the presence of volume overload of the right ventricle, in the absence of signs of PH according to non-invasive research methods or PVR index <3 Wood units * m2, if the systemic-pulmonary direction of the shunt predominates (Qp /Qs>1.5:1), and the VVR/OPVR ratio <0.3.

BIOGRAPHY

Anastasiia Shcherbak works as cardiac surgeon and cardiologist at the National Medical Research Center of Cardiovascular Surgery in Moscow. She is laureate of the prize named after academician of the Russian Academy of Medical Sciences V.I. Burakovsky. Has been awarded during the 69th ESCVS Congress held om March 26-27, 2021. She is interested in cardiac surgery of congenital heart diseases and perioperative treatment of children. She has more than 50 scientific publications in russians and internationals journals.

Transcatheter tricuspid valve intervention: Our experience and the current status in the U.S.

Tadahisa Sugiura

Montefiore Medical Center/Albert Einstein College of Medicine, USA

ABSTRACT

Severe tricuspid regurgitation is now widely thought of as a significant contributor to cardiac morbidity and mortality. Neither medical therapy nor conventional surgery is efficacious for most patients. In contrast, with the rapid development of transcatheter tricuspid valve therapies, tricuspid regurgitation can now be corrected without incurring the risks of conventional surgery, and it is showing promise to improve quality of life and mortality. We will talk about transcatheter tricuspid valve interventions, the current status of clinical trials in the United States, transcatheter tricuspid valve intervention devices we have used, and our experience.

BIOGRAPHY

Educated in Japan, Tadahisa Sugiura attended University of Tsukuba School of Medicine, earning his doctor of medicine degree in 2003. He has completed cardiothoracic surgery training in Japan. He came to the United States in 2013 and continued his training. He became an attending surgeon and assistant professor at Montefiore Medical Center/Albert Einstein College of Medicine in 2019. His clinical focus is in structural heart disease, the treatment of end-stage heart failure, Extracorporeal Membrane Oxygenation (ECMO). He has shared his research through publication in many peer-reviewed journals, book chapters, abstracts, posters and presentations. He is a member of several professional societies including the Society of Thoracic Surgeons, the Japanese Society for Thoracic Surgery, and the Japanese Society for Cardiovascular Surgery.

The influence of environmental factors on the functioning of the cardiovascular system in children and adolescents

Sergey Kapranov

Donetsk National Medical University, Russian Federation

ABSTRACT

One of the most significant health criteria includes indicators characterizing the functional state and morbidity of the cardiovascular system.

The aim of the study is to assess the influence of environmental factors on the functioning of the cardiovascular system in children and adolescents. The research was carried out in the Luhansk region, including Alchevsk city, with large-scale industries of ferrous metallurgy and coke chemistry. The influence of social and man-made environmental factors of the life environment on various indicators of the functioning of the cardiovascular system and the incidence of circulatory organs in children and students has been studied.

The results of the research. The systematic practice of morning gymnastics by schoolchildren leads to normalization of their heart rate. Sport related to physical activity in adolescents leads to an increase in their functional capabilities of the cardiovascular system. Unhealthy lifestyle, such as active smoking, non-observance of the daily routine, late bedtime, irrational nutrition, negative or stressful psychological situations leads to discomfort in the heart area in schoolchildren. Late bedtime (later than 23.00) and insufficient sleep duration (less than 8 hours per day) in schoolchildren are associated with increased of blood pressure in adolescents. Non-compliance with the diet by schoolchildren and the tendency of adolescents to eat spicy dishes is a risk factor for their pathology of the cardiovascular system. The low-socioeconomic status of the family is a risk factor for the formation of abnormalities in blood pressure in adolescents. Exposure of adolescents to atmospheric pollutants increases their blood pressure and decreases the functional capabilities of the cardiovascular system. The use of water by adolescents with a high content of dry residue and high overall hardness is a risk factor for increased blood pressure. Recommendations for the prevention of cardiovascular pathology are proposed.

BIOGRAPHY

Sergey Kapranov has been working on environmental issues and protecting public health, especially children and adolescents, for more than 40 years. In 2003 and 2008, he completed internships in the United States of America on environmental protection. Based on the results of the internships, he wrote and published 3 books monographs in Ukraine with proposals for improving the living environment and public health in Ukraine and other countries. These are the following publications: "Water and Health", "Plants in the Noosphere and Population Health", "Soil, Waste and Human Health". Together with pediatricians, he developed a method for the comprehensive health improvement of children living in environmentally disadvantaged regions.He is currently a member of the editorial boards of 2 scientific journals. For 30 years he has been leading the scientific activities of gifted schoolchildren and students in ecology and medicine. He summarized the world experience in combating this epidemic and together with colleagues, prepared 3 editions of "Prevention of coronavirus infection COVID-19". In total, he personally and with colleagues prepared and published more than 350 scientific works, including books, monographs and brochures. He is a doctor of medical sciences, member of the dissertation council of Donetsk National Medical University.

Using a modified CPD blood bag to store blood from either ECMO or RRT circuit blood in pediatric patients

James Neal

Mayo Clinic, USA

ABSTRACT

By adapting a Citrate Phosphate Dextrose (CPD) whole blood storage bag, residual blood from a Renal Replacement Therapy (RRT) circuit can be saved in pediatric patients, decreasing in donor exposure later. The techniques used for autologous preoperative blood storage are the basis of storing the RRT circuit blood. The CPD anticoagulant has a benefit of having a commonly used reversal agent for its anticoagulant properties, i.e., calcium. Also, unlike the traditional anticoagulants used in Extracorporeal Membrane Oxygenation (ECMO), i.e., heparin, and direct thrombin inhibitors, i.e., bivalirudin, there is no increase in anticoagulation laboratory parameters after administration. The CPD volume in the bag is reduced but keeps the original ratio the same between CPD and blood. This is accomplished by removing all CPD from the bag, adding back only the exact amount of CPD needed for the smaller amount of blood being transferred from the circuit. The RRT circuit managed at our institution uses 23 mL of CPD for 165 mL of circuit blood when stored with this technique. This calculation assumes a normal patient calcium level. This technique has been used successfully multiple times in more than 30 pediatric patients without incident for 7 years at our center. The CPD bag can also be used to store the residual blood from ECMO circuits after removal of ECMO to allow the blood to be given back to the patient at a later time by keeping the same citrate-to-blood ratio.

BIOGRAPHY

James Neal completed his perfusion training at Ohio State Univeristy. He has 21 years of perfusion experience in both adult and pediatric practice of ECMO and cardiopulmonary bypass surgeries. He is a pediatric perfusionist at Mayo Clinic in Rochester, Minnesota, USA. He perviously held the position of program director for the perfusion clinical rotation at the Mayo Clinic School of Health Science. Additionally, he has published 14 peer reviewed articles. He also serves on the editorial board of the Journal of Extracorporeal Technology (JECT), and is a Fellow in Pediatric Perfusion (FPP) in the American Society of Extracorporeal Technology (AMSECT)

Blood pressure goals in the ICU

Karuna Puttur Rajkumar

Atrium Health Wake Forest Baptist, USA

ABSTRACT

Blood pressure goals in the Intensive Care Unit (ICU) have been extensively studied using large datasets. Mean Arterial Pressure (MAP) has been historically used as a surrogate for end - organ perfusion. However recent studies have shown that hypoperfusion can precede hypotension and therefore perfusion pressure may be a more important target than mean arterial pressure, even more so in the critically ill patient population. In the cardiac ICU, blood pressure targets are tailored to the individual patient based on their cardiac pathophysiology and other comorbidities. Generally, the goal is to support end organ perfusion by maintaining the blood pressure within a certain range. However, this range can vary from patient to patient. Patients with different pathologies may require different thresholds of MAP/ perfusion pressure and hence there is a paradigm shift towards personalized therapy for critically ill patients and moving away from the one size fits all thought process. Historically used serum markers such as lactate have also been replaced with newer and more specific markers of shock. Individualized targets demand the use of both invasive and noninvasive monitoring modalities and frequent titration of medications and/or mechanical circulatory support where necessary. This presentation aims to outline the risk factors and predictors of hypoperfusion and end organ failure in special patient populations and identifying individualized blood targets.

BIOGRAPHY

Karuna Puttur Rajkumar is an experienced anesthesiologist with specialized training in critical care and cardiothoracic anesthesia. She completed fellowships in cardiothoracic anesthesiology and critical care anesthesiology at Duke University Hospital and a residency in anesthesiology at Temple University Hospital, a renowned Level 1 trauma center in Philadelphia. Board-certified in anesthesiology, critical care, and cardiac anesthesia with Transesophageal Echocardiography (TEE) certification, she brings a comprehensive skill set in managing complex cases across multiple specialties, including cardiac, trauma, neuro, and regional anesthesia.

Currently serving as an assistant professor of anesthesiology at Atrium Health Wake Forest Baptist Medical Center, her work is complemented by a strong background in research, with studies on the perioperative effects of substances, neuromuscular blocking agents, and lung allocation policy impacts. Additionally, she has contributed to multiple publications and presented at prestigious national and international conferences. Known for leadership and academic contributions, she has served on ICU and research committees, and as a resident delegate in anesthesiology societies.

An active volunteer in community and international health, she has participated in medical missions and provided lectures on anesthesia in global settings. Fluent in six languages, her interests extend beyond medicine to include painting, yoga, and outdoor activities, reflecting a balanced and dynamic professional profile.

Variation of ventricular repolarization in cancer patients on docetaxel therapy

Daniela Martinez Riveron

University of Medical Sciences of Havana, Cuba

ABSTRACT

Introduction: With the increasing number of cancer survivors, often with cardiovascular disease, pre-existing or new risk factors, cardio-oncologists have a critical role in creating a comprehensive plan to address comorbidities and provide guidance for optimal treatment choice.

Objective: To determine the variation of ventricular depolarization and repolarization in patients undergoing chemotherapy with docetaxel.

Methods: Analytical and prospective research in patients undergoing chemotherapy with taxols at the CIMEQ Heart-Center from December 2019 to June 2021. The sample consisted of all patients undergoing the selected antineoplastics. All underwent a 12-lead electrocardiogram and review of medical records.

Conclusions: The mean age of the patients was 60.4 years. The most prevalent cardiovascular risk factor was arterial hypertension, with 39.2% of all the patients studied. Lung cancer predominated in the general population, while breast cancer was the most frequent for the female sex. The electrocardiographic variables analyzed had a demonstrated variation, which according to the chemotherapy cycles were: QTc, QTc dispersion, RTp-Tf/QT and QRS duration. These results highlight the importance of an adequate clinical evaluation for the correct identification of patients at risk of cardiotoxicity. Electrocardiographic surveillance and follow-up show predictors of malignant arrhythmias and sudden death, which help to improve the quality of life of these patients.

BIOGRAPHY

Daniela Martínez Riveron is a doctor and specialist in Cardiology. He is dedicated to cardio-oncology. He has received several research awards and I have 6 national publications in Cuban magazines. He is associate researcher. He has a diploma in echocardiography, mainly in Strain. He was awarded the Annual Health 2023.And I am pursuing my doctorate.

Influence of cardiovascular risk on taste perception

Dulce María Soria Lara

Guanajuato University, Mexico

ABSTRACT

Introduction: In 2016, the World Health Organization (WHO) estimated that 1.9 billion adults living with overweight or obesity. Given the continued rise in obesity, especially in developing economies, the World Obesity Federation projects that by 2030, approximately one billion people worldwide, including one in five women and one in seven men, will be obese. Obesity affects almost all organ systems and is associated with numerous health problems, including cardiovascular disease. Although the pathophysiology and triggers of obesity are still being studied, these aspects could become targets for intervention and the development of preventive and therapeutic strategies.

Objective: The present study explores the relationship between cardiovascular risk and the perception of basic flavors in university students.

Methodology: A cross-sectional study was conducted with 22 university students from the National Institute of Technology of Mexico (TecNM) in Celaya, Guanajuato, Mexico. Participants were selected by random convenience sampling. To assess cardiovascular risk, Waist-Hip Ratio (WHR) was measured, while the perception of basic tastes was assessed through tests to determine recognition thresholds and the triangular discrimination test.

Results: The average age of the participants classified them within the range of young adults. The sample was composed of 64% women and 36% men. It was identified that 78.6% of women and 50% of men did not present cardiovascular risk according to the WHR. Among the most relevant correlations, it was observed that in women with cardiovascular risk there were alterations in the perception of salty, astringent and umami flavors, while in men with cardiovascular risk there was an alteration in the perception of bitter taste.

Conclusion: The perception of basic tastes is influenced by both gender and cardiovascular risk. This suggests that, in addition to adiposity, the distribution of adiposity plays an important role in the etiopathogenesis of obesity and comorbidities.

BIOGRAPHY

Dulce María Soria Lara completed her doctorate at the age of 31 at the Tecnologico Nacional de México in Celaya, Guanajuato, Mexico. She is a part-time professor in the department of nursing and midwifery at the University of Guanajuato, Mexico. He is currently a member of the national system of researchers with a publication h index of 3. In addition to participating as an external reviewer in several renowned national journals.

Masked cardiac tumor: Not everything is what it seems

Mateo Anquiz

Sanatorio Anchorena, Argentina

ABSTRACT

The case of a cardiac mass is presented to discuss the importance of complementary studies prior to surgical intervention.A 57-year-old patient with no medical history was admitted with heart failure and an echocardiographic finding of a cardiac mass in the left atrium that generated severe mitral stenosis; Initially, due to location and characteristics suggesting myxoma. Patient evolved with heart failure refractory to treatment requiring emergency surgery. A mass adhered to the roof of the left atrium was observed, with infiltration of both superior pulmonary veins and the anterior mitral leaflet, performing its resection and valve replacement. During the postoperative period presented vasoplegia and subsequent death; pathology was compatible with high-grade sarcoma.

In conclusion, an exhaustive study should be carried out complementing multiple images in the event of a cardiac mass being found prior to surgical resection to plan a correct approach, situation that was not possible in this case.

BIOGRAPHY

Mateo Anquiz completed his medical studies at the Universidad Libre (Cali, Colombia) and specialized in clinical cardiology at the University of Buenos Aires, Argentina. He has served as medical coordinator of the coronary unit of the Anchorena Clinic, Argentina. He is member of the Argentine Society of Cardiology and has been serving as a member of the Cardiometabolism Council in the networking area.

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DAY 2

The prevalence and associated risk factors for isolated systolic hypertension in Mongolia

Dechmaa Jagdal

Ach Medical University, Mongolia

ABSTRACT

Background: In our country, 41.8 percent of morbidity and 52 percent of mortality due to cardiovascular diseases are caused by arterial hypertension. The researchers have been studied the prevalence and associated risk factors of arterial hypertension; however, there has been no study about Isolated Systolic Hypertension (ISH) among Mongolians.

Methods: We studied the prevalence and associated risk factors of ISH using cross-sectional study design. Salt consumption of subjects with ISH (n=646) and atherosclerosis of the carotid artery (n=110) were studied using case-control study design.

Results: Of the study subjects aged 15-64, 7.4 percent, 6.5 percent and 6.7 percent had ISH in 2005, 2009, and 2013, respectively. The prevalence of ISH increased with age, ISH was more prevalent compared to females. We revealed that the risk for ISH is increasing by 6.4 percent each year, and by 2.5 percent each gram of salt intake. Males have 2.6 times increased risk for ISH was compared to females, and also subjects with central obesity had 2 times and subjects with high glucose in serum had 2.4 times increased risk of ISH, respectively. The mean salt in urine among study subjects with ISH was a high. The atherosclerosis of carotid artery is increasing every year by 6.0 percent, every mm Hg of systolic blood pressure by 5.8 percent and every year of duration of ISH by 8.8 percent respectively.

Conclusion: There was no decreasing tendency in the prevalence of Isolated systolic hypertension. The prevalence of isolated systolic hypertension increased with age. Aging, male gender, central obesity, increase of glucose in serum and excessive salt intake are found to be independent risk factors for Isolated systolic hypertension. Having a high systolic blood pressure level for a long time is a significant predictor for atherosclerosis of carotid artery.

BIOGRAPHY

Dechmaa Jagdal has completed his PhD at the age of 38 years from Mongolian National University of Medical Sciences. She is a cardiologist and the head of Internal department of "Ach" Medical University of Mongolia.

Sensitivity, specificity, predictive values and accuracy of clinical diagnosis of acute stroke

Mahfuj-Ul-Anwar

Rangpur Medical College, Bangladesh

ABSTRACT

Background: Stroke is a leading cause of death and disability globally and particularly in low and middle-income countries, and the burden is increasing. To prevent complications and permanent defects in stroke, early diagnosis is the key that can easily obtained by a CT scan of brain. However, quick access to CT scanning is not available in every country and hospital specially in Bangladesh, where various clinical findings especially neurological signs and symptoms and risk factors differentiation are helpful in differentiating the types of stroke.

Objective: This study was aimed to see the sensitivity, specificity, positive predictive value, negative predictive value and accuracy of clinical diagnosis in the detection of stroke subtype.

Methods: This hospital based cross-sectional comparative study was conducted in the Department of Medicine, Rangpur medical college hospital, Rangpur, Bangladesh from January 2010 to December 2011 on three hundred (300) suspected acute stroke patients selected by purposive sampling technique. The clinical diagnosis of type of stroke was made on the basis of mode of presentation, risk factors and signs and confirmed by CT scan of brain within 1 week of attack. Then the clinical diagnosis was compared with the results of CT scan. Statistical analyses related with this study were performed by using of SPSS-19 package program.

Results: Among the 300 patients, 73(24.3%) patients were clinically diagnosed as hemorrhagic stroke and 227(75.6%) patients were as infarctive stroke. Out of 73 clinically diagnosed haemorrhagic stroke patients, CT scan revealed that 61 (83.6%) patients had intracerebral hemorrhage, 5 (6.8%) had infarct. And out of 133 diagnosed ischemic stroke patients, CT scan revealed that 203 (89.4%) patients had infarction, 6 (2.6%) had intracerebral hemorrhage. The sensitivity, specificity, positive predictive value, negative predictive value and accuracy of clinical diagnosis of hemorrhagic stroke were 91.0%, 94.8%, 83.6%, 97.4% and 94.0% respectively. The sensitivity, specificity, positive predictive value, negative predictive value and accuracy of clinical diagnosis of infarctive stroke were 97.6%, 73.9%, 89.4%, 92.2% and 90.3% respectively.

Conclusion: CT scan of brain remains the gold standard for differential diagnosis, but the availability of CT scan is not always feasible, and it is virtually impossible to submit all stroke patients to CT scan. Adequate knowledge on risk factors, clinical features and initial investigations may contribute to such a differentiation of cerebral infarction from intracerebral hemorrhage with high accuracy where rapid access to Computed Tomography (CT) is lacking.

BIOGRAPHY

Mahfuj-Ul-Anwar has completed postgraduate degree (FCPS) for Bangladesh College of Physicians and Surgeons, Bangladesh. He has been working as Assistant professor of Medicine in a government Medical college hospital, Rangpur, Bangladesh. He has over 35 national and internation publications in different reputed journals. He is now assistant editor of Journal of Rangpur Medical College (p-ISSN 2618-0413, e-ISSN 2959-4596).

Association between arterial hypotension, chronic heart failure and apoptosis in people living with HIV

Olga Goryacheva

Perm State Medical University, Russian Federation

ABSTRACT

Chronic Heart Failure (CHF) is at least twice as common in patients infected with the Human Immunodeficiency Virus (HIV) as in those without HIV. Both high and low Blood Pressure (BP), as well as their sharp variations, have a direct impact on the quality and length of life. Arterial Hypotension (AHT) is a decrease in blood pressure by more than 20% of normal values: systolic blood pressure in this condition is less than 90 mm Hg. diastolic blood pressure – less than 60 mm Hg. Art. CHF in people with AHT is more severe than without it.

AHT is accompanied by hypoxia of organs and tissues. Patients with CHF infected with HIV are susceptible to developing AHT in 18.3% of cases. A significant predominance of LV hypertrophy was noted in the group of patients with AHT. The concentration of caspase 6 in the blood serum, equal to 148.35 pg/ml and higher, is a risk factor for the development of AHT in CHF in HIV-infected patients, indicating an intensification of apoptosis processes in cardiomyocytes. A glomerular filtration rate of 47.5 ml/min/1.73 m2 or higher, calculated using the CKD-EPI formula including serum cystatin C levels, is associated with a high likelihood of developing AHT. The resulting pattern may indicate both the activation of apoptotic processes against the background of AHT in cardiac muscle cells, and the preservation of the glomerular filtration rate against this background in patients with CHF and HIV infection.

BIOGRAPHY

Olga Goryacheva has completed her PhD at the age of 30 years from Perm State Medical University named ac. E.A. Wagner, Russia. She is the associate professor of outpatient therapy department of PSMU named ac. E.A. Wagner. She has 44 publications and her publication h-index is 6, RI score 11,7. She is interested in chronic heart failure, HIV, myocardial infarction. Her PhD work was devote to the topic of relationships of hemodynamic indexes and antioxidant system in patients with myocardial infarction (2011). Since 2017 she is interesting of HIV-CHF interactions and nowadays is completing a second scientific work. Combines the work of a medical teacher and cardiologist with ultrasound diagnostics

The influence of environmental factors on the functioning of the cardiovascular system in children and adolescents

Sergey Kapranov

Donetsk National Medical University, Russian Federation

ABSTRACT

One of the most significant health criteria includes indicators characterizing the functional state and morbidity of the cardiovascular system.

The aim of the study is to assess the influence of environmental factors on the functioning of the cardiovascular system in children and adolescents. The research was carried out in the Luhansk region, including Alchevsk city, with large-scale industries of ferrous metallurgy and coke chemistry. The influence of social and man-made environmental factors of the life environment on various indicators of the functioning of the cardiovascular system and the incidence of circulatory organs in children and students has been studied.

The results of the research. The systematic practice of morning gymnastics by schoolchildren leads to normalization of their heart rate. Sport related to physical activity in adolescents leads to an increase in their functional capabilities of the cardiovascular system. Unhealthy lifestyle, such as active smoking, non-observance of the daily routine, late bedtime, irrational nutrition, negative or stressful psychological situations leads to discomfort in the heart area in schoolchildren. Late bedtime (later than 23.00) and insufficient sleep duration (less than 8 hours per day) in schoolchildren are associated with increased of blood pressure in adolescents. Non-compliance with the diet by schoolchildren and the tendency of adolescents to eat spicy dishes is a risk factor for their pathology of the cardiovascular system. The low-socioeconomic status of the family is a risk factor for the formation of abnormalities in blood pressure in adolescents. Exposure of adolescents to atmospheric pollutants increases their blood pressure and decreases the functional capabilities of the cardiovascular system. The use of water by adolescents with a high content of dry residue and high overall hardness is a risk factor for increased blood pressure. Recommendations for the prevention of cardiovascular pathology are proposed.

BIOGRAPHY

Sergey Kapranov has been working on environmental issues and protecting public health, especially children and adolescents, for more than 40 years. In 2003 and 2008, he completed internships in the United States of America on environmental protection. Based on the results of the internships, he wrote and published 3 books monographs in Ukraine with proposals for improving the living environment and public health in Ukraine and other countries. These are the following publications: "Water and Health", "Plants in the Noosphere and Population Health", "Soil, Waste and Human Health". Together with pediatricians, he developed a method for the comprehensive health improvement of children living in environmentally disadvantaged regions.He is currently a member of the editorial boards of 2 scientific journals. For 30 years he has been leading the scientific activities of gifted schoolchildren and students in ecology and medicine. He summarized the world experience in combating this epidemic and together with colleagues, prepared 3 editions of "Prevention of coronavirus infection COVID-19". In total, he personally and with colleagues prepared and published more than 350 scientific works, including books, monographs and brochures. He is a doctor of medical sciences, member of the dissertation council of Donetsk National Medical University.

Current perspectives on percutaneous coronary interventions in chronic total occlusions: Preparation, principles, and techniques

Ersin Doganozu

Ankara 29 Mayis State Hospital, Turkey

ABSTRACT

Introduction: Recent advancements in technology and novel techniques have significantly increased the success rate of interventions for Chronic Total Occlusions (CTOs), achieving upwards of 90% in specialized centers. The antegrade approach remains the predominant strategy for navigating CTO lesions. However, to safely conduct these procedures with optimal success, a thorough understanding of dissection and re-entry techniques is crucial.

Presentation: Pre-procedural preparation is paramount to the success of CTO interventions. Utilizing advanced imaging modalities for initial assessments allows operators to gather comprehensive details about the patient's anatomy, the nature of the lesion, and the strategy to employ. During interventions, a thorough evaluation of the collateral circulation through double-shot angiography, alongside lesion and complexity assessment using the J-CTO score, is essential for procedural safety. Subsequent to this evaluation, judicious wire selection emerges as a critical determinant in effectively traversing CTO lesions.

Conclusion: While CTO procedures present inherent complexities, the integration of contemporary techniques and technologies is significantly enhancing their success rates. An increasing number of operators specializing in these procedures will further enrich the collective knowledge and experience within the cardiology domain, thereby extending access to state-of-the-art treatments for a wider patient demographic.

BIOGRAPHY

Ersin Doganozu has completed his PhD at the age of 30 years from Baskent University, Turkiye. He is the head of Cardiology department of Ankara 29 Mayis State Hospital, Turkiye. He has two patent and over 15 publications.

Dilation decoded: In silico analysis of transcriptomic data reveals key molecular mechanism of dilation in arrhythmogenic cardiomyopathy

Sandeep Kumar C

Jain (Deemed-to-be University), India

ABSTRACT

Arrhythmogenic Cardiomyopathy (ACM) is a myocardial disease, and genetic abnormalities of cardiac intercalated disc proteins are primary cause of this disease. Autosomal dominant with incomplete penetrance is a prevalent mode of disease inheritance. ACM has a wide range of expression-type variability, from premature abilities in the ventricle to sudden cardiac death and heart failure. Inflammation, triggered by viral infection and immune responses, exacerbated the damage to the heart and necrotic muscle cells, in conjunction. These facts are reinforced by evidence, several diagnosed patients of ACM showed inflammatory infiltrate in cardiac tissues. Furthermore, the abundance of anti-cardiac, anti-disc, and anti-desmoglein-2 autoantibodies in patients with arrhythmogenic cardiomyopathy, implicates immune attack on cardiomyocytes. A Chelko SP et al. (2014) created double-mutant mouse models: one model inhibited NFκB signalling in cardiac myocytes, while the other targeted CCR2+ inflammatory cells. By comparing phenotypes among these models, the study aimed to define the roles of immune signalling in cardiac myocytes and inflammatory cells in ACM. Reanalysis of this transcriptomic data identified significantly downregulated genes in this model. Among the downregulated genes, Cartilage Oligomeric Matrix Protein (COMP) was highly downregulated. This protein is one of the extracellular matrix proteins. Huang Y et al., (2013) study identified deficiency of this protein is associated with dilated cardiomyopathy. Thus, this in silico analysis identified a gene/pathway responsible for ACM's dilation phenotype.

BIOGRAPHY

Sandeep KC is an Indian scientist specializing in Cardiology. He qualified for the prestigious CSIR exam in 2009 and went on to earn his Ph.D. in Cardiology under the guidance of Prof. Pratibha Nallari, from the Department of Genetics and Biotechnology, Osmania University, Hyderabad, India. His research has led to the discovery of mutations in susceptible genes and modifier genes of Arrhythmogenic Right Ventricular Dysplasia/ Cardiomyopathy (ARVC/D) among Indian patients. His work has significantly contributed to the understanding of this complex cardiovascular disease in the Indian context.

He is a seasoned educator and researcher with seven years of teaching experience at the undergraduate (UG) and postgraduate (PG) levels. He has taught several papers related to genetics, biotechnology, and molecular biology.

Some of the papers he has taught include:

- Genetics and Genomics
- Biotechnology and Bioinformatics
- Molecular Biology and Genetic Engineering
- Cell Biology and Immunology

Currently, he serves as a faculty member at Jain Deemed-to-be University in Bengaluru, a position he has held for the past four years. He has published 10 research papers and three book chapters in national and international journals, with several more papers in press. He has also presented his research at numerous conferences across India.

Challenges in pacing in right ventricular endomyocardial fibrosis

Nikhilkumar Patel

Aster Medcity, India

ABSTRACT

Endomyocardial fibrosis is estimated to be the most common and progressive form of restrictive cardiomyopathy worldwide. Apical filling with fibrotic tissue of one or both ventricles especially of right ventricle is the hallmark of EMF. Ventricular stiffness and atrioventricular valvular regurgitation results in atrial enlargement, resulting in atrial arrhythmias such as atrial fibrillation, which is the predominant arrhythmia in EMF, accounting for 30% of all cases, followed by junctional rhythm, heart blocks, and intraventricular conduction delay. Although EMF can result in sinus node dysfunction and tachyarrhythmias, complete heart block necessitating a pacemaker is rare. However, among patients with EMF who experienced sudden cardiac death, 15%–20% had documented advanced atrioventricular block or asystole.

Fibrosis in the targeted ventricle and tricuspid regurgitations often poses a challenge for transvenous pacing. Large right atrium and likely septal involvement on the endocardial aspect of the right ventricular side could be a concern for conduction system pacing.

In our report, we attempted to insert the pacemaker lead into the right ventricular apex and tried conduction system pacing in a case of sick sinus syndrome, but unfortunately, both were unsuccessful. We also encountered difficulties in placing the lead in the posterolateral vein owing to its small size. Eventually, the lead was placed in the superior branch of the middle cardiac vein, which led to diaphragmatic stimulation. Despite adjusting the electrical parameters, the patient continued to experience diaphragmatic stimulation. Hence, sensed atrioventricular delay was set at 350 milliseconds, which reduced the need for ventricular pacing. It is worth noting that her current electrocardiogram shows a first-degree heart block, which may require ventricular pacing in the future.

In situations like these, alternative pacing strategies, such as epicardial pacing is an option, but this comes with challenges owing to right ventricular failure and calcification in the epicardium or myocardium.

BIOGRAPHY

Nikhilkumar Patel, a distinguished medical professional, embarked on his journey in the realm of healthcare at BJ Government Medical College, Pune, (India) where he completed his MBBS in 2014. He completed MD in Internal Medicine from Dr. Vasantrao Pawar Medical College, Nashik, (India) in 2018. Equipped with a profound understanding of internal medicine, he honed his expertise as a senior resident at Nair Hospital, Mumbai, (India) contributing significantly to patient care and medical research. Eager to delve deeper into cardiovascular health, he pursued a DM in Cardiology at Amala Institute of Medical Sciences, Thrissur, (India) in 2022. He assumed the role of assistant professor at Amala Institute of Medical Sciences, where he shared his knowledge with aspiring medical professionals. Alongside his clinical commitments, he has also made contributions to medical literature, with three publications in indexed journals, including one in the prestigious Heart Rhythm Society journal. Currently, he is further expanding his horizons through a fellowship in electrophysiology at Aster Medcity, Kochi, (India) solidifying his status as a leader in the field. His illustrious career is characterized by a relentless pursuit of excellence, unwavering dedication to patient care, and a commitment to advancing medical science.

CT diagnostics of predictors of abdominal aortic aneurysm progression

Gela Getsadze

A N Bakulev National Medical Scientific Center for Cardiovascular Surgery, Russian Federation

ABSTRACT

Currently, the issue of timely assessment and treatment of abdominal aortic aneurysm remains one of the urgent problems of cardiovascular surgery. The decision on the need for emergency surgery or the possibility of expectant management tactics is based on such predictors of aneurysm rupture as transverse diameter and growth rate, which is insufficient to assess the condition of the abdominal aortic aneurysm and determine the further treatment plan for the patient. In this work, for the first time, we determined the predictors of wall instability and rupture of abdominal aortic aneurysms with the determination of threshold values, and the significance of the identified criteria of instability and rupture. Based on the data of computed tomography studies, for the first time a prognostic model of abdominal aortic aneurysm progression was developed with an assessment of the degree of risk of CT signs of instability and rupture of the abdominal aortic aneurysm using logistic regression analysis.

BIOGRAPHY

Gela Getsadze is an employee of the A N Bakulev Center for Cardiovascular Surgery since 2012. Engaged in CT diagnostics of cardiovascular diseases. He has published many scientific papers, including articles in foreign journals. He has participated in reports of scientific conferences and congresses. Currently, he is engaged in research activities in the field of aortic diseases, including the study of predictors of abdominal aortic aneurysm rupture using computed tomographic angiography.

Role of neck vessel doppler in correlation with coronary CT angiography for assessing coronary artery disease burden in diabetic women and men

Sankeerth Kendyala

Nizam's Institute of Medical Sciences, India

ABSTRACT

Objectives: With an incidence of 4.1 for women and 6.4 for men/1000 person-years, cardiovascular disease is the primary cause of morbidity and mortality for both men and women worldwide.[1] In asymptomatic patients, subclinical atherosclerosis has been detected utilising several non-invasive methods, such as Computed Tomography (CT) coronary angiography and Neck Vessel Doppler (NVD) to test coronary calcification. The goal of the present study was to assess the role of NVD in correlation with Coronary CT Angiography (CCTA) in assessing the Coronary Artery Disease (CAD) burden in diabetic women and men patients.

Materials and Methods: This study was conducted on 30 female patients and 30 male patients aged 40–60 years, who were referred for CCTA for suspected CAD at Nizam's Institute of Medical Sciences Hospital, Hyderabad. This study was an observational and prospective study of diabetes mellitus patients. All subjects underwent NVD and CCTA scans on the same day. Carotid Intimal Media Thickness (CIMT) was considered the largest of the two separate values (left and right CIMT). The analysis examined factors associated with coronary artery calcification defined as a Coronary Artery Calcium (CAC) score >0.

Results: The mean age at assessment was 52.6 years in the diabetic male group and 53.7 in the diabetic female group. 63% of the study population was also hypertensive in the male group and 77% of the study population was also hypertensive in the female group. Mean CIMT was 1.01 mm in the diabetic male group and 1.02 mm in the diabetic female group. Twenty-two (73.3%) patients in the diabetic male group had a CAC score >0, of which 4 (18.18%) had severe Coronary Artery Calcification (CAC score >400 Au), 7 (31.81%) had moderate Coronary Artery Calcification (CAC score 100–400 Au), 11 (50%) had mild Coronary Artery Calcification (CAC score 1-99 Au), and 8 out of 30 (26.67%) had no Coronary Artery Calcification (CAC score <0 Au). Twenty (66.67%) patients in the diabetic female group had a CAC score >0, of which 2 (10%) had severe Coronary Artery Calcification (CAC score >400 Au), 7 (35%) had moderate Coronary Artery Calcification (CAC score 100–400 Au), 11 (55%) had mild Coronary Artery Calcification (CAC score 1-99Au) and 10 out of 30 (33.33%) had no Coronary Artery Calcification (CAC score <0 Au). Mean CIMT and carotid plaque were significantly associated with CAC ($P = 0.046$ and $P = 0.026$, respectively, in the diabetic male group and $P = 0.008$ and $P = 0.011$, respectively, in the diabetic female group). The significance was more profound in the diabetic female group when compared to the diabetic male group.

Conclusion: NVD giving various surrogate parameters such as CIMT and plaque, in correlation with CCTA (CAC score), can play a significant role in assessing the CAD burden in men and women with diabetes and hypertension, thereby helping the clinician to assess the future risk for stroke or myocardial ischemic events to take active interventions.

BIOGRAPHY

Sankeerth Kendyala is a junior resident in MD radiodiagnosis (PGY-3) at Nizam's Institute of Medical Sciences, Hyderabad, Telangana, India. He completed his MBBS and house surgeonship at Gandhi Medical College and Gandhi Hospital, Secunderabad, Telangana, India. He has a keen interest in cardiac imaging and has authored three publications.

Sleep physiology as a promoter of cardiac risk

Tijana Bojic

Vinča Institute of Nuclear Sciences; University of Belgrade, Serbia

ABSTRACT

Sleep is behavioraly defined as reversible behavior characterized by minimal perception and relative absence of responses on environmental stimuli. It is characterized by specific body posture and quiescence. In 1929., Hans Berger discoveres EEG patterns specific for sleep phases, while *Rechtschaffen and Kales* in 1968 fundamentaly contributed to sleep research by introducing electrooculogram and electromiogram for definition of wake-sleep phases (Quiet Wakefulness -QW, Non-Rapid Eye Movement Sleep-NREMS, and Rapid Eye Movement Sleep-REMS). American Association for Sleep Medicine in 2007 upgraded *Rechtschaffen and Kales* classification of wake-sleep phases by fine definition of quality and quantity of electric "architecture" specific for sleep phases. By introducing the measurements of cerebrocardiovascular autonomic variables in sleep studies, it was concluded that cerebrocardiovascular neural control manifests specific phenomena in each phase of wake-sleep cycle. That conclusion boosted the development of the idea that sleep phases can be the the states of risk for patients with different cerebrocardiovascular human patologies. One of typical examples is Miocardial Ischaemia (MI). Both REMS and NREMS may conduce nocturnal MI and Angina, but based on different mechanisms. MI specific for REMS happens as the consequence of sympathetic bursts, increase of metabolic demands during HR surges in *flow limited, stenotic coronary arteries*. In NREMS we meet decreased coronary perfusion due to the decrease of arterial blood pressure and heart rate, that results with the decrease of metabolic threshold for induction of nocturnal MI.

Conclusion: Central autonomic dynamics specific for sleep stages causes peripheral consequences on cerebrocardiovascular system and respiratory system, the supersystems that can be pathologically changed. These peripheral effects can precipitate life-threatening cerebrocardiovascular events that demand prompt and physiologically justified, sleep phase specific treatment. This points out that patients with cerebrocardiovascular diseases should be continuously sleep stage monitored during the night.

BIOGRAPHY

Tijana Bojic has completed her PhD at the age of 29 years from University of Bologna, Italy. She is the head of the group for studying integrative physiology and applied pathophysiology at Laboratory for Radiation Chemistry and Physics- 030, Vinča Institute of Nuclear Sciences, University of Belgrade, Serbia. She has 40 in extenso publications that have been cited over 850 times, and her publication h-index is 16. She has been serving as an editorial board member of several reputed journals.

SCADLE, a new medical frontier

Gotabhaya Ranasinghe

National Hospital of Sri Lanka, Sri Lanka

ABSTRACT

Background: Spontaneous Coronary Artery Dissection (SCAD) is an increasingly recognized, yet often unexplained, cause of acute coronary syndrome. In nearly half of the cases, causative factors remain unclear. This presentation delves into a unique case of Spontaneous Coronary Artery Dissection with Leukoencephalopathy (SCADLE) linked to a novel Thrombospondin Type 1 domain containing 1 (THSD1) mutation.

Case Summary: A 36-year-old woman presented with a four-hour history of ischemic chest pain and was diagnosed with anterior ST- Segment Elevation Myocardial Infarction (STEMI). Intravenous Tenecteplase was used for thrombolysis, resulting in good resolution. Coronary angiography identified Type 1 SCAD with Left Anterior Descending artery (LAD) with TIMI 3 flow. Intramural hematoma and the LAD spiral dissection were confirmed by an intravascular ultrasound. The patient experienced prior Transient Ischemic Attacks (TIAs) 5 and 7 years ago and had a notable family history of strokes in first-degree relatives. Magnetic Resonance Imaging (MRI) of the brain indicated small infarctions along with abnormalities in bilateral periventricular white matter, suggesting leucoencephalopathy. Exome gene sequencing and genetic analysis were conducted due to suspicion of a possible link between Cerebral Autosomal Dominant Arteriopathy with Subcortical Infarcts and Leucoencephalopathy (CADASIL) and SCAD. The NOTCH3 gene mutation, which is commonly found in CADASIL, was not detected at c.67°C > G (p. Arg224Gly). Instead, the tests revealed a mutation in the Thrombospondin Type 1 Domain containing 1 (THSD1) gene.

Discussion: The THSD1 gene encodes proteins that function in the Extracellular Matrix (ECM). The THSD1 mutation is autosomal dominant and linked to rare arterial dissections, fibromuscular dysplasia, intracranial aneurysms, and subarachnoid hemorrhages. SCADLE may be caused by malfunction of ECM proteins in the cerebral and coronary arteries, causing neurological symptoms and MRI characteristics similar to CADASIL and SCAD.

BIOGRAPHY

Gotabhaya Ranasinghe, a leading general and interventional cardiologist in Sri Lanka, serves as senior consultant cardiologist at the National Hospital of Sri Lanka and the honorary consultant cardiologist to the Sri Lanka Navy, holding the rank of surgeon rear admiral. He has earned fellowships from the Royal College of Physicians London, Ceylon College of Physicians, American College of Cardiology and Asia Pacific Society of Interventional Cardiology. He was a former president of the Sri Lanka College of Cardiology and is the co-founder of the 'Sri Lanka STEMI Forum'. He is the principal investigator of the National Heart Attack Care Registry in Sri Lanka. His latest contribution to cardiology is SCADLE (Spontaneous Coronary Artery Dissection with Leukoencephalopathy) syndrome which was first ever reported and published in the European Heart Journal in 2023. He is also an avid wildlife enthusiast and enjoys traveling.

A new method for quantifying the contractility of the left ventricular myocardium according to two-dimensional echocardiography

Eka Dvalishvili

A N Bakulev National Medical Research Center for Cardiovascular Surgery, Russian Federation

ABSTRACT

The proposed work presents an original method for evaluating quantitative criteria of left ventricular function in accordance with the blood supply zones of the coronary basin in patients with coronary heart disease to restore pumping function of the heart from the perspective of revascularization of various myocardial sites. For this purpose, the established criteria control group is considered. The calculation is based on the second Papp-Gulden theorem, where the volume of a body obtained as a result of rotation of a flat figure around its disjoint axis is equal to the product of the area of this figure by the circumference described by the center of gravity of this figure. The authors propose a new method of technical calculation that does not violate the physical foundations of the formula, but also does not require determining the center of gravity of each segment, which is a possible but very time-consuming process.

BIOGRAPHY

Eka Dvalishvili has been working at the Bakulev Center for Cardiovascular Surgery since 2012. He is engaged in ultrasound diagnostics of the cardiovascular system of adults. He is testing a patent for a new method for evaluating the contractility of the left ventricular myocardium, which is the basis of the dissertation work and is undergoing a defense stage. Five publications have been published on this topic, and the technique has been patented in the territory of the Russian Federation as an invention «A method for evaluating the contractility of the left ventricular myocardium» RU2777235C1.

Cardiac assist devices-anesthesiologist consideration

Ana Andelkovic

University Clinical Centre of Serbia, Serbia

ABSTRACT

Cardiac Assist Devices (CADs) are blood pumps that support circulatory function in critically ill cardiac patients. CADs include extracorporeal membrane oxygenation (ECMO), Intra-Aortic Balloon Pump (IABP), and ventricular assist devices, such as the Left-Ventricular Assist Device (LVAD). While cardiac anesthesiologists encounter CADs more frequently, non-cardiac anesthesiologists must familiarize themselves with the perioperative considerations in patients with CADs due to their growing use in clinical practice. These abstract highlights the particular considerations anesthesiologists need to account for treating patients with an LVAD during non-cardiac surgery. The LVAD is a blood pump used in end-stage heart disease, transporting blood from the left ventricle to the aorta. It serves primarily as a bridge-to-transplantation and less frequently as a bridge-to-recovery method. Standard preparation for surgery includes a comprehensive laboratory evaluation, echocardiography, and detection of any cardiac implantable electronic devices. Patients with LVADs are at high risk of bleeding due to regular anticoagulation therapy, and acquired von Willebrand disease, that is common in this population. Intraoperatively, ensuring a safe power source for the device and closely monitoring LVAD parameters (pump speed, power, flow, and pulsatility index) are mandatory. Any potential cause of changes in device parameters must be promptly corrected to prevent device malfunction, which can be fatal. Mean arterial pressure must be maintained within narrow limits of 70-85 mmHg. Vasopressin and norepinephrine are the recommended vasoactive drugs for managing blood pressure. Due to the pulseless nature of last-generation LVADs, monitoring blood oxygenation during surgery is provided by Near-Infrared Spectroscopy (NIRS). Understanding these considerations is crucial for non-cardiac anesthesiologists to manage the complexities associated with LVADs effectively, ensuring patient safety and optimal surgical outcomes.

BIOGRAPHY

Ana Andelkovic is currently working in University Clinical Centre of Serbia, Serbia.

Patient experience in the TAVI procedures. TAVI nurse programme

Miryam Gonzalez Cebrian

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ABSTRACT

Transcatheter Aortic Valve Implantation (TAVI) is experiencing exponential growth supported by growing evidence of improved clinical outcomes. However, few studies have approached this procedure from the patient's perspective.

Aim: design a questionnaire that measures expectations, perceived quality of life and experience of patients undergoing TAVI and evaluating results. A cross-sectional descriptive study was carried out with patients included in TAVI nurse program. A nurse provides assessment in pre-TAVI consultation, support during admission and follow-up. A specific questionnaire was designed in collaboration with a multidisciplinary group that included the patients themselves. 200 patients undergoing TAVI participated by answering the questionnaire one month after the procedure. 55% women, average 81 years old, 92% were satisfied with the information from the nurse before TAVI, 96% were satisfied with the information from the nurse during admission, 98% were satisfied over time dedicated by the nurse, 95% were satisfied with kindness and professionalism, 83% considered that post-TAVI symptoms have been reduced, 76% stated that their expectations were met, 87% considered that the information given in the previous consultations helped them organize and know the process, 87% stated that they knew who to go to if they had questions during the follow-up, 88% stated that the nurse was important to be calm, informed and resolve doubts. Regarding the recommendation of TAVI to other patients and patient satisfaction throughout the whole TAVI process, it was rated excellent according to the Net Promoter Score (NPS) patient experience index. This study focuses on the importance of integrating the patient into decision making, setting realistic expectations and getting informed patients. Evaluation patient experience not only allows for continuous improvement, but also impacts on health outcomes by identifying areas for improvement. The active inclusion of the patient in the design of the questionnaire put the patient at the center, incorporating their perspective.

BIOGRAPHY

Degree in Nursing from the University of Cantabria, Spain. Currently pursuing a doctorate at University of Salamanca. Holds a master´s degree in healthcare management and planning from European University, a master´s degree in nursing hemodynamics and interventional cardiology, and a master´s degree in leadership and personal development. With over 12 years of experience as an associate professor in nursing at different universities. Currently serving as the head of the nursing for the cardiovascular critical care department at the University Hospital of Salamanca. She coordinates the TAVI nurse programme at the same hospital and also is the Coordinator of the National Expert Group of TAVI nurse. Participation in multiple research projects (5 as principal investigator obtained funding in competitive competition: Regional Health Management (SACYL), Salamanca Biomedical Research Institute (IBSAL). Coordinator of the Nursing research group in cardiology IBSAL CARD 011 and member of CIBER_CV in Carlos III Health Institute (ISCIII). Research awards and research grants from IBSAL and SACYL. More than 30 scientific publications and more than 200 participations in congresses, conferences and courses both national and international Recognition by the Ministry of Health and awarded for excellence as a best practice within the framework of the cardiovascular health strategy of the national health system for the TAVI nurse project.

Relationships between ECG cardiac intervals: Theory and applications

Minvydas Kazys Ragulskis

Kaunas University of Technology, Lithuania

ABSTRACT

Cardiac intervals are sensitive markers of cardiac dysfunction. There exist some opinions that diagnostic features of ECG parameters are completely understood and that there is no need to seek for any new approaches in ECG analysis. However, investigation of interrelations between EGC parameters is still an active area of research. A typical example is the relationship between RR and QT intervals first described in a form of a functional correlation and the definition of tolerance intervals for QT. But one hundred years later, discussions about this relationship do not seem to be stopping. Many researchers were proposing new analytical expressions and confidence intervals for inter-parameter relationships, all adapted to their specific cohort. Unfortunately, other researchers were not able to prove the validity of these relationships. This is probably due to some of the following reasons: The insufficient identification of the specificity of relationships between ECG parameters; a fixed model of relationships between ECG parameters cannot always hold even for a particular person, time-averaged relationships between ECG parameters are not able to represent the complexity of these relationships in different time scale lengths.

The authors will present the novel concept of algebraic relationships between cardiac intervals. Apart from the theoretical background, the authors will demonstrate that the proposed approach is capable to solve a number of challenging practical problems. The authors will demonstrate how the RR-QRS algebraic relationship is capable to detect the anaerobic threshold during the stress test, how JT-ST relationship can be used to detect ischemic episodes, how RR-JR-QRS relationship can detect early episodes of atrial fibrillation or visualize subtle reactions during the electrical stimulation of the Auricular Vagus nerve. The presentation will give an insight into some open contemporary problems in the self-organization of human cardiovascular system.

BIOGRAPHY

Minvydas Ragulskis is currently working in Kaunas University of Technology, Kaunas, Lithuania.

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E-POSTER PRESENTATIONS

DAY 2

Application of peri-procedure echocardiography guide intervention

Uthen Bunmee

Mahidol University, Thailand

ABSTRACT

Currently, intervention and catheterization were popular procedures in cardiology and health science, as well as an echocardiography, was developing quickly in terms of processing and an advanced technique. Division of Cardiology in the department of pediatrics at Ramathibodi Hospital had a 5 procedure used a guide procedure echocardiography or GPE, and consisted of the following: (1) Septal defect occlusion; (2) Fenestrated Fontan occlusion; (3) Balloon atrial septostomy; (4) Transcatheter ventricular septal defect closure; and (5) Transcatheterization pericardiocentesis. The sonographer was an experienced cardio-thoracic technologist who performed and showed an echo image peri-procedure. This article aims to remind users of the advanced benefits of GPE about the precision of treatment, and decreased radiation dose other than treatment only. Health workers should learn and develop skills in these procedures in order to be able to apply them, especially when adapting to a center that is ready for equipment and personnel.

BIOGRAPHY

Uthen Bunmee has completed his BSc in cardio-thoracic technology program of allied health science at the age of 21 years from Thailand. He is the researcher of pediatrics echocardiography department, Ramathibodi Hospital, Mahidol University. He has over 11 publications in Thai journal index center, and 3 International publication that have been cited 25 times his publication h-index is 1. He has been a member of Thailand Cardio-Thoracic Technologist society.

Psychological support for elderly cardiovascular disease patients: Emergency placement and the role of social workers

Zhang Fen

Tajen University, Taiwan

ABSTRACT

As global aging intensifies, the prevalence of cardiovascular disease continues to rise. In Taiwan, the population aged 65 and above has reached 18%, with projections indicating an increase to 23% by 2030 (Ministry of the Interior, 2023). This demographic shift underscores the increasing need to address the psychological needs of elderly cardiovascular patients during emergency placements. Besides facing physical health challenges, these patients often suffer from anxiety, feelings of isolation, and helplessness during health crises (Wang & Tsai, 2020). The environmental shifts and emotional stress associated with emergency placements further exacerbate their psychological challenges (Lin & Lee, 2020).

This study aims to explore the psychological needs of elderly cardiovascular patients during emergency placements and analyze the intervention strategies employed by social workers. The research highlights the crucial role that social workers play, including building trust, offering emotional support, and coordinating mental health resources (Chang, 2019). The findings suggest that proactive social worker involvement significantly reduces patients' psychological stress, facilitates better adaptation to new environments, and improves overall quality of life (Wang & Tsai, 2020). These interventions also support psychological recovery and the rehabilitation of cardiovascular diseases (Lin & Lee, 2020).

This study provides valuable insights for cardiovascular healthcare teams and policymakers, emphasizing the critical need to integrate psychological support into the care of elderly cardiovascular patients.

BIOGRAPHY

Zhang Fen graduated from Fooyin University in Taiwan with a bachelor's degree in nursing and is currently pursuing a dual master's degree in nursing and social work. She has over 12 years of experience in psychiatric clinical nursing and long-term care. She is currently a supervisor for home care services in long-term care. She has published a book on "Low Self-Esteem in Children" and focuses on child psychology and mental health, particularly in the areas of self-esteem development and intervention strategies. Her research on childhood obesity and self-esteem has been widely cited, and she is currently continuing her studies in the mind-body-spirit and social aspects as a graduate student at Tajen University of Technology.

Diagnostic problem in acute myocardial infarction and vasospastic angina pectoris

Davor Horvat

General Hospital Karlovac, Croatia

ABSTRACT

The aim of this case report is to show ST elevation in the Eslectrocardiogram (ECG) as a differential diagnostic problem between acute myocardial infarction and vasospastic angina pectoris. A 79-year-old patient comes to the hospital because of chest pain. ECG shows inferioris and anterolateralis ST elevation. He was referred to the Percutaneous Coronary Intervention (PCI) network. After emergency coronary angiography, all three epicardial coronary arteries were shown without hemodynamically significant stenoses. Echocardiography showed akinesia of the distal septum, anterior wall and apex with consequent ejection fraction of the left ventricle from 40%. After three days of hospitalization the 24 hour ECG showed transient ST elevation in all three leads, which corresponds to the inferior and anterolateral region in the 12-channel ECG. This transitory event was not accompanied by significant angina pectoris pains or an increase in troponin. The most common differential diagnosis of ST elevation in the ECG is acute myocardial infarction, but possible Prinzmetal's angina with or without myocardial infarction should also be considered.

BIOGRAPHY

Davor Horvat has completed his PhD at the age of 40 years from Osijek University, Croatia. He has over 50 publications that have been cited WoSCC 1189, Scopus 1334, and his publication h-index is WoSCC 3, Scopus 4.

The effectiveness of a fixed double combination (bisoprolol, perindopril) in patients with stable coronary artery disease and arterial hypertension different degrees

Ilona Golikova

National Scientific Center "M.D. Strazhesko Institute of Cardiology" of NAMS of Ukraine, Ukraine

ABSTRACT

Background: Most patients with Coronary Artery Disease (CAD) and Arterial Hypertension (AH) are treated in outpatient settings. Timely diagnostics, prevention and appointment of optimal drug therapy reduce the risk of complications, improve the quality of life and save working capacity, reduce cardiovascular and general morbidity and mortality. Control of Heart Rate (HR) and Blood Pressure (BP) for a patient with stable CAD is the most important condition for effective antianginal therapy and is directly related to long-term prognosis.

Aim: To evaluate the hypotensive and antianginal efficacy of a Fixed Combination (FC) (bisoprolol, perindopril) in patients with CAD and concomitant hypertension.((tabl.1)

Materials and Methods: The study involved 170 cardiologists from various regions of Ukraine. Each researcher selected 15 consecutive outpatients with CAD who came for a regular visit. Inclusion criteria: age over 18 years old, BP above 140/90 mm Hg, HR above 60 bpm, bisoprolol as part of antihypertensive therapy in the last ≥ 3 months. The study included two visits. At each visit, the patient's objective status was assessed; an individual questionnaire with office systolic and diastolic BP, HR, ECG data, clinical manifestations of CAD, risk factors, lifestyle features, concomitant diseases, current therapy was filled out. Medication adherence was also evaluated by Girerd X. et al. questionnaire, the therapy was corrected if necessary and the presence of side effects and adverse events was registered. We analyzed the levels of BP and HR at the beginning and at the end of the study, the percentage of achievement of the recommended levels of these indicators, the antianginal efficacy of treatment and adherence to therapy in patients with CAD and different degrees of hypertension after 4 weeks of treatment. 2785 patients' questionnaires were provided by doctors, 1747 patients were included in substudy. Av. age 60.9 ±10.2 y.o, men – 57.1 %, women – 42.9 %. The diagnosis of CAD was based on: chest pain – 554 (31.7 %), a history of documented MI – 935 (53.5 %), coronary angiografy results – 536 (30.7 %), revascularization (CABG/PCI) – 344 (19.8 %) patients. Risk factors and concomitant disease (% patients) were: HF- 38,4%; T2DM-18,7%; Arrhythmia-46,4%; Obesity- 34,9%; Current smokers- 10%; Av. glucose level- 5,91 mmol/l; Gl > 7mmol/l-11,3%; Av. total cholesterol-5,6 mmol/l; Physical activity- low - 31%,medium-intensity - 55%, energetic - 13%.

Table 1. Doses of FC of bisoprolol and perindopril in patients depending on the degree of AH

Doses	AH I (n=505)	AH II (n=1027)	AH III (n=215)
5/5 mg	204 (40,4%)	293 (28,5 %)	28(13,0%)
5/10 mg	201 (39,8%)	464 (45,2 %)	93 (43,3%)
10/10 mg	78(15,4%)	258 (25,1 %)	93 (43,3%)

Results : The use of FC of previously taken drugs (perindopril, bisoprolol) for 4 weeks allows to reduce with statistical significance (p<0,001 vs.baseline) HR and BP effectively (HR ≤ 70 bpm reached 84.9 % of patients, HR ≤ 60 bpm – 31.6%, BP ≤ 140/90 mm Hg – 86.9 %, BP ≤ 130/80 mm Hg – 51,8 % of patients). BP and HR levels after 4 weeks taking (Fig.1) and av. decrease of BP and HR depending on the dose (Fig.2) of a fixed combination bisoprolol and perindopril in patients with varying degrees AH are presented in the diagrams below.

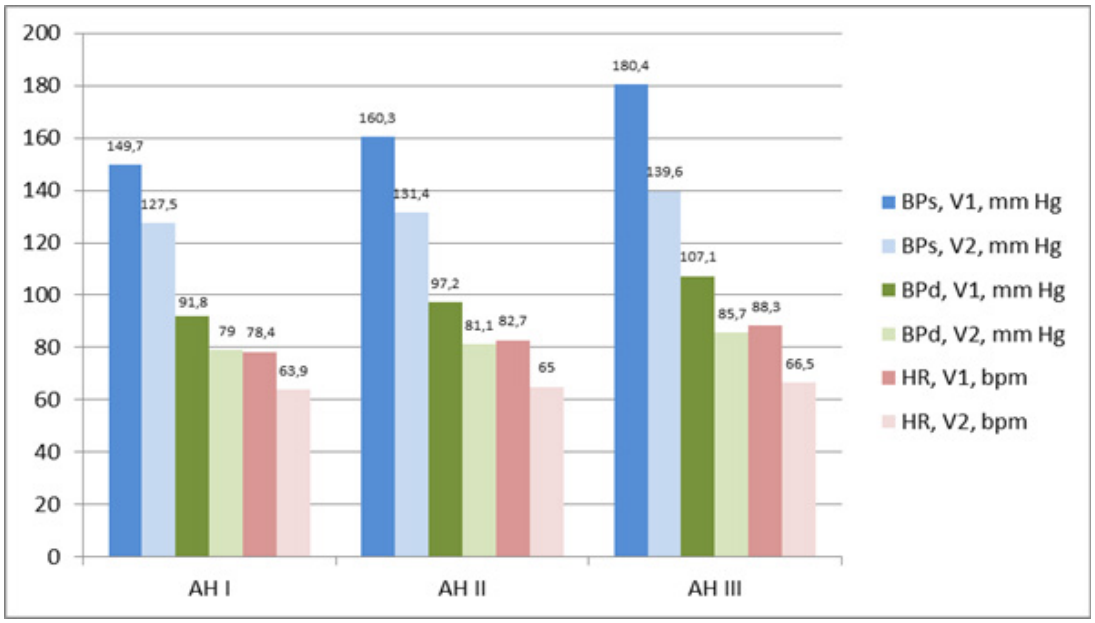

Fig.1 BP and HR levels after 4 weeks taking a fixed combination of bisoprolol and perindopril in patients with varying degrees AH

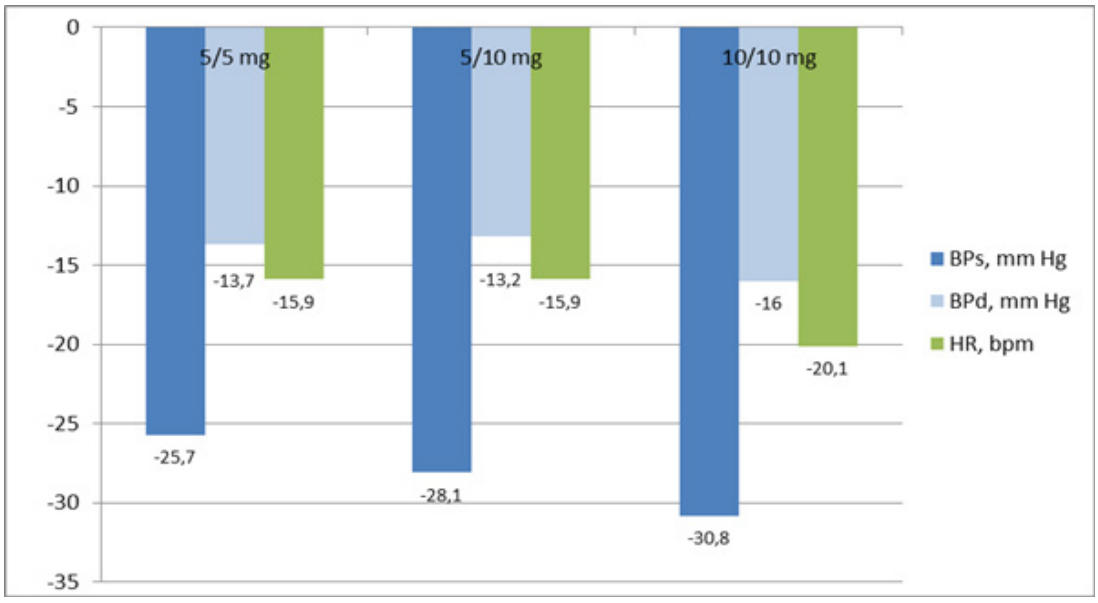

Fig.2 Av. decrease of BP and HR depending on the dose of a FC of bisoprolol and perindopril

The most significant absolute decrease of BP and HR was in patients with a more severe degree of hypertension (decrease systolic BP was – 40.8 mm Hg, diastolic BP – 21.4 mm Hg, HR – 21.8 bpm).

Reduce the number of angina attacks (from 4.48, 4.5 and 4.7 per week at the beginning of the study to 2.4; 2.9 and 2.3 per week in patients with 1, 2 and 3 degrees of hypertension, respectively) and the nitroglycerin consumption from 4.5; 4.9 and 5.9 tab per week up to 2.4; 2.9 and 2.3 tab per week ($p<0,001$ vs.baseline).

Improved patients' adherence to the prescribed therapy in all study groups: it increased in 66.5%, remained unchanged in 27.6% and decreased in 2.9 % of the subjects ($p<0.001$).

Conclusion : The study demonstrated that the use of the fixed combination of bisoprolol and perindopril in patients with CAD and concomitant hypertension (different degrees) helps to improve treatment efficacy, to achieve recommended levels of BP and HR, also has a significant antianginal effect (reliable decrease of the number of angina attacks and nitroglycerin consumption) and increases adherence to therapy.

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BIOGRAPHY

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Results of profundoplasty in comparison with femoral-popliteal bypass grafting in patients with critical lower limb ischemia associated with diabetes mellitus

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ABSTRACT

Patients with CLLI associated with diabetes is a separate group requiring special attention, such patients have a 20-30 times higher risk of amputation. According to IDF a lower limb is lost to diabetes somewhere in the world every 30 seconds. The aim of this study is to compare the nearest and remote results of surgical treatment - profundoplasty or femoropopliteal bypass grafting. The study included 117 patients divided into 2 groups: Group 1- 71 patients who underwent FPBG, Group 2 - 46 patients who underwent profundoplasty due to the lack of a peripheral arterial bed and surgical possibility. In the postoperative period, the number of amputations of the operated limb, the quality of life (SF-36 questionnaire) and patency of the bypass graft in the 1st group were assessed.In the 5-year observation period, the patency of the bypass graft in the 1st group was: 6 months - 95.4%; 1 year - 82.6%; 3 years - 63.3%; 5 years – 50.7%. The preservation of the operated limb over a 5-year observation period in the 1st group was 74.6% (n=53) ($p < 0.05$), all amputations were performed above the knee. In the 2nd group, the preservation of the limb was 84.7% (n=39) ($p < 0.05$). Thus, the preservation of the operated limb over 5 years in the group with profundoplasty is significantly higher ($p < 0.05$). Also the quality of life was significantly higher ($p < 0.05$) in the group with profundoplasty, according to SF-36 questionnaire. Submitted material presents the results of operative treatment, however, for a more accurate assessment of the effectiveness of surgical treatment, it is necessary to evaluate drug treatment and the course of diabetes. Only a personalized approach to the comprehensive treatment of patients with comorbid diseases will achieve high efficiency.

BIOGRAPHY

Iago Sarkhanidze has completed his PhD at the age of 28 years from Petrovsky National Research Centre of Surgery, Moscow, Russia. He is not only a practicing surgeon, but also a successful scientist. Has publications in russian and international journals. He is also an active participant in international conferences. He is proficient in basic treatment and diagnostic manipulations, conducts active medical work, and regularly participates in operations of varying degrees of complexity.

Unveiling a unique case of scimitar syndrome: Clinical significance and multidisciplinary management challenges in Pakistan

Gulalay Shamal

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ABSTRACT

The chest X-ray revealed a distinctive vertically oriented tubular structure with crescent-like morphology within the right hemithorax. This discovery triggered suspicions of an underlying structural anomaly. In the subsequent steps, a Computed Tomography Pulmonary Angiogram (CTPA) was conducted to comprehensively understand the anomaly. The CTPA unveiled a peculiar vessel measuring approximately 2.1 cm that originated from the medial aspect of the right hemidiaphragm, which was a significant anomaly. This vessel was observed to connect with the Inferior Vena Cava (IVC) just before its convergence with the right atrium. Notably, there was no noticeable loss of lung volume on either side, which strongly indicated the presence of a scimitar syndrome with partial anomalous pulmonary venous return, in line with the findings from the CT scan, as is visible in Figure.

BIOGRAPHY

Gulalay Shamal is an MBBS doctor from Pakistan and registered with GMC UK. This is her first publication and she aims to contribute more towards the research sector.

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