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Challenges in Cardiology:
Cardiology Congress 2018

August 16-18, 2018 | Rome, Italy

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Venue: Hotel Rome
Pisana Via della Pisana,
374 00163 Roma RM, Italy

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1 Day Thursday

August 16, 2018

Hall Name - SALA ISTANBUL

08:00-09:00 — **Registrations**

09:00-09:15 — **Opening Ceremony**

Moderator: Diana Foster, Total Clinical Trial Management, USA

KEYNOTE FORUM

09:15-09:50 — **Title: The danger of relying on the interpretation of p-values in single studies: Irreproducibility of results from clinical studies**

Ronald Thomas, Wayne State University, Detroit, MI, USA

09:50-10:25 — **Title: Principles for management of primary cardiac tumours**

Philemon Gukop, St George's University Hospital NHS Trust London, UK

10:25-11:00 — **Title: Fish oil supplements in RCT can fulfil the promise of fundamental research and epidemiology (omega-3 consumption from fish) for cardiovascular disease treatment and prevention: Recognising the pitfalls of non-critical meta-analysis**

Peter McLennan, University of Wollongong, Australia

Coffee Break 11:00-11:15 @ The Hub

Sessions:

Cardiovascular Diseases | Clinical Cardiology | Risk Factors for Cardiovascular Diseases | Cardiac Surgery

Session Chairs

Traci Goodchild, LSU Health New Orleans, USA

Peter McLennan, University of Wollongong, Australia

1 Day Thursday

August 16, 2018

11:15-11:35 — **Title: PACU Update: The Cardiac patient undergoing non-cardiac surgery**

A.D. John, Johns Hopkins University School of Medicine, USA

11:35-11:55 — **Title: Loss of autophagy-linked FYVE containing protein WDFY3 leads to Congenital Heart Defects**

Hongxin Zhu, Shanghai Jiao Tong University, China

11:55-12:15 — **Title: Anti-arrhythmic and anti-inflammatory effect of low-level electrical stimulation of aortic root ventricular ganglionated plexi in dogs with heart failure)**

Hong-Tao Wang, The Second Affiliated Hospital of Xi'an JiaoTong University, China

12:15-12:35 — **Title: Atrial fibrillation and sudden cardiac death in the Wolff-Parkinson-White syndrome**

Osmar Centurion, Asuncion National University, Paraguay

12:35-12:55 — **Title: The critical nature of CRO and site relationships in rare cardiology disease clinical trials**

Diana Foster, Total Clinical Trial Management, USA

GROUP PHOTO

Lunch Break 12:55-13:55 @ Restaurant (The Terminal 1st Floor)

Session Chairs

Osmar Centurion, Asuncion National University, Paraguay

Abdelkarim Sabri, Lewis Katz School of Medicine, Temple University, USA

13:55-14:15 — **Title: Blood transfusion in cardiac surgery**

Marco Picichè, San Bortolo Hospital, Italy

14:15-14:35 — **Title: Effects of vitamin D level and oxidant-antioxidant balance on postoperative morbidity in diabetic and non-diabetic patients undergoing off-pump bypass surgery**

Tijen Alkan Bozkaya, Koc University Hospital, Turkey

1 Day

Thursday

August 16, 2018

14:35-14:55 — **Title: Undiagnosed polyserositis and ascending aortic aneurysm: A real clinical experience**

Gulumser Heper, Kudret International Hospital, Turkey

14:55-15:15 — **Title: The challenges of detecting risk factors for the development of atherosclerosis**

Senka Mesihović-Dinarević, Europharm Policlinic, Committee for Cardiovascular Pathology, Academy of Sciences and Arts, Sarajevo, Bosnia and Herzegovina

15:15-15:35 — **Title: Evaluating the effectiveness of acoustic and vibrational stimuli on sedentary behavior**

Praveen Veerabhadrappa, The Pennsylvania State University, USA

Coffee Break 15:35-15:50 @ The Hub

15:50-16:10 — **Title: Heart team approach in ostial left main interventions – A success story**

J V Balasubramaniyan, Sri Ramachandra University, India

16:10-16:30 — **Title: Periprocedural myocardial infarction: The role of human neutrophil peptide-1 to 3**

Rami Abu Fanne, Hillel Yaffe medical center, Israel

16:30-16:50 — **Title: Oscillometric blood pressure by age and height for non overweight children and adolescents in Lubumbashi, Democratic Republic of Congo**

Emmanuel Kiyana Muyumba, University of Lubumbashi, Democratic Republic of Congo

16:50-17:10 — **Title: Role of Endothelin 1 in cardiovascular disease: New insights into the risk of atrial fibrillation in hyperthyroid patients**

Fadia Mayyas, Jordan University of Science and Technology, Jordan

17:10-17:30 — **Title: Enlarged left atrium as a predictor of mortality in patients undergoing coronary artery bypass surgery in Jordan**

Khalid Ibrahim, Jordan University of Science and Technology, Jordan

Panel Discussions

2 Day Friday

August 17, 2018

Moderator: Omar Mutlak, Imperial College London, UK

KEYNOTE FORUM

09:30-10:05 — **Title: Contribution of stress to the aetiology and prognosis of cardiovascular disease: An update on current knowledge**

Mika Kivimaki, University college London, UK

10:05-10:40 — **Title: Nanoparticle targeted delivery of dual chymase and Cathepsin G inhibitor augments cardioprotection post-ischemia reperfusion in mice**

Abdelkarim Sabri, Lewis Katz School of Medicine, Temple University, USA

10:40-11:15 — **Title: Preoperative Atrial and Ventricular Strains are Predictors of Postoperative Left Ventricular Dysfunction following Mitral Valve Surgery for Degenerative Mitral Regurgitation (DMR)**

Olga Kislitsina, Northwestern University, USA

Coffee Break 11:15-11:30 @ The Hub

Sessions:

Cardiac Surgery | Clinical Cardiology | Interventional Cardiology | Risk Factors for Cardiovascular Diseases

Session Chairs

Omar Mutlak, Imperial College London, UK

Marco Picichè, San Bortolo Hospital, Rome, Italy

11:30-11:50 — **Title: Dietary omega-3 fatty acids for cardiac preconditioning, arrhythmia prevention and nutirional preconditioning of skeletal muscle**

Peter McLennan, University of Wollongong, Australia

2 Day Friday

August 17, 2018

11:50-12:10 — **Title: Off-pump Neochord mitral valve repair to simultaneously treat posterior leaflet prolapse and systolic anterior motion**

Matteo Marro, University of Turin, Italy

12:10-12:30 — **Title: A novel transapical device for aortic valvular disease: One-year outcomes of a multicentre study on the J-Valve system**

Wei Wang, Fuwai Hospital, China

12:30-13:30 — **Title: The physiological and psychological response to combined strength and aerobic training in a group of cardiac patients**

Knut Egil Hanssen, Østfold University College, Norway
Arne Skaug, Østfold University College, Norway
Ole Sveen, Østfold University College, Norway

Lunch Break 13:30-14:20 @ Restaurant (The Terminal 1st Floor)

Session Chairs

Senka Mesihović-Dinarević, Europharm Policlinic, Bosnia and Herzegovina

Knut Egil Hanssen, Østfold University College, Norway

14:20-14:40 — **Title: Sympathetic denervation to treat heart failure**

Traci Goodchild, LSU Health Sciences Center - New Orleans, USA

14:40-15:00 — **Title: An investigation of skin perfusion in venous leg ulcer after exercise**

Omar Mutlak, Imperial College London, UK

15:00-15:20 — **Title: Prevalence of coronary artery anomalies detected by coronary CT angiography in canton Sarajevo, Bosnia and Herzegovina**

Fuad Zukic, Clinical Centre of Sarajevo University, Bosnia and Herzegovina

2 Day Friday

August 17, 2018

15:20 -15:40 — **Title: Maternal high-fat diet exaggerates atherosclerosis in adult offspring by augmenting periaortic adipose tissue-specific proinflammatory response**

Hiroyuki Yamada, Kyoto Prefectural University of Medicine, Japan

15:40 -16:00 — **Title: 2 hour protocol using sensitive Troponin I and stress testing in the Emergency department for the early management of chest pain**

Shahriar Dadkhah, University of Illinois, USA

Coffee Break 16:00-16:20 @ The Hub

16:20-16:40 — **Title: Adjuvant pharmacological therapy in contemporarypercutaneous coronary intervention**

Osmar Centurion, Asuncion National University, Paraguay

16:40-17:00 — **Title: A retrospevtive observational study of syntax score in young patients with acute ST elevation myocardial infarction at a tertiaty care hospital in North India**

Harsh Tilwani, Metro Hospital and Heart Institute, India

17:00-17:20 — **Title: Sex and racial disparities in cardiac rehabilitation referral at hospital discharge and gaps in long-term mortality**

Shanshan Li, Boston University, USA

17:20: 17:40 — **Title: Challenges of management of hypertension in rural areas**

Ratindra Nath Mondal, Rangpur Community Medical College, Bangladesh

Panel Discussions

Thanks Giving & Closing Cermony

Day 3 - August 18, 2018 Networking

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Day-1
Keynote Session

Notes:

Ronald L. Thomas, Ph.D
Wayne State University School of Medicine, USA

The danger of relying on the interpretation of p-values in single studies: Irreproducibility of results from clinical studies

P-values are a common component and outcome measure in most every published observational or randomized clinical trial. However, many physicians, researchers, journalists, and policy makers have little or no training in statistics and are forced to rely on the interpretation of results based solely on the authors or secondary sources. Statistical analysis of data often involves the calculation and reporting of the p-value as statistically significant or not, without much further thought. But p-values are highly un-replicable and their definition is not directly associated with reproducibility. Findings from clinical studies are not valid if they cannot be reproduced.

Although other methodological issues relate to reproducibility the p-value is arguably at the root of the problem. Many common misinterpretations and misuses of the p-value are practiced. The American Statistical Association (ASA) recently published its first ever policy statement concerning their proper use and interpretation of p-values for scientists and researchers. This policy statement addresses the misguided practice of interpreting study results based solely on the p-value, given that it is often irreproducible in subsequent, similar studies. We investigated the irreproducibility of the p-value by using simulation software and results reported from a published randomized control trial. We show that the probability of attaining another statistically significant p-value varied quite widely on replication. We also show that power alone determines the distribution of p, and will vary with sample size and effect size. In conclusion, p-values interpreted solely by themselves, can be misleading potentially leading to biased inferences from clinical studies.

Biography

Dr. Ronald Thomas, Ph.D. holds a Doctorate in Theoretical Evaluation and Research. He has been the lead statistician since 1997 with the Children's Research Center of Michigan (CRCM), within the Department of Pediatrics at Wayne State School of Medicine. He is charged with assisting and training others in becoming more proficient in scientific inquiry, research strategies, evaluation and appraisal of studies, models and designs, and statistical analyses. He has had continual funding on governmental, state, and foundation grants since 1997. He has published over 150 peer-reviewed publications in the areas of pediatrics, including perinatal and pediatric pharmacology and infant health.

Philemon Gukop
Department of Cardio-thoracic Surgery, St George's Hospital NHS Trust, UK

Principles for management of primary cardiac tumours

Philemon Gukop, *Gopal Soppa, Oswaldo Valencia, Aziz Momin, Justin Nowell, Sukumaran Nair, Robin Kanagasabay, Mazin Sarsam and Vankatachallam Chandrasekaran*

Department of Cardio-thoracic Surgery, St George's Hospital NHS Trust, UK

Primary cardiac tumours are rare but a significant source of morbidity and mortality. They constitute both benign and malignant disease, with the malignant types being rapidly fatal.

Their clinical features are often non-specific, most are found incidentally. They could cause thromboembolic events, haemodynamic compromise, arrhythmias and death. Only few case reports and case series exist on the subject from various perspectives. There is a need to outline a robust management protocol for this important disease. We describe our 20 year experience of this pathology and based on that outline the management principles with an algorithm for the management of this disease.

Methods: Retrospective data analysis on 78 patients who had surgery for primary cardiac tumours over a 20 year period in a single centre. Data was obtained from medical records and telephone follow-up. The site, size, histological types and correlation of clinical and pathological diagnosis were determined. Data was analysed to determine the sensitivity and specificity of echocardiogram for diagnosis.

Results: 78 patients, male (33%) median age (62 years), myxoma (76%), total malignant (7.7%) and 32% of non myxoma group. Incidence of atrial fibrillation in myxoma (24%) and non-myxoma (32%). Kaplan Meier curve showed malignant tumour are rapidly fatal within 1 year of diagnosis and myxoma does not significantly affect survival. Echocardiogram has high sensitivity 93% and specificity 95% for detection of myxoma, with positive predictive value of 98% but very poor for diagnosis of malignant cardiac tumours.

Conclusions: Cardiac tumours are rare and mostly benign. The few malignant tumours have poor prognosis. The principles of management are to ensure haemodynamic stability/maintain cardiac output, prevent thromboembolic event, exclude malignancy and control of tumour burden by surgical and oncological means. There is need for further research in the management of malignant cardiac tumours.

Biography

Philemon Gukop is a cardiac surgeon with research interest in cardiac tumours, coronary artery disease and mitral valve surgery. He has presented over 50 abstracts at international conferences. He is a teacher and has authored many manuscripts and is a reviewer and on editorial boards of many reputable journals.

Peter L McLennan
University of Wollongong, Australia

Fish oil supplements in RCT can fulfil the promise of fundamental research and epidemiology (omega-3 consumption from fish) for cardiovascular disease treatment and prevention: Recognising the pitfalls of non-critical meta-analysis

Peter L McLennan, *Gregory E Peoples, Michael J Macartney and Stine K Venoe*
University of Wollongong, Australia

Regular fish consumption is associated with low risk of premature cardiovascular disease and mortality. However, randomised control trials (RCT) of fish oil supplements have produced variable results, often interpreted to not support beneficial effects of long chain n-3 polyunsaturated fatty acids (LC n-3 PUFA) eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) in cardiovascular disease treatment or prevention.

This review considers issues key to understanding the contradiction.

1) When is a placebo not a control? Most RCT report no exclusion criteria for fish eaters and few analyse n-3 PUFA status. Trials report significant overlap of dietary and tissue n-3 PUFA status between control and treatment groups.

2) Cardiac effects (prevention of: sudden death; heart failure) require myocardial membrane incorporation of DHA. The LC n-3 PUFA intake in cohort studies derives from seafood, providing DHA>EPA, whereas most RCT use supplements of EPA, low in DHA.

3) Different mechanisms define dietary and therapeutic-dose effects of LC n-3 PUFA. Direct cardiac effects occur on heart rate, heart failure and sudden death from lower doses than influence classical coronary artery disease risk factors and inflammation.

4) RCT combine cardiac and arterial disease populations and composite endpoints, erroneously proposing a common disease substrate and presuming common mechanisms of action.

By understanding the pleiotropic mechanisms and dose requirements for different LC n-3 PUFA effects, and better interpreting epidemiological and experimental evidence, apparent contradictory effects of taking LC n-3 PUFA supplements or regularly eating fish can be resolved through improved RCT design and analysis.

Biography

Peter McLennan is foundation Professor of Physiology in Graduate Medicine at University of Wollongong (near Sydney, Australia). Over 30 years, his research has developed a new paradigm for dietary lipids and heart health, identifying the essential role of myocardial membrane omega-3 fatty acids in cardioprotection through "nutritional preconditioning". His research first identified the antiarrhythmic actions of dietary fish oil, extending to modulation of heart rate, cardiac failure and muscle fatigue. With over 100 peer-reviewed papers, he is highly cited in research literature and policy statements for consumption of fish and omega-3 fatty acids in cardiovascular disease.

Day-1
Scientific Sessions

Notes:

PACU Update: The cardiac patient undergoing non-cardiac surgery

A.D John, M.D

Johns Hopkins Medical Institutions, USA

The Post Anesthesia Care Unit (PACU) is a key element in ensuring a successful operative experience. Recovery from surgery is dependent on a transition from the intensive focus of the operating room to a safe care in the ward or home after surgery. The key area of transitions is the Post Anesthetic Care Unit. It is in the PACU that the patient "awakes" from anesthesia. Respiratory function has to be maintained and stable vital signs have to be assured. In addition, pain issues as well as postoperative nausea have to be addressed. In an effort to facilitate throughput, each type of surgery is establishing protocols to aid in rapid recovery, minimize pain, increase ambulation, and decrease hospital stay. What are the keys to ensuring patient safety in the PACU? What are the special issues for the cardiac patient undergoing non-cardiac surgery?

Biography

Amballur David John M.D. is an Assistant Professor of Anesthesia and Critical Care Medical at the Johns Hopkins University School of Medicine; and Director of Student Education at Johns Hopkins Bayview Medical Center, Baltimore USA. He received his B.A. from Harvard University, Cambridge MA and his M.D. from New York Medical College, Valhalla, NY. He was formerly instructor at Harvard Medical School, Boston MA prior to his current appointment at Johns Hopkins.

Loss of autophagy-linked FYVE containing protein WDFY3 lead to congenital heart defects

Hongxin Zhu

Shanghai Jiao Tong University, China

Congenital heart disease is caused by improper development of cardiac structure. Tight control of protein turnover is crucial for normal cardiac development. WD40 repeat and FYVE domain protein 3 (WDFY3) is a previously identified adaptor protein involved in selective degradation of protein aggregates by autophagy. We hypothesize that WDFY3 plays an important role in cardiac development. Wdfy3 mRNA was expressed during heart development in mice and the expression peaked at embryonic day 12.5. Loss of Wdfy3 in mice led to embryonic and perinatal lethality. Wdfy3-deficient embryos displayed various defects in cardiac morphogenesis including ventricular septal defect, aorta overriding, double outlet of right ventricle, thinning of ventricular wall, ventricular dilation and disorganized ventricular trabeculation. Cardiac cell proliferation and cardiomyocyte differentiation were attenuated in Wdfy3-deficient embryonic heart. No significant difference in apoptotic cell death in the heart was detected between Wdfy3-deficient embryos and wild type controls. Mechanistically, Wdfy3 regulated Notch1 signaling, which was perturbed in Wdfy3-deficient embryonic heart. However, autophagy remained unaltered in Wdfy3-deficient embryonic heart. Moreover, transgenic over-expression of the C-terminal fragment of Wdfy3 containing BEACH domain, WD40 domain and FYVE domain, which is sufficient for Wdfy3 to exert functions in selective autophagy, was not capable of rescuing cardiac defects and lethality phenotypes in Wdfy3-deficient mice. Taken together, our data suggest that Wdfy3 regulates cardiac morphogenesis through Notch1 signaling.

Biography

Hongxin Zhu has completed his Ph.D from Medical School in Fudan University and postdoctoral studies in UT Southwestern Medical Center at Dallas. Currently Dr. Zhu is an associate professor in Bio-X Institutes, Shanghai Jiao Tong University. He has been serving as an associate editor for Journal of Advances in Cardiology Research and editorial board member of International Journal of Clinical Therapeutics and Diagnosis, Journal of Biochemical and Pharmacological Research, genetics and genetic disorders, and Journal of Cardiology and Cardiovascular Medicine. He is a guest editor for the Journal of Medical Imaging and Health Informatics.

Anti-arrhythmic and anti-inflammatory effect of low-level electrical stimulation of aortic root ventricular ganglionated plexi in dogs with heart failure

Hong-Tao Wang

The Second Affiliated Hospital of Xi'an JiaoTong University, China

Heart failure (HF) and arrhythmia often coexist and share the similar underlying pathogenesis, including autonomic imbalance, electrical remodeling, and inflammatory reactions. Low-level electrical stimulation (LL-ES) rebalances the tone of the autonomic nervous system and has an anti-arrhythmic effect. However, it is unknown whether LL-ES can decrease the inflammatory response and benefit patients suffering from both HF and arrhythmia.

Aim: This study aimed to investigate the anti-arrhythmic and anti-inflammatory effects of LL-ES of aortic root ventricular ganglionated plexi (ARVGP).

Method: Twenty dogs were divided randomly into drug administration (control) and LL-ES groups after performing rapid right ventricle pacing to establish the HF model. The inducing rate of arrhythmia was measured after a programmed electrical procedure at the baseline and drug administration or LL-ES. The bioactive factors of HF, including angiotensin II, TGF-ß, mitogen-activated protein kinase (MAPK), and matrix metalloproteinase (MMP), were assessed. Furthermore, ventricular size and left ventricular ejection fraction were determined.

Results: Compared with the control group, the inducing rate of arrhythmia decreased from 40% to 10% after 4 h of LL-ES ($P < 0.05$). The expression of angiotensin II, TGF-ß, MAPK, and MMP was downregulated significantly in the LL-ES group ($P < 0.05$). Moreover, the volume of the left ventricle decreased markedly, while the ejection fraction of the left ventricle in the LL-ES group increased significantly ($P < 0.05$).

Conclusion: Short-term LL-ES of ARVGP presented both anti-arrhythmic and anti-inflammatory effects and contributed to the treatment of HF and the associated arrhythmia.

Biography

Hong-tao Wang, MD, an associate chief physician in division of cardiology, The Second Affiliated Hospital of Xi'an JiaoTong University. A member of Asia Pacific Heart Rhythm Society (ID number: 108600896). Focused on the mechanism and management of the role of autonomic nervous system in the initiation and maintainence of atrial fibrillation.Published 2 papers collected by SCI as the first author (IF=4.2 and 1.3). Moreover, a paper was just published by JACC Clinical Electrophysiology in 2015. Gained Shaanxi Natural Science Fund in 2015.

Atrial fibrillation and sudden cardiac death in the Wolff-Parkinson-White syndrome

Osmar Antonio Centurión, MD, PhD, FACC, FAHA

Asunción National University (UNA), Asunción, Paraguay

Sudden Cardiac Death (SCD) in the Wolff-Parkinson-White (WPW) syndrome is a rare but potentially preventable complication. Sudden death is usually a consequence of atrial fibrillation with rapid conduction over an accessory pathway resulting in ventricular fibrillation. Since noninvasive risk stratification tools are imperfect, assessing accessory pathway conduction properties by using electrophysiological study is advocated as a preventive strategy against SCD. Data investigating possible risk factors for SCD remain critical. Events may also occur most often in young adults who are not engaged in competition. Although competitive athletics are considered to increase risk, sports restriction would not prevent SCD, since over 70% of the cases do not occur with competition. Since most events occurred during rest or sleep, sports restriction does not keep people safe. On the other hand, EPS-derived risk factors developed in adult patients may not be applicable to adolescent or younger children. Symptomatic patients were more likely to have an ablation procedure than asymptomatic ones. However, except for symptoms, there were no differences in clinical or EPS characteristics. EPS is an imperfect predictor, and fail to identify all those at risk. Therefore, a low threshold for ablation should be considered.

Biography

Professor Osmar Antonio Centurión, is a cardiologist with expertise in Coronary Heart Diseases and Cardiac Arrhythmias, Hemodynamics and Electrophysiology and Arrhythmia Ablation. He is Professor of Medicine at the School of Medical Sciences from the Asuncion National University (UNA) in Asunción, Paraguay. He received is PhD degree in Cardiology, at the Nagasaki University School of Medicine, Nagasaki, Japan in 1994. He is the Founding Member of Sociedad Latinoamericana de Cardiología Intervencionista (SOLACI). Author of more than 200 medical articles published in peer-reviewed American, European and Japanese journals in cardiology. He is a Fellow of the American College of Cardiology, American Heart Association, and member of more than 10 International Cardiovascular Societies. He is currently chief of the Department of Cardiology, Hospital de Clinicas. In addition, he is the Director of the Department of Health Science Investigation at the Metropolitan Hospital. He is currently Member of the Editorial Board of more than 50 international scientific journals. He is Past-Editor-In-Chief of the Revista de la Sociedad Paraguaya de Cardiología, and current Editor-in-Chief of Mathews Journal of Cardiology, and Blood, Heart and Circulation Journal.

The critical nature of CRO and site relationships in rare cardiology disease clinical trials

Diana Foster, Ph.D

Total Clinical Trial Management, USA

An unmet need in rare cardiology disease represents an area of interest for pharma, thus leading to an increase in highly specialized, complex clinical trials. Typical issues faced in studies for common conditions that have larger populations of patients and potential Investigators are multiplied exponentially in rare cardiology trials. In order to mitigate many of the barriers to conducting research in these indications, it is critical for CROs managing the study to emphasize the relationship with research sites and Investigators to influence overall study conduct.

Site selection is pivotal to the overall outcome of the study, and the feasibility stage is a fundamental predictor of success. The Journal of the American College of Cardiology projected a rise in the demand for cardiologists, indicated a shortage of Investigators trained or available to conduct research studies. Strategies for successful recruitment outcomes include a focus on seeking key opinion leaders and Investigators known to the patient population as specialists in a specific indication. Metrics support this strategy can faciliate recruitment, as patients with this particular indication often sought these Investigators specifically for treatment.

Particularly in established, busy cardiology practices, CROs must remain cognizant of pressure faced at the site-level. To mitigate this pressure, it is beneficial for both parties to create and maintain a site communication plan. A reciprocal commitment to evolving the CRO/ site relationship ultimately benefits the research community as a whole, with the end goal of effectively bringing new treatment options to patients.

Biography

Dr. Foster is the CEO of Total Clinical Trial Management (TCTM) a breakout CRO headquartered in the US. She had led TCTM over the last four years with an emphasis on the Site/ CRO relationship. Dr. Foster is a recognized expert in the intricacies of site management and an innovator in the use of strategic marketing and position tactics. She has designed and facilitated site management and patient recruitment trainings across the globe. Dr. Foster has addressed audiences across five continents, published multiple papers, and written five authoritative industry books, including "Global Issues in Patient Recruitment and Retention." Over the past four years, Diana has also been a consultant to the Society for Clinical Research Sites as their Vice President of Strategy and Operations.

Blood transfusion in cardiac surgery

Marco Picichè, MD, PhD

San Bortolo Hospital, Rome, Italy

The practice of blood transfusion in cardiac surgery has been controversial for decades. The history of blood transfusion dates back to the ancient world. In the Renaissance, professor Giovanni Colle, at the University of Padua, wrote about blood transfusion as a possible 'method of prolonging life', though there is no evidence that he ever attempted to carry out an actual transfusion. After the advent of cardiac surgery, in the fifties, there have been decades of different approaches to blood transfusion, often performed without a real need, or behind the erroneous conviction that high levels of hemoglobin are necessary after cardiac operations. Anarchy in blood transfusion needed some evidence-based guidelines to reconcile conflicting lines of evidence, and giving greater weight to evidence derived from rigorous studies. Three guidelines have been published so far. The first by the Societies of Thoracic Surgeons and Cardiovascular Anesthesiologists in 2007. The second, by the same Societies in 2011. The third, by the European Societies of Cardiothoracic Surgery and Anaesthesia in 2017.

Biography

Marco Picichè (MD, Ph.D.) graduated with a degree in medicine from the University of Florence in 1995 and completed his cardiac surgery residency at the Tor Vergata University of Rome in 2000, both summa cum laude. He held regular teaching appointments at the university of Montpellier school of medicine, obtained certification by the French Board in cardiac surgery (Paris, 2007), earned his research master in surgical science (Paris, 2007), and received a university diploma in vascular surgery (Paris, 2007). In Canada he authored a research project on the occlusion of the internal mammary arteries as an alternative method of myocardial blood supply (2008, Laval University). In May 2009 he had the honor of opening the 44th Congress of the European Society for Surgical Research with a lecture on ''The history of surgical research.'' In September 2011 he received a doctor of philosophy (Ph.D.) in therapeutic innovations from Paris-Sud University. He is the Editor in Chief of the book : « Dawn and evolution of cardiac procedures : Research avenues in cardiac surgery and interventional cardiology » (Springer-Verlag publishing house, September 2012). He patented a new surgical instrument. Currently he is a cardiac surgeon in Italy.

Effects of vitamin D level and oxidant-antioxidant balance on post operative morbidity in diabetic and non-diabetic patients undergoing off-pump bypass surgery

Alkan Bozkaya, *Ateș Ș, İncir S, Çakıcı Ç, Yiğitbaşı T and Emekli N*

Koc University Hospital, Turkey

Objective: Atherosclerosis is still a major problem that cannot be resolved despite significant developments in cardiology and is the leading cause of death over worldwide. Endothelial dysfunction is triggered by multifactorial causes of oxidative stress in the cellular dimension and is associated with atherosclerosis. Despite the associated mechanisms are still unclear vitamin D deficiency is considered as one of the causing factors.

Patient-Method: In our study; randomized 100 consecutive patients with advanced atherosclerotic heart disease were classified as Group A (<20 ng / dl), Group B (21-29 ng / dl) and Group C (≥30 ng / dl) according to the vitamin D levels. They were underwent off-pump coronary artery bypass grafting. Clinical data of all cases, oxidant / antioxidant balance (TAS / TOS) and thiol / disulfide levels were collected also.

Results: There was no statistically significant difference (p = 0.46) between all groups in terms of total antioxidant status (mmol / L). In the vitamin D deficient group (<20 ng / ml), antioxidant / oxidant index was significantly low (p = 0.0378). There was no significant difference between total and native thiol levels between vitamin D deficient and adequate group, but there was a significant difference between disulfide and disulfide / thiol contents.(p = 0.048, p = 0.0076, respectively). While the duration of intubation periods were similar, intensive care and hospital stay times were significantly higher in the Group A with diabetics, respectively; p = 0.056, p = 0.0034, p = 0.00021. There was no significant difference between the other groups. This suggests that the inflammatory process, one of the basic mechanisms of atherosclerosis, may be more severe in the vitamin D deficient group, especially in diabetics.

Biography

Dr.Alkan-Bozkaya is currently working as Associate Professor at Koç University Hospital, Dept. of Cardiovascular Surgery from 2016 to till present. She had done her medical education from Istanbul University. She worked as Cardiovscular surgeon at V.K.V. American Hospital, Dept. of Cardiovascular Surgery. She worked as Assistant Prof. At İstanbul Bilim University, Dept. of Cardiovascular Surgery(2009-2011). She worked at Pediatric Cardiac Surgery upper-specialty (2011). She worked as Assistant Prof. at İstanbul Medipol University, Dept. of Cardiovascular Surgery (2012-2015). Dr.Alkan-Bozkaya win the John Waldhousen "Young investigator" Award at 2006, Toronto, Canada and the Aydın Aytaç, Prof. M.D. "Clinical trial" Award at 2007, Hershey, Pennsylvania, USA. Dr.Alkan-Bozkaya had more than 30 international (SCI / SCI expanded) and more than 60 inter/national peer-reviewed publications and also book chapters about at Adult and Pediatric Cardiovascular Surgery Fields. Her special interests are complex congenital heart defects, cardiopulmonary bypass systems, pulsatile flow and vascular biochemistry on atherosclerosis.

Undiagnosed polyserositis associated with ascending aortic aneurysm: A real clinical experience

Gulumser Heper, MD

Kudret International Hospital, Turkey

Undiagnosed polyserositis associated with ascending aortic aneurysmis a real clinical challange. We thought that clinical diagnosisand therapy of this challenging disease necessiate complete clinical experience, thinking about differential diagnosis, multidisciplinary view for some unusual presantation of the case and sometimes starting therapy immediately before definitive diagnosis due to vital condition of the patient.

A 70-year-old male was admitted to our clinic due to fatigue, malaise, anorexia, weight loss (10 kg in 2 years), severe dyspnea, orthopnea, paroxysmal nocturnal dyspnea, dysphagia and epigastric pain. He also had a nearly ten-year clinical history of ocular and oral symptoms of xeropthalmia and xerostomia, respectively. He had recurrent severe pericardial effusion attacks for two years; had been performed a few times pericardial drainages (nearly 1000 cc pericardial effusion drainage at each time) and at last attack, pericardial window operation has been performed in another hospital nearly two months ago. He has described partial relief after pericardial window operation but severe clinical deterioration has started again in a month. He was also on colchicum therapy for nearly one year starting after FMF diagnosis.

The patient has an extensive file including myriads of laboratory analyses and recurrent pleural and pericardial drainage and surgical intervention history. The patient was depressive, agitated and comletely hopeless. All the analyses, interventions as well colchium therapy have been resulted with clinical deterioration and recurrence of polyserositis. We thought that the clinical diagnosis is incorrect and restart the same procedures is useless.

For definitive diagnosis we started with detailed clinical systematic history and examination of the patient. In the clinical history, the patient especially complained eating nothing due to dysfagia and xerostomia and also eye dryness and itching. We thought that there was a strong clinical suspicion of Sjögren's Syndrome (SS) and had to start early Prednisolon therapy due to vital critical condition of the patient. We performed a multidisciplinary sudy just after strong clinical suspicion of SS. In the light of literature review, we had to explain ascending aortic aneurysm that is unusual clinical presantation of the SS. We decided to perform FDG-PET to support the aortic vasculitis confined especially to ascending aorta and showed that increased FDG uptake especially in the aneurysmal section of the aorta. To support the rheumatic vasculitis, we also analysed a series of autoantibody and found that the only autoantibody was against to smooth muscle cells in our patient. We did not find any studies showing the relationship between Anti- Smooth Muscle Antibodies (ASMA) and aortic aneurysm. We only found an animal study showing that radioimmunoscintigraphic visualization of aortic aneurysm dissection using 99 m Tc-anti-smooth muscle myosin monoclonal antibody (SM-MAb). We thought that in the aortic aneurysm or in the diseased aorta, mechanical tissue injury may result in a loss of cell membrane integrity, as evidenced by leakage of intracellular structural proteins such as myosin heavy chain, into the circulation. In the light of this animal study, we thought that autoantibodies to aortic wall tissue may cause to primary aortic disease or may be just a reaction to aortic wall injury. To the best our knowledge, ours is the first case reporting SS associated with ascending aortic aneurysm. As a limitation of our case report, we performed PET/CT after prednisolone therapy and clinical improvement. In case of a PET scan a priori, we thought that the FDG uptake could have been more systemic. Further this, corticosteroid therapy may also lead to prompt suppression of the systemic inflammation.

In our case, the presence of constitutional symptoms, raised acutephase reactants, complete clinical answer and deterioration of ascending aortic aneurysm diameter after prednisolone therapy and FDG-PET findings gave rise to the idea that ascending aortic aneurysm may be secondary to systemic inflammatory process.

In conclusion, physicians should take notice that SS may cause pleural, pericardial effusions and ascites and may be responsible for inflammatory processes in the aorta. GI involvement of SS, especially atrophic gastritis related decreased PH in the stomach, may cause to settling of pathologic organisms like candida.

Biography

Dr. Gulumser Heper obtained her medical degree from Cumhuriyet University, Turkey, in 1987. She completed residency training in Internal Medicine at Cumhuriyet University and her Cardiology residency at Turkiye Yuksek Ihtisas Hospital, Ankara, Turkey. She became a Profesor of Cardiology at Abant Izzet Baysal University, Bolu, Turkey, in 2004 and was appointed as a clinical director. She worked also as a clinical director at Okan University, Istanbul, Turkey. She has still been working a clinical director at Kudret International Hospital, Ankara.She has competancy at coronary angiography, coronary stenting, primary angioplasty, mitral baloon valvuloplasty, cardiac pace implantation, basic electrophysiology and ablation, doppler echocardiography, transesophageal chocardiography. Her current interest is heathcare politics in Turkey. She has published 30 papers in international reputed journals and more than 40 papers in national journals.

The challenges of detecting risk factors for the development of atherosclerosis

Senka Mesihović-Dinarević, *Lutvo Sporišević, Berislav Topić, Sanja Jurišić, Senad Saric, Britt Gritt, Vjekoslav Krželj, Anes Jogunčić, Samir Prohić and Aida Ramić*

Policlinic Eurofarm, Sarajevo, Committee for Cardiovascular Pathology, Academy of Sciences and Arts Bosnia and Herzegovina

The most frequent disease of the arteries is atherosclerosis which is characterized by lumen reduction of blood vessels due to local thickening of internal blood vessels caused by plaque / atheroma [1-3]. Atherosclerosis is now one of the leading causes of death in developed countries. The most important risk factors for the development of atherosclerotic disease are: hyperlipidaemia, hypertension, smoking, diabetes, high fibrinogen, excessive weight and physical inactivity [4,5]. Some authors pointed out the possible connection between parodontal disease in pregnant women with risk of preterm delivery, newborns of low gestational age with low birth masses and possible cardiovascular diasese [6-10]. Bearing this in mind, there is ongoing study in the Balkan region with the aim of investigating more predictors of early cardiovascular risk /increased body mass index, high values of blood pressure and thickening of intima-media carotids complex/ in comparison to children whose mothers had good oral health during pregnancy. Preliminary study data: mean age of 43 pregnant women is 30.7+/-5.7 years, 90.3% pregnancy runs properly, KEP index:12.32+/-5.7, plak index 0.312, restored teeth 65.62%; eating habits: 48.4% dairy products, fruit 64.5%, vegetables 22.6%, meat 41.9%, fish in 35.2%. Regular dental therapy can decrease frequency of caries, peridontal disease in pregnant women, the frequency of prematurity, low birth weight (with all it's potential complications, decreasing financial costs of neonatal intensive care management and cardiovascular repercussions on newborn's health). A cardiovascular-oral health data base for the Balkan region can be used as a geographic, demographic and epidemiologic source of information for the detection and identification of new potential risk factors of individuals for preterm delivery and possible atherosclerosis. Primary prevention of atherosclerosis should begin as early as possible, during pregnancy, in childhood, creating a healthy way of life, which will be able to prevent or at least slow the development of atherosclerosis.

References

1. Berenson GS, Blonde CV, Faris RP: Cardiovascular disease risk factor variable during the first year of life. American Journal of Disease in Children, 1979; 133:1049-1057.
2. Berenson GS, Srinivasan SR, Mac D et al: Risk factors in early life as predictors of adult heart disease: The Bogalusa heart study, Am.J.Med.Sci.1989; 298:141-151.
3. Geer JC, McGill, He Strong JP: The fine structure of human atherosclerotic lesions, An. J. Pathol. 1961; 38:263-9.
4. Dhuper S, Buddhe S, Patel S. Managing Cardiovascular Risk in Overweight Children and Adolescents. Paediatric Drugs, 2013, 15(3):181-90. doi: 10.1007/s40272-013-0011-y.
5. Berenson GS, Srinivasan SR, Bao, Newman WP, III, Tracy RE, Wattigney WA. Association between multiple cardiovascular risk factors and atherosclerosis in children and young adults. The Bogalusa Heart Study. N Engl J Med 1998; 338:1650–6.
6. Offenbacher S, Katz V, Fertik G, Collins J, Boyd D, Myynor G at all. Periodontal infection as a possible risk factor of preterm low birth weight . J Periodontal 1996;67:1103-1113.

7. Soroey M, Avanbadejo P, Savage K, Oluwole A. Association between periodontal disease and pregnancy outcomes. Odontostomatol. Trop. 2015; 38 (152):5-16.
8. Turton M, Africa CW. Further evidence for periodontal disease as a risk indicator for adverse pregnancy outcomes. Int Dent J. 2016 Dec 17. doi: 10.1111/idj.12274.
9. Trivedi S, Lal N, Singhal R. Periodontal disease during pregnancy. J Orofacial Sci 2015; 7:67.
10. Govindaraju P, Venugopal S, Shivakumar MA, Sethuraman S, Ramaiah SK, Mukundan S. Maternal periodontal disease and preterm birth: A case-control study. J Indian Soc Periodontol. 2015;19(5):512-515. doi: 10.4103/0972-124X.164751

Biography

Senka Mesihović-Dinarević was born in 1958-Sarajevo.Faculty of Medicine Sarajevo 1982. 1982-2016 worked at the Paediatric Clinic-Clinical University Centre Sarajevo. MSc 1985, paediatrician age 30, subspecialty in paediatric cardiology: Sarajevo, Belgrade, London. PhD 1991, Professor of Paediatrics 2006. 1994. Member of AEPC, 1995. BPCA.1995-2011, lecturer: London MRCP: 2003-2016 Director of Paediatric Clinic. 2000 FESC, 2008 Member of Academy of Sciences and Arts of Bosnia and Herzegovina, 2009. Chairman of the Committee of Cardiovascular pathology, Honorary Doctorate of Letters, Cambridge England 2014. 2016. Member of the European Academy of Science and Arts; over 477 papers, cited 218 times in the ICI Web of Science.

Evaluating the effectiveness of acoustic and vibrational stimuli on sedentary behavior

***Praveen Veerabhadrappa*[1],** *Matthew D. Moran*[1] *and Matthew Rhudy*[2]

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[2]*Mechanical Engineering, Penn State Berks, Reading, PA, USA*

With the emergence of wearable technologies, many advancements have been made towards tracking and prompting physical activity. Most wearable technologies incorporate an acoustic 'beep,' a vibrational 'buzz,' or a combination of the two. This study aimed to use those stimuli (acoustic and vibration) to encourage University faculty and staff to disturb their bouts of prolonged sitting and to increase their physical activity throughout the day.

Prolonged sitting has been regarded as the new smoking and is an intermediate cause of many health concerns and chronic diseases such as hypertension, diabetes, and obesity[1]. Physical activity interventions have been created such as STUFF ("Stand Up for Fitness") to disperse these bouts of prolonged sitting[2]. By using interventions like STUFF, the investigators aimed to objectively measure the changes in physical activity during the work-day using a validated triaxial accelerometer[3], the Actigraph GT9X, to measure steps, and a VibraLITE Mini to administer the stimuli.

The purpose of the study was to objectively compare the physical activity responses to acoustic stimuli, vibrational stimuli, and a combination of acoustic and vibrational stimuli. Due to technological advances such as cellphones and smart watches, as well as everyday conditioning to noises and vibrations from technologies, we were interested in determining if one stimulus produces a larger response in physical activity over the other. Furthermore, we aimed to assess the effectiveness of the stimuli stage which had the largest physical activity response.

Methods: Seven participants (2 Male/5 Female, average age: 47.30 ± 9.58 years, average Body Mass Index (BMI) 28.39 ± 5.95 kg/m2) were recruited via email flyer as well as word of mouth for the study at Penn State University, Berks Campus. The target population were University employees, including faculty, and staff. These participants were recruited due to the regularity of their work schedule as well as similarity among office workers who demonstrate sedentary behavior. Inclusion criteria to participate in the study included: Participants being able to wear two wrist activity monitors (one on each wrist), being able to respond to each stimulus with physical activity, and participants were required to be able to receive both acoustic and vibration stimuli.

Participants completed a control stage (no stimuli), acoustic stage, vibrational stage, and combination (acoustic and vibration) stage each consisting of 3 work-days wearing the devices for minimum of 8 hours. Devices used were triaxial accelerometer (Actigraph GT9X Link, Pensacola, Florida, USA) on their non-dominant wrist continuously throughout the work-day for the duration of the study. On the dominant wrist, participants wore a VibraLITE watch (VibraLITE Mini, Oakland Park, Florida, USA) used to administer the stimuli. Participants will also have a daily activity log to record when the accelerometer was removed (e.g. arrive at work, leaving work, and water-based activity, or contact-based activity).

Results: The number of steps taken for each participant at each stage is shown in Figure 1, while the statistical information across all participants is provided as a boxplot in Figure 2. A repeated measures ANOVA test with post-hoc comparisons was completed with the IBM SPSS statistical software to analyze any significance between the control stage, vibrational stage, acoustic stage, and combination stage. No statistical significance was observed for steps during the work-day for any of the stages as presented in control vs. vibration (18,289 ± 6497 vs. 17,982 ± 7007 steps/work-day, p>0.05), control vs. acoustic (18,289 ± 6497 vs. 15,927 ± 4548 steps/work-day, p>0.05), and control vs. combination (18,289 ± 6497 vs. 15,275 ± 5173 steps/work-day, p>0.05).

Figure 1: The bar graph depicts the steps taken per stage for each participant

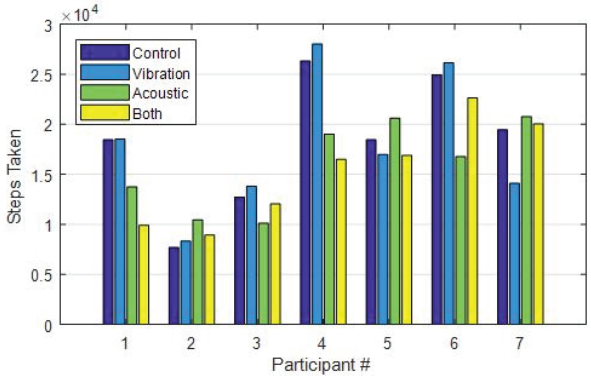
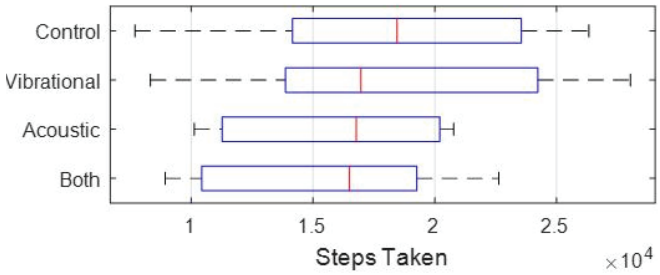


Figure 2: The boxplot displays the distribution of steps across all participants



Discussion: Our study results indicate that no individual stimulus or combination of stimuli significantly increased physical activity response. However, this study does present limitations including a small sample size. With a larger sample, the results may trend towards statistical significance. Furthermore, participants had a subjective preference of one stimulus over another during specific activities. For example, the vibration was felt easier than the acoustic stimulus in noisy surroundings. Therefore, specific stimuli may be better for each subject in different environments. These stimuli can also be used for more than just activity reminders, they can be set as alarms to be mindful of their routine such as taking deep breaths. These devices can also be used by people of different ages in various settings to observe and record health data.

Conclusions: In conclusion, though the present study shows no difference between the various combinations of stimuli, these stimuli can be useful reminders for individuals. The type of stimuli may be based upon individual preference. Furthermore, future studies should try to incorporate wider variety of stimuli in different population.

References:

1. Booth, F. W., Roberts, C. K., & Laye, M. J. (2012). Lack of exercise is a major cause of chronic diseases. Comprehensive Physiology, 2(2), 1143– 1211.
2. Rutten, G.M., Savelberg, H.H., Biddle, S.JH., & Kremers, S. PJ. (2013). Interrupting long periods of sitting: Good STUFF. International Journal of Behavioral Nutrition and Physical Activity, 10(1), 1-3.
3. Shiroma, E.J., Schepps, M. A., Harezlak, J., Chen, K. Y., Matthews, C. E., Koster, A., Caserotti, P., Gylnn, N.W., & Harris, T. B. (2016). Daily physical activity patterns from hip- and wrist-worn accelerometers. Institute of Physics and Engineering in Medicine, 37(10):1852-1861

Biography

Dr. Praveen Veerabhadrappa (Dr. V) is passionate about research, innovation and inspiring the next generation of leaders (students) to further scientific research. Dr. V's utmost important work on longterm effects of exercise training on the cardio-metabolic risk factors, prevalence of masked hypertension and blood pressure variability has earned international recognition. Currently, Dr. V's research is focused on incorporating wearable technology to enhance physical activity and improve health. Dr. V's research group is studying the cardio-metabolic effects of sedentary behavior using novel devices such as, Actigraph, Fitbit, Vibralite and Apple Watch. Dr. V's research students have presented their research at local, regional and national professional conferences. Dr. V is also recognized internationally with many awards. Dr. V has published 26 manuscripts and more than 65 abstracts in peer-reviewed journals. Dr. V is a reviewer for Annals of Internal Medicine. Dr. V is in the editorial board and a peer-reviewer for many high-impact journals in Science and Medicine. Dr. V is the founding member of the New Investigator Network of The International Society of *Hypertension*. Dr. V has organized and moderated many national and international symposia liaising with the American Heart Association and the European Society of *Hypertension*. Dr V is frequently invited to give talks at international conferences.

Heart team approach in ostial left main interventions – A success story

J V Balasubramaniyan

Sri Ramachandra University, India

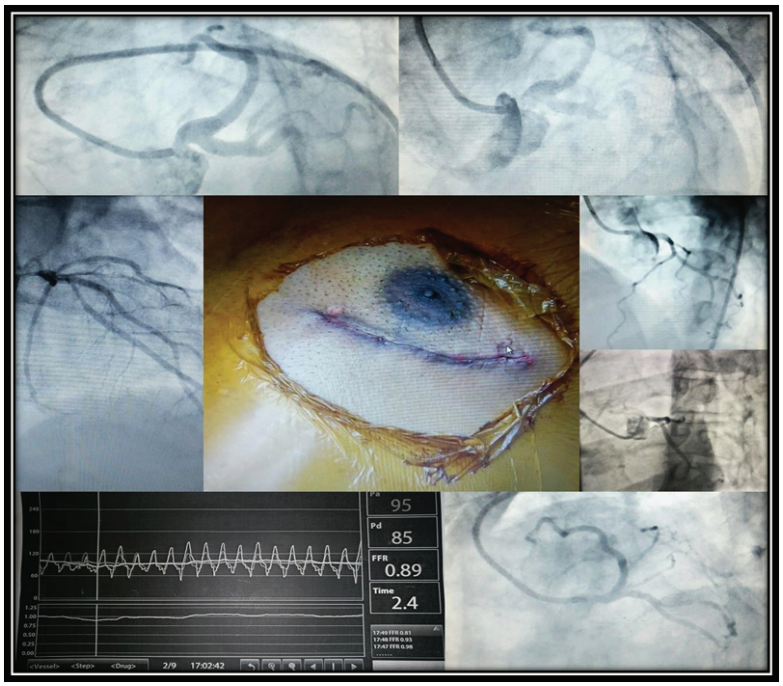
Background: The first and haplessattempt at left main (LM) percutaneous coronary intervention (PCI) was by Andreas Gruentzig, more than 30yrs back. Over the past decade the advances in catheter techniques have led to increasing acceptance of PCI as a viable alternative to coronary artery bypass graft (CABG) for left main disease.However, PCI for LM disease is technically demanding and has been associated with high rates of adverse clinical events. Appertaining to this subset, particularly ostial LM disease, we present a series of 5 case scenarios from our institute where our ethics and clinical judgement were put to test.

Methods: We have a database of ostial LM interventions of more than 15 cases over the past 6 months. A concise presentation of 5 different experiences we had are as follows:

- Emergent LM PTCAin a patient who collapsed during TMT.
- Elective LM PTCA in a young smoker with high syntax score.
- LM PTCA in Takayasu arteritis.
- FFR assisted LM disease assessment.
- LM disease and minimal invasive CABG.

Results: LM disease is associated with significant morbidity and mortality.

Traditionally coronary artery bypass grafting (CABG) has been the gold standard for treatment of these lesions. Here we have demonstrated that the expertise of a heart team approach during the process of decision making is invaluable in saving lives.



Conclusion: Left main disease is identified in up to 5 % of diagnostic angiography cases. Both the American and European societal guidelines have now endorsed PCI in patients with less-complex coronary disease while CABG still maintains a class I recommendation across all groups. Success of ostial LM interventionsin our set up does not depend on the procedure alone, but careful patient selection, assessment of co morbidities, availability of resource personnel and impeccable clinical judgement by a heart team approach, which in turn helps reduce mortality and morbidity in majority of the cases.

Biography

Dr. J.V.Balasubramaniyan has completed MBBS in 2004 and M.D (Internal Medicine) in 2009 from Sri Ramachandra Medical College & Research Institute, Chennai. He did DNB (Cardiology) from Prestigious Southern Railway Hospital, Perambur in 2012 and did Fellowship in Interventional Cardiology from Narayana Institute of Cardiac Sciences. He worked in national heart centre, Singapore for three months. He has performed more than 1000 interventional procedures including PTCA (Percutaneous Transluminal Coronary Angioplasty) / PTMC (Percutaneous Trans Mitral Commissuroctomy) / PPI (Permanent Pacemaker Implantation) / BAV (Balloon Aortic Valvuloplasty). He was awarded FIMSA (Fellow of International Medical Sciences Academy) in the year 2016. Currently he is working as Assistant Professor in the Cardiology Department in Sri Ramachandra Medical College & Research Institute, Chennai.

Periprocedural myocardial infarction: The role of human neutrophil peptife-1 to 3

Rami Abu Fanne, M.D, Ph.d

Hillel Yaffe Medical Center, Israel

Periprocedural myocardial infarction (MI) is associated with adverse events following percutaneous coronary intervention (PCI). Over past two decades, we studied the role of human α-defensins α-def), also known as neutrophil peptides (HNP), in atherosclerosis. α-def are the most abundant proteins in human Polymorphonuclear leukocytes (PMNs) and secreted by the activated form. We found that human atherosclerotic coronary and carotid arteries contain abundant α-def and a significant correlation between the deposition of α-def in skin tissue and the severity of coronary artery disease. α-def inhibit the degradation of LDL and Lp(a) and increases there binding to the extracellular matrix, and inhibits fibrinolysis. Our contention and observations have been confirmed and extended by others. Zhao et al reported acute ST-segment elevation myocardial infarction is associated with increased α-def in plasma. Kehrel et al showed HNP1-2 activating platelets. Quinn et al reported that α-def stimulate foam cell formation in vitro and in vivo. They reported that α-def stimulatory effects on leukocytes and platelets is LRP dependent, consistent with our findings that LRP mediates α-def-induced signaling.

As to α-def role in platelet activation, and the potential critical role of platelet activation in driving PMI we sought to assess the correlation between α-def levels and the incidence of PMI. After enrolling 138 troponin negative patients scheduled for PCI, 18% of them developed PMI. After multi-regression (including for baseline CRP levels) analysis we found α-def levels to be significantly higher in the group which eventually developed PMI (3277.14 vs. 2073.55 pg/ml, $P<0.05$).

In conclusion, enhanced baseline neutrophil activation demostrated by increased levels of their primary peptide, alpha defensin, significantly marks patients prone to develop PMI. Ongoing study at our lap is testing the effect of a loading dose of the neutrophil stabilizing agent colchicine prior to elective PCI on the development of PMI.

Biography

Dr. Abu Fanne Rami is currently an Interventional cardiologist at Hillel Yaffe Medical Center, Hadera from 2014 to till present. He had done his Bachelors, Masters and Doctorate from Hebrew university. He worked in Internship at Rambam Health Care Campus, Haifa (2002-2003); Residency in Internal medicine, Hadassah University Hospital, Jerusalem (2003-2007); Cardiology fellowship, Tel Aviv Souraski Medical Center, Tel Aviv (2007-2010); Residency Clinical Biochemistry, Hadassah University Hospital, Jerusalem (2010-2014); Invasive Cardiology Fellow. Department of Cardiology, Rambam, Haifa (2012-2013); and as a Senior Cardiologist, Heart failure Unit, Meir Hospital (2012-2013). He had published more than 18 papers in reputed journals and has been serving as an editorial board member of repute.

Oscillometric blood pressure by age and height for non overweight children and adolescents in Lubumbashi, Democratic Republic of Congo

Emmanuel Kiyana Muyumba

University of Lubumbashi, Democratic Republic of Congo

The diagnosis of hypertension in children is complex because based on normative values by sex, age and height, and these values vary depending on the environment. Available BP references used, because of the absence of local data, do not correspond to our pediatric population. Accordingly, our study aimed to provide the BP threshold for children and adolescents in Lubumbashi (DRC) and to compare them with German (KIGGS study), Polish (OLAF study) and Chinese (CHNS study) references.

We conducted a cross-sectional study among 7523 school-children aged 3 to 17 years. The standardized BP measurements were obtained using a validated oscillometric device (Datascope Accutor Plus). After excluding overweight and obese subjects according to the IOTF definition (n = 640), gender-specific SBP and DBP percentiles, which simultaneously accounted for age and height by using an extension of the LMS method, namely GAMLSS, were tabulated.The 50^{th}, 90^{th} and 95^{th} percentiles of SBP and DBP for 3373 boys and 3510 girls were tabulated simultaneously by age and height (5^{th}, 25^{th}, 50^{th}, 75^{th} and 95^{th} height percentile). Before 13 years the 50^{th} and 90^{th} percentiles of SBP for boys were higher compared with those of KIGGS and OLAF and after they became lower: The difference for adolescents aged 17 years was respectively 8 mmHg (KIGGS) and 4 mmHg(OLAF). Concerning girls, the SBP 50th percentile was close to that of OLAF and KIGGS studies with differences that did not exceed 3 mmHg; whereas the 90^{th} percentile of girls at different ages was high.

Our oscillometric 50^{th} and 90^{th} percentiles of SBP and DBP were very high compared to referential ausculatory percentiles of the CHNS study respectively for boys from 8 to 14 mmHg and 7 to 13 mmHg; and for girls from 10 to 16 mmHg and 11 to 16 mmHg. In conclusion, the proposed BP thresholds percentiles enable early detection and treatment of children and adolescents with high BP and develop a local program of health promotion in schools and family.

Biography

Muyumba Kiyana Emmanuel has completed his PhD at the University of Lubumbashi. He has published more than 16 papers and 5 paper in reputed journals.

Role of Endothelin 1 in cardiovascular disease: New insights into the risk of atrial fibrillation in hyperthyroid patients

Fadia Mayyas*[1] *Ph.D, *Nesreen Saadeh*[2]*, M.D and KusaiAl-Muqbel*[3]*, M.D*

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[2]*Department of Internal Medicine, Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan.*

[3]*Department of Diagnostic Radiology and Nuclear Medicine, Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan.*

Background: Endothelin-1 (ET-1) is a potent vasoconstrictor, mitogen and inflammatory factor produced by vascular endothelial cells and cardiac myocytes.ET-1 contributes to cardiovascular diseases. We have shown that plasma ET-1 iselevatedin patients with increased risk of atherosclerotic cardiovascular diseasesand isassociated with myocardial infarction, heart failure and poor clinical outcome. In Atrial fibrillation (AF) patients, we documented increased atrial ET-1 expression. ET-1 is associated with AF persistence, and increased left atrial size and fibrosis. Plasma ET-1 is increased in hyperthyroid patients, but studies documenting their impact on AF development in hyperthyroid patients are lacking.

Aims: To determine the impact of ET-1 on AF development in hyperthyroid patients.

Methods: Blood samples from euthyroid patients, hypothyroid, hyperthyroid, AF secondary to hyperthyroidism, and euthyroid AF patients were collected. Plasma ET-1, C-reactive protein (CRP), and thyroid hormones were measured.

Results: Plasma ET-1 levels were higher in hyperthyroid and euthyroid AF patients>hyperthyroid> hypo and euthyroid patients. Plasma ET-1 was positively correlated with free T3 and T4 levels. By multivariate analysis, plasma ET-1 was positively associated with AF and with hyperthyroidism, age, smoking, and free T3 levels. No changes in plasma CRP were observed between study groups

Conclusions: Plasma ET-1 is increased in AF secondary to hyperthyroidism and is positively correlated with thyroid hormones suggesting that metabolic changes in hyperthyroidism might modulate ET-1 expression and release. This study may guide development of novel predictors of AF secondary to hyperthyroidism, and new therapeutic targets that reduce plasma ET-1 and improve clinical outcomes of AF.

Biography

Dr.Fadia Mayyas is an associate professor in Clinical Pharmacy and the vice dean of faculty of graduate studies at Jordan University of Science and Technology. After she completed her bachelor study in pharmacy, she completed a master and research fellowship at Norwegian University of Science and Technology. Then, she moved to USA to complete a Ph.D. in translational molecular medicine/molecular cardiology at Case Western Reserve University and Lerner College of medicine of Cleveland Clinic Foundation. She joined the faculty of pharmacy at Jordan University of Science and Technology as an assistant professor in 2011 and as an associate professor in 2016. She just completed one-year fellow ship in responsible conduct of research in ethics and epidemiologyat university of California San Diego and Jordan university of Science and Technology. Dr.Mayyas has more than 25 scientific publications in human and animal models of cardiovascular disease.

Enlarged left atrium as a predictor of mortality in patients undergoing coronary artery bypass surgery in Jordan

Khalid Ibrahim*[1] *Ph.D, M.D, *Fadia Mayyas*[2]*, Ph.D; Khalid Khairallah*[3]*, Ph.D, M.D; and David Van Wagoner*[4]*, Ph.D*

[1]*Princess Muna Heart Center, King Abdullah University Hospital; Department of General Surgery, Division of Cardiac Surgery, Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan.*

[2]*Department of Clinical Pharmacy, Faculty of Pharmacy, Jordan University of Science and Technology, Irbid, Jordan.*

[3]*Department of Public Health, Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan.*

[4]*Department of Molecular Cardiology, Cleveland Clinic Foundation, Cleveland, Ohio, USA*

Background: Coronary artery bypass surgery (CABG) has a significant risk of morbidity and mortality. We previously found that age, heart failure, prolonged inotropic support, postoperative pneumonia and stroke were predictors of mortality. Although mitral regurgitation (MR) is known to be a predictor of mortality after CABG,little is known about the relation of LA size to risk of mortality. In this study we investigated left atrial (LA) size as an independent predictor of mortality after CABG.

Methods: We evaluated determinants of mortality in 1070 patients who underwent isolated CABG from 2005-2014 at King Abdullah University Hospital. Clinical and laboratory data were obtained from patients' electronic records.

Results: The mean age was 59 ± 9.8 years, and 238 patients were female. Two multivariate logistic regression models were evaluated. In Model A, MR, ejection fraction, intensive care unit length-of-stay and variables were collinear with LA size and were excluded. In model B, the collinear variables were included. In Model A, the statistically significant independent predictors of 30-day mortality after CABG were: enlarged LA size (OR 4.82, 95% CI 2.16-10.79), emergency CABG (OR 3.54, 95% CI 1.75-7.18), prolonged inotropic support (OR 2.79, 95% CI 1.38-5.6), diuretic use ⩾ 1 month (OR 1.29, 95% CI 1.3-8.42), and use of clopidogrel within a week before surgery (OR 3.27, 95% CI 1.28-8.36. In Model B, enlarged LA and moderate MR were identified as independent predictors of 30-day mortality.

Conclusion: Increased LA size is a strong independent predictor of mortality after isolated CABG independent of MR.

Biography

Dr.Khalid Ibrahim is a cardiothoracic surgeon consultant and the chair of cardiothoracic surgery section at King Abdullah University Hospital, and an associate professor at faculty of medicine of Jordan University of Science and Technology. He finished a bachelor degree in medicine and a residency in general surgery from Jordan University of Science and Technology, followed by one-year clinical fellow ship in cardiac surgery. In 2002, he moved to Norwegian University of Science and Technologyand completed a Ph.D. and a clinical fellowship in cardiothoracic surgery in 2007. Then, he completed additional 2 years' fellow ship in adult cardiac surgery at the heart center of Cleveland Clinic Foundation, USA in 2009. He joined Jordan University of Science and Technology in 2009 as an assistant professor and as an associate professor in 2017. Dr.Ibrahim has several publications on cardiothoracic surgery and related areas.

Day-2
Keynote Session

Notes:

Mika Kivimäki

University College London, UK

Contribution of stress to the aetiology and prognosis of cardiovascular disease: An update on current knowledge

Background: Although advances in understanding the risk factors of cardiovascular disease have been extraordinary, coronary heart disease and stroke remain the two leading causes of disease burden globally. This underlines the continuing need to identify new complementary targets for prevention. One emerging risk and prognostic factor for cardiovascular disease is stress.[1,2]

Methods: In this review, the current evidence for stress as a risk and prognostic factor for cardiovascular disease is reviewed, with main focus on reproducible findings obtained from the largest stress studies to date and most recent literature-based and individual-participant-data meta-analyses. To cover the multiple roles of stress in vascular pathology, the review is organized according to the disease process, from the long-term development of atherosclerosis to subclinical disease and the acute triggering of events in people with advanced underlying disease to prognosis of disease among patients who have survived an acute coronary syndrome or stroke.

Lessons learned: Over the last 5-10 years, pooling of multiple datasets into mega studies has accelerated progress in research on stress as a risk factor for cardiovascular disease. Severe stressful experiences in childhood, such as physical abuse and household substance abuse, can damage health and increase the risk of multiple chronic conditions in adulthood. Compared with stress in childhood and with adulthood classic risk factors, such as smoking, high blood pressure and serum cholesterol, the harmful effects of stress in adulthood are generally less marked. However, adulthood stress has an important role as a disease trigger in persons who already have a high atherosclerotic plaque burden and as a determinant of prognosis and outcome in those with pre-existing cardiovascular or cerebrovascular disease.

Conclusions/Next steps: In some clinical guidelines, stress is acknowledged as a target for prevention

for people with high overall cardiovascular risk or established cardiovascular disease. However, the most recent evidence is not covered in evidence-based recommendations and few scalable evidence-based interventions are currently available.

References:

1.Brotman DJ[1], Golden SH, Wittstein IS. The cardiovascular toll of stress. Lancet. 2007; 370: 1089-100.

2.Kivimäki M, Steptoe A. Effects of stress on the development and progression of cardiovascular disease. Nat Rev Cardiol. 2017 Dec 7. doi: 10.1038/nrcardio.2017.189. [Epub ahead of print] Review.

Biography

Mika Kivimaki is Professor and Chair of Social Epidemiology at University College London, UK. He leads several cohort studies and research consortia on the risk factors of cardiovascular disease, is an ISI highly cited researcher and has published more than 900 peer-reviewed papers, including state-of-the-art reviews and meta-analyses in the Lancet and Nature Reviews with particular focus on the health effects of chronic stress.

Abdelkarim Sabri
Temple University, USA

Nanoparticle targeted delivery of dual chymase and Cathepsin G inhibitor augments cardioprotection post-ischemia reperfusion in mice

Bahman Hooshdaran, Mikhail A Kolpakov, Xinji Guo, Tao Wang, Liudmila Vlasenko, Yuan Tang and Mohammad Kiani
Temple University, USA

Introduction: Leukocytes play a critical role in acute and chronic inflammatory response following myocardial ischemia/reperfusion (IR) injury. Therapies targeting leukocyte infiltration and activation showed promising effects in attenuating cardiomyocyte injury or protection from adverse remodeling in several experimental models of myocardial IR. However, attempts to translate these promising experimental findings to clinical therapy have failed. Here, we tested a novel immunoliposomal drug delivery vehicle targeting mast cell- and neutrophil-derived proteases to enhance specific delivery of drug carriers to the infarct region while eliminating systemic side effects.

Materials and methods: We subjected C57BL/6 mice to myocardial ischemia for 30 minutes followed by reperfusion for 24 hours and assessed the effect of dual chymase and cathepsin G inhibitor (DCCI), on innate immune response, myocyte death, and cardiac remodeling and function. DCCI was delivered just after reperfusion either systemically (2 or 10 mg/kg, i.v.) or encapsulated in anti-P-selectin conjugated immunoliposomes (ILP-DCCI, 2 mg/kg, i.v.).

Results: Targeted delivery of ILP-DCCI reduced cathepsin G and chymase activity and attenuated infiltration of neutrophils and macrophages induced at 1 and 7 days after IR injury compared to mice treated with empty ILPs. ILP-DCCI also reduced the number of myocytes undergoing apoptosis, attenuated infarct size and improved cardiac systolic function.Interestingly, ILP-DCCI also increased the number of capillaries and mature vessels in infarcted hearts by upregulating the expression of angiogenic cytokines such as vascular endothelial growth factor (VEGF). Equivalent doses of DCCI (2 mg/kg/d) administered systemically were not efficacious. However, structural and functional improvements similar to those obtained with targeted delivery of ILP-DCCI were obtained with systemic delivery of higher dose of DCCI (10 mg/kg/d), but have the disadvantage to occur with detectable side effects of DCCI on spleen and bone marrow.

Conclusions: These findings reveal the role of chymase and cathepsin G as key mediators of myocyte apoptosis and cardiac dysfunction post-IR and show that immunoliposomal targeted delivery of DCCI could be used as future therapy to reduce drug toxicity and improve pathological cardiac remodeling and dysfunction associated with myocardial ischemia.

Biography

Dr. Abdelkarim Sabri is Professor of Physiology and a member of the Cardiovascular Research Center at Lewis Katz School of Medicine in Philadelphia. He received his Ph.D. degree at Rene Descartes University in Paris and was trained at Columbia University as a post-doc. Dr. Sabri's primary area of research is in the molecular and cellular basis of heart failure, with a particular emphasis on the role of inflammatory mediators and innate immunity in disease progression in the failing heart. His team examines how inflammatory mediators and innate immunity leads to pathological cardiomyocyte growth or programmed cell death and contributes to diseases such as cardiac hypertrophy, cardiomyopathy, and heart failure. His long-term goals are to provide novel insights about the molecular pathways that govern cardiac myocyte growth and function and to use this information to devise pharmacologic and genetic therapies for heart diseases in humans.

Olga Kislitsina
Northwestern University, USA

Preoperative Atrial and Ventricular Strains are Predictors of Postoperative Left Ventricular Dysfunction following Mitral Valve Surgery for Degenerative Mitral Regurgitation (DMR)

Olga Kislitsina[1,2], Erin Crawford[3], Elberto Michel[1], James Thomas[2], Menghan Liu[3], Jane Kruse[3], Adin-Cristian Andrei[3] and Patrick McCarthy[1]

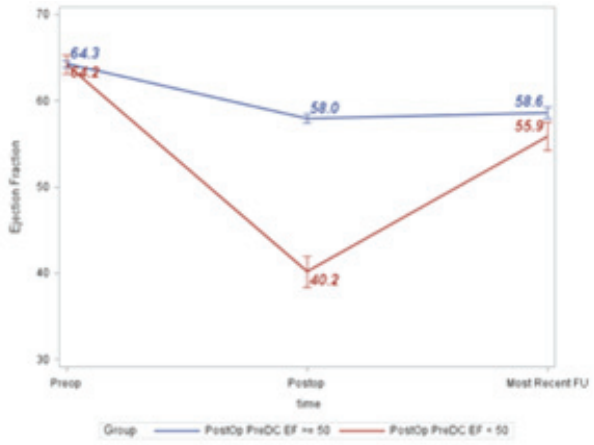
[1]*Division of Cardiac Surgery*
[2]*Cardiology*
[3]*Bluhm Cardiovascular Institute*
Feinberg School of Medicine, Northwestern University, Chicago, IL.

Objective: Patients with normal preoperative left ventricular ejection fractions (LVEF) may develop LV dysfunction following mitral valve (MV) surgery for DMR. Our objective was to determine the optimalpreoperative predictors of postoperative LV dysfunction in these patients and to document the subsequent degree of LV functional recovery.

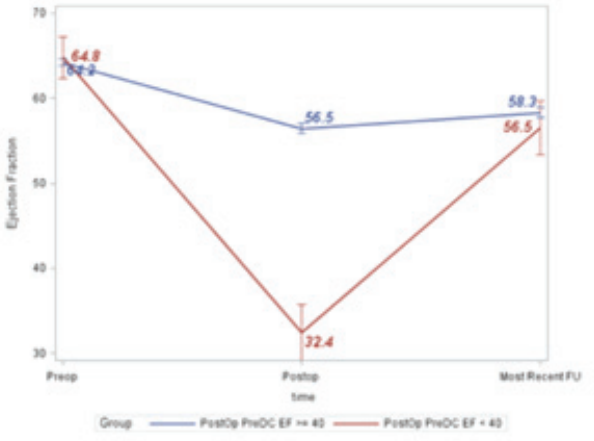
Methods: From 2004 to 2017, 520 patients with a preoperativeLVEF>60% underwent MV surgery (98% MV repair) for DMR. All patients had preoperative (Preop), pre-discharge (Pre-Dsg), and follow-up (F/U) echocardiograms (mean F/U = 5.0 ± 3.6 years). Patients were categorized according to their Pre-DSg LVEF and groups were compared using the log-rank test. Multivariate logistic regression and Cox proportional hazards models were used to determine the predictors of early postoperative LV dysfunction and long-term survival, respectively. Survival was determined by Kaplan-Meier analysis. We calculatedthe preoperative global longitudinal strains for the left ventricle (LV GLS),right ventricle (RV GLS), and left atrium (LA GLS) to determine their combined or individual value in predicting postoperative LV dysfunction.

Results: The median Preop LVEF in the entire cohort (n=520) was 65%. 449 patients maintained normal

postoperative LV function (Pre-Dsg LVEF >50%). 71 patients (13.7%) had Pre-Dsg LVEF's<50% and 22 of them (4.2%) had Pre-DsgLVEF's<40%. Both groups had larger LAvolumesand their global LA GLS was significantlyless. Patients in the Pre-DsgLVEF <50% and <40% groups hadincreased LV end-systolic dimension, increased LV end-diastolic dimension, and less negative values of LV GLS, which means they initially had subclinical LV dysfunction despitehavingLVEF's above 60%. They also had higher RV systolic pressures and larger mitral regurgitant volumesand effective regurgitant orifices (ERO). Preoperative RV strain analysis showed higher RV GLS and fractional area change (FAC) in the Pre-Dsg LVEF>50% group. Operative mortality was 5% in the <40%Pre-DsgLVEF group and <1% in the >50% Pre-DsgLVEF group (p=0.001). LVEF returned to normal in all patients as determined by F/U echo at the last outpatient visit (Graphs). Five-year survival was similar in all groups.



Pre-Dsg LVEF <50% Group



Pre-Dsg LVEF <40% Group

Conclusions: The combination of preoperative LA, LV, and RV strain is a more accurate predictor of early postoperative LV dysfunction following MV surgery for DMR than standard hemodynamic parameters of cardiac function. Strain measurements in these 3 chambers identify preoperative subclinical heart failure in patients with preserved LV function and should help to determine the optimal timing of MV surgery for DMR with the objective of earlier surgical intervention in selected patients to prevent postoperative LV dysfunction.

Biography

Olga N. Kislitsina, MD, PhD, is a Visiting Professor of Medicine (Cardiology) and the Associate Director of the Center for Heart Failure Research at Northwestern University Medical Center in Chicago, Illinois (USA). She is also a Senior Clinical Cardiologist at the Vishnevsky University Hospital in Moscow. Dr. Kislitsina spent 15 years at the Bakoulev Institute in Moscow, the largest heart center in Europe, where she was the Deputy Director of Cardiology. Dr. Kislitsina is well-known internationally, has published numerous articles in high-impact peer-reviewed journals, and has lectured extensively in the USA, Russia, Turkey, Singapore, Italy, and Germany.

Day-2
Scientific Sessions

Notes:

Dietary omega-3 fatty acids for cardiac preconditioning, arrhythmia prevention and nutirional preconditioning of skeletal muscle

Peter L McLennan, *Gregory E Peoples, Michael J Macartney, Lachlan Hingley and Marc A Brown*

University of Wollongong, Australia

Dietary fish oil provides a range of cardioprotective effects that can be attributed to myocardial incorporation of long-chain omega-3 polyunsaturated fatty acids (LCn-3PUFA). Our animal studies demonstrate antiarrhythmic effects, improved cardiac functional recovery and reduced infarct size in coronary occlusion simulated heart attack equivalent to the powerful cardioprotective phenomenon of ischaemic preconditioning. Increased endogenous antioxidant activity indicates up-regulation of protective mechanisms with fish oil feeding in rats. Heart rate slowing, arrhythmia prevention, reduced post-ischaemic cardiac stunning and muscle fatigue resistance were all achieved in the rat with very low doses of fish oil, equivalent to 1-2/wk fish meals human intake. In healthy cyclists, fish oil supplementation with as little as 700mg/d EPA+DHA, reduced exercise heart rate and the oxygen cost of cycling and improved heart rate recovery.

Our research indicates that n-3 PUFA act within healthy skeletal muscle and heart to reduce whole body and myocardial oxygen demand during exercise without detriment to performance, and provide reserve capacity to protect against ischaemic damage. From clinical and experimental animal research we have established the hypothesis that omega-3 PUFA are essential for healthy heart and skeletal muscle function and provide cardioprotection through their incorporation into excitable cell membranes. Fish oil improves cardiac and muscle oxygen efficiency, slows heart rate, upregulates endogenous anti-oxidants and provides nutritional preconditioning cardioprotection comparable to exercise training. Fish oil, through its LCn-3PUFA content, can offer a dietary approach to the optimisation of heart function and exercise capacity in addition to the reduction of cardiac disease mortality and morbidity.

Biography

Peter McLennan is foundation Professor of Physiology in Graduate Medicine at University of Wollongong (near Sydney, Australia). Over 30 years, his research has developed a new paradigm for dietary lipids and heart health, identifying the essential role of myocardial membrane omega-3 fatty acids in cardioprotection through "nutritional preconditioning". His research first identified the antiarrhythmic actions of dietary fish oil, extending to modulation of heart rate, cardiac failure and muscle fatigue. With over 100 peer-reviewed papers, he is highly cited in research literature and policy statements for consumption of fish and omega-3 fatty acids in cardiovascular disease.

Off-pump neochord mitral valve repair to simultaneously treat posterior leaflet prolapse and systolic anterior motion

***Marro Matteo*[1]**, *MD; Salizzoni Stefano[1], MD, PhD; Rovera Chiara[2], MD; Speziali Giovanni[3],MD, FECTS and Rinaldi Mauro[1], MD, PhD*

[1]Città della Salute e della Scienza di Torino, University of Turin, Department of Surgical Sciences, Division of Cardiac Surgery

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[3]NeoChord, Inc. – By Invitation University of Turin, Italy

This case represents the first report of complete elimination of SAM by beating-heart implantation of artificial chordae tendineae on a prolapsing and redundant posterior leaflet.

Degenerative mitral valveregurgitation is one of the most widespread valvular heart diseases and mitral valve repair (MVR) is the preferred surgical treatment because of its well-documented advantages over valve replacement.

Systolic Anterior Motion (SAM) of the anterior leaflet may occur when a series of predisposing anatomical features are present: These include a long anterior leaflet andanterior displacement of the coaptation point due to a redundant or prolapsing posterior leaflet. SAM causes mitral valve regurgitation and obstruction of the left ventricular outflow tract (LVOT).

Transapical, off-pump, minimally invasive NeoChord implantation (TOP-MINI, NeoChord Procedure) is a technique that has been proven to be safe and effective in treating patients with degenerative mitral regurgitation (MR) due to leaflet(s) prolapse or flail.[2-3] The procedure is performed using the NeoChord DS1000 system (NeoChord, Inc., Eden Praire, MN) under real-time guidance by transesophageal echocardiography (TEE).[4]

Case description: A 78-year-old woman with severe COPD came to our attention for the presence ofsevere MR due to P2 prolapse andan important left ventricle outflow tract obstruction due to SAM. (Figure 1; Videos 1,2 and 3).

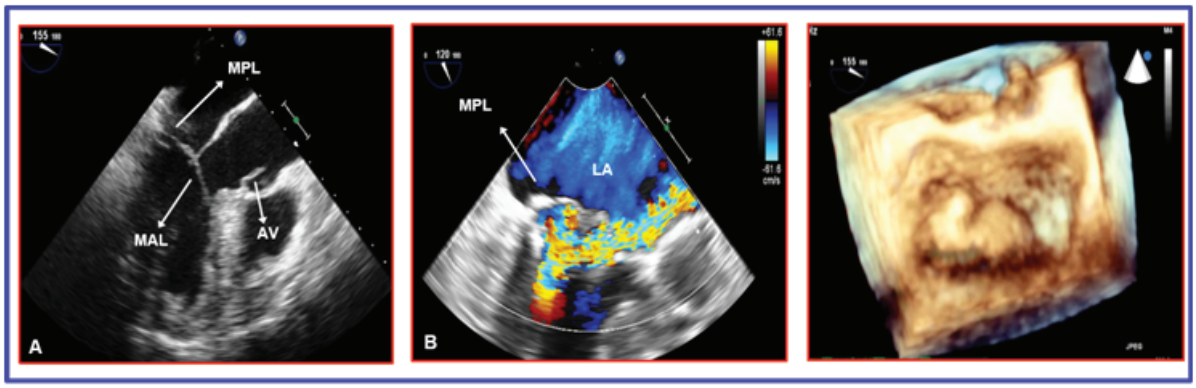

Figure 1: Pre-operative TEE
A) 155° long axisis showing the mitral anterior leaflet (MAL) into the left ventricle outflow tract (LVOT) during systole and open aortic valve (AV)
B) 120° color doppler showing a severe eccentric mitral regurgitation due to posterior leflet prolapse and obstruction of the LVOT
C) 3D view of the P1–P2 segments prolapse of the posterior leaflet

The patient underwent TOP-MINI procedure under general anaesthesia. Through a left mini-thoracotomy and a postero-lateralleft ventriculotomy, four Gore-Tex NeoChordswere implanted on the posterior leaflet (Video 4). AfterNeoChord tensioning and length adjustment, the P2 prolapse was eliminated, the anteroposterior coaptation point was restored to its physiological position and both SAM and LVOT obstruction disappeared.Final result of the procedure showed no more mitral regurgitation (Figure 2; Video 5and 6).

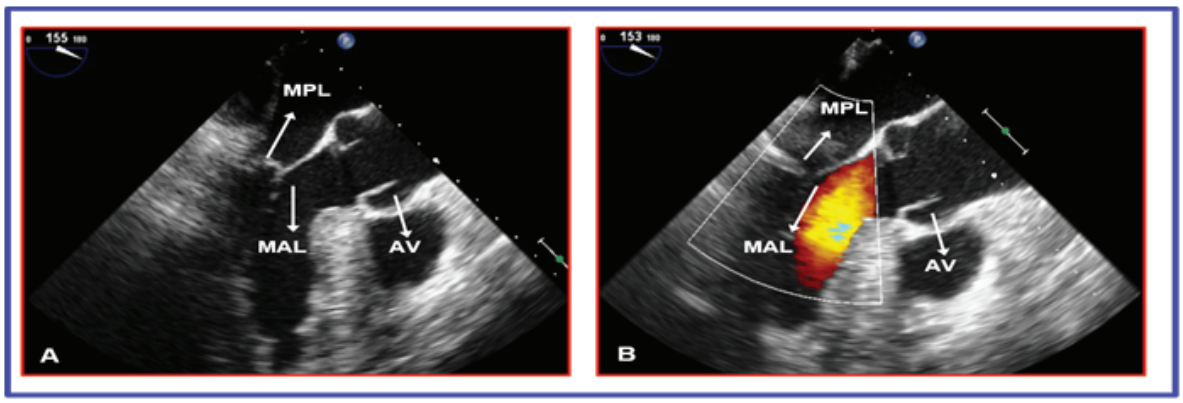

Figure 2: Post-operative TEE
A) 155° long axisis with restored mitral valve copatation
B) 153° color doppler showing no mitral regurgitation and absence of turbolence into the LVOT

The procedure time was about 90 minutes, postoperative course was uneventful and the patient was discharged home 5 days after the procedure.

Conclusion: This case represents the first report of complete elimination of SAM by beating-heart implantation of artificial chordae tendineae on a prolapsing and redundant posterior leaflet.

References

1. Alfieri O, Lapenna E. Systolic anterior motion after mitral valve repair: where do we stand in 2015?Eur J Cardiothorac Surg. 2015;48:344-346.
2. Seeburger J, Rinaldi M, Nielsen SL, et al. Off-pump transapical implantation of articial neo-chordae to correct mitral regurgitation: the TACT Trial (Transapical Artificial Chordae Tendinae) proof of concept. J Am CollCardiol 2014;63:914-919.
3. Colli A, Manzan E, Rucinskas K, Janusauskas V, Zucchetta F, Zakarkaite D et al. Acute safety and efficacy of the Neochord procedure. Interact CardioVascThoracSurg 2015;20:575–581.
4. Colli A, Manzan E, Fabio FZ, Sarais C, Pittarello D, Speziali G et al. TEE-guided transapical beating-heart neochord implantation in mitral regurgitation. JACC Cardiovasc Imaging 2014;7:322–323.

Biography

Matteo Marro is a Medical Doctor at University of Turin, Department of Surgical Sciences, Division of Cardiac Surgery. Interested in minimally invasive approaches for mitral valve repair and aortic valve replacement.

A novel transapical device for aortic valvular disease: One-year outcomes of a multicentre study on the J-Valve system

Wei Wang

Fuwai Hospital, China

Background: The novel J-Valve was developed to cope with aortic valvular disease by facilitating accurate positioning. We present the first one-year results regarding the safety and efficacy of the J-Valve system implantation in patients with severe aortic stenosis (AS) or aortic regurgitation (AR) undergoing transapical (TA)-transcatheter aortic valve implantation (TAVI).

Methods: This prospective multicentre study enrolled 107 high risk patients (mean age 74.4 ± 5.2 years; mean EuroSCORE-I 11.2±1.2%) with severe AS(n=64) or AR(n=43), at three largest cardiac centres in China. The study was fully monitored, and adverse events were adjudicated by an independent clinical events committee using Valve Academic Research Consortium (VARC-2) criteria.

Results: The success rate of the procedure was 91.6% (98/107). At 1 year, the all-cause mortality was 5.0%, stroke 2%, and rate of new pacemakers 5.0%. Only mild paravalvular leak was reported. Among the patients with AS, the 1-year follow-up demonstrated a sustainable reduction of mean transaortic gradient from 57.7+15.4 mmHg to 15.5+8.3 mmHg. All patients who completed the follow-up reported improvements in New York Heart Association (NYHA) functional class(n=93) and health-related quality of life as assessed by the EuroQol five dimensions (EQ-5D) questionnaire index(n=94). In intergroup comparisons, the 1-year MACCE-free survival was similar between the groups based on valve disease (AS vs. AR, log-rank p=0.17) or morphology (tricuspid vs. bicuspid aortic valve, log-rank p=0.25)

Conclusions: Our study provides further evidence on the safety and efficacy of the J-Valve in high risk patients with AS or AR for surgery.

Biography

Dr. Wei Wang specializes in the clinical evaluation and treatment of valvular diseases and structural heart diseases, including surgical repair, replacement and transcatheter intervention of valvular diseases. He was the PI of J-Valve China Trial and continues to immerse himself in evolving approaches to transcatheter aortic implantation through surgical access.

The physiological and psychological response to combined strength and aerobic training in a group of cardiac patients

Hanssen Knut-Egil[1], Sveen Ole[1], Skaug Arne[1], *Christoffersen Trine Eker[1] and Jensen Jørgen[2]*

[1]Østfold College, Faculty of Education, Norway
[2]Norwegian School of Sport Sciences, Østfold University College, Norway

Objective: We have measured the effect of combined strength- and high intensity endurance training on physical and psychological capacity and lipid profile in patients with heart- and coronary diseases.

Methods: Thirty heart-operated subjects participated in an intervention period of 10 weeks. The age of the participants was between 52-72 years. The Resistance-Interval group (RE-INT) practiced four times a week with two intensive endurance (spinning) sessions and two strength training sessions. The endurance training consisted of intervals where the heart rate reached > 90% of maximum heart rate. Strength training was performed in three series with a load of 8-12 repetition maximum (RM). The subjects in the control group (CON) performed two to three sessions per week according to a national program specialized for coronary patients (called "Ullevaal model") A questionnaire based on self-determination theory (SDT) was used to evaluate psychological wellbeing. The study was based on a randomized controlled trial.

Results: Maximal leg strength increased in both groups during the intervention, but the increase was higher in the RE-INT group. Strength in chest press, the maximal oxygen uptake and the concentration of high density-lipo-protein (HDL) increased in both groups during the test period. Low density-lipoprotein (LDL), blood pressure and body weight did not change during the intervention period in any of the groups.

Intrinsic motivation did not change significantly in any of the groups during the training period. Identified motivation increased significantly in the INT group in the post test. The CON group increased slightly, not significantly.

Conclusion: Cardiac patients were able to increase training intensity, strength and maximal oxygen uptake during a period of 10 weeks. We found that combined training has an effective impact on the increase in leg strength. The increase in different physical parameters can be vital for the everyday quality of life in cardiac patients.

Biography

Dr. Knut Egil Hanssen graduated at Norwegian School of Sport sciences and completed his Master in 1996. He attended a PhD program at Norwegian School of Sports in muscular physiology 2004-2009. He became Associate Professor in 2012 and has been an employee at Østfold University College from 1997- 2018. Hanssen does research in muscular physiology and other related fields. Latest topic: Which effect strength training have in a group of cardiac patients also performing endurance training.

Dr. Arne Skaug graduated at Norwegian School of Sport Sciences and completed his Master in 1978. He became an Associate Professor in 2015 and has been an employee at Østfold University College from 1991-2018. Skaug does research within sport psychology and other fields; and has recently worked with the topic: "Which effect endurance training have in a group of cardiac patients also performing strength training".

Dr. Ole Sveen graduated at Norwegian School of Sport sciences and completed his Master in 1993. He became Associate Professor in 2015 and has been an employee at Østfold University College from 1992-2018. Sveen does research in sport physiology and human biology and has recently worked with the topic; which effect endurance training have in a group of cardiac patients also performing strength training.

Sympathetic denervation to treat heart failure

Traci T. Goodchild, Ph.D

LSU Health Sciences Center, USA

Heart Failure (HF) continues to grow as a health care burden that affects nearly 6 million people in just the United States alone. Sympathetic nerve over activity plays a critical role in the pathogenesis of HF and current HF pharmacotherapies that target the autonomic nervous system (i.e. beta-blockers and angiotensin system inhibitors) reduce morbidity and mortality. Patient noncompliance and adverse effects limits the beneficial effects of these drugs.

Renal Denervation (RDN) was initially designed as a therapy for resistant hypertension whereby neuromodulation is achieved by endovascular radiofrequency energy used to ablate the sympathetic nerves that transverse the renal artery. Studies have been mixed relative to blood pressure reduction in the clinical setting. While recent RDN trials now confirm initial randomized trials showing blood-pressure reduction, alternative indications for RDN had been explored, including HF.

Studies from our lab show that RDN improves cardiac function in small and large animal models of HF independent of changes in blood pressure. In addition, we identified a novel endogenous pathway by which the renal nerves participate in the degradation of cardio protective natriuretic peptides mechanistically linking the sympathetic nervous system and neprilysin activity. Neprilysin is a ubiquitous enzyme involved in degradation of numerous vasoactive peptides, including natriuretic peptides.

Recent data indicate substantial mortality reduction associated with use of neprilysin inhibition in patients with HF. We demonstrated that decreased sympathetic nerve activity to the kidney, via RDN, inhibits renal neprilysin activity and leads to prolonged increases in vasculoprotective and cardio protective natriuretic peptides in the setting of HF.

Biography

Traci Goodchild completed her PhD in 2003 at the Medical College of Georgia where she examined the effects of nitric oxide synthase, endothelin and oxidative stress on blood pressure in hypertensive rats. Dr. Goodchild then worked at the Saint Joseph's Translational Research Institute (SJTRI) in Atlanta, Georgia. At SJTRI, she served as Study Director and Principal Scientist on GLP studies testing cell-based therapies, tissue engineered scaffolds and medical devices for a variety of cardiovascular diseases. In 2014, she became Associate Professor at LSUHSC-New Orleans and is Director of the Translational "Cath" Lab in the Cardiovascular Center performing large animal studies.

An investigation of skin perfusion in venous leg ulcer after exercise

Omar Mutlak

Imperial College London, UK

Aim: Venous Leg Ulcer (VLU) affects millions of people, and yet there have been no major advances in its treatment for many decades. Is it the time to change our approach, and try a multidisciplinary one that could bring about a change. The aim of this study is to evaluate whether a regular, home-based exercise could be influential in healing the VLU.

Methods: 80 subjects (mean age: 65.13 years) were recruited for 12 weeks. The participants were randomized into a control group (n=20), a compression therapy group (n=20), an exercise group (n=20) and a compression and exercise group (n=20). The exercise comprised of 10 dorsiflexion's each hour while the patient was awake. The first 2 groups did not perform any exercise while the other two did. Baseline and 3-month measurements were performed. These measurements include skin perfusion assessment and ulcer size.

Results: All patients showed low tcPO2 in the beginning of the study. At the point of 3 months of exercise, Laser Doppler flowmetry and ulcer size measurements showed significant decrease, $p < 0.001$ in exercise groups, however, no real change was demonstrated in the non-exercise groups. Subjects who were performing exercise showed significant increase in tcPO2 readings after 3 months ($p< 0.001$), whereas the tcPO2 readings remained the same in the non-exercise groups.

Conclusions: We concluded that exercise had a significant effect on the VLU healing and this effect may be enhanced further with the help of the compression therapy. The tcPO2 and RF measurements may be seen as useful tools in evaluating the microvascular changes, and monitoring healing and follow up of the venous leg ulcer.

Biography

Omar Mutlak grew up in Iraq and received his Bachelor's degree from the University of Basra in 1989. He had his higher surgical training in Iraq. He joined equivalent surgical training program in the UK. He became a member of the Royal College of Surgeons of Edinburgh in 2007. He was appointed as Honorary Senior Clinical Research Fellow in Imperial College London and works as a General Surgeon at Imperial College Healthcare NHS Trust, UK. He awarded DIC and MSc in surgical science from Imperial College London, UK in 2008. He Obtained his MD (Res) degree from Imperial College London, UK in 2017.

Prevalence of coronary artery anomalies detected by coronary CT angiography in Canton Sarajevo, Bosnia and Herzegovina

***Fuad Zukić*[1], *Miro Miljko*[2], *Sandra Vegar-Zubović*[1], *Adi Behmen*[1] *and Antonela Krasić Arapović*[3]**

[1]*Clinic of Radiology, Clinical Center University of Sarajevo, Sarajevo, Bosnia and Hercegovina*
[2]*University Hospital, School of Medicine, Mostar, Bosnia and Hercegovina*
[3]*University Hospital, Department of Clinical Radiology, Mostar, Bosnia and Hercegovina*

Background: Coronary artery anomalies (CAAs) are congenital variations of one or more of the coronary arteries and they are an uncommon but important cause of chest pain and, in some cases, sudden cardiac death. Anomalies of coronary arteries may be found incidentally in 0.3-1% of healthy individuals. The three types of coronary artery anomalies are anomalies of origin, anomalies of course and anomalies of termination. The purpose of our study was to estimate the frequency of CAAs in Canton Sarajevo, B&H, and to determine the prevalence of origin, course and termination anomalies of coronary arteries.

Subject and methods: This was a retrospective analysis of 919 patients who underwent Coronary CT Angiography to determine CAAs in the period from 2013 to 2017.

Results: In our study, total number of CAAs have been found among the 130 patients (14.12%) out of which anomalies of origin are found at 14 patients (1.52%), anomalies of course at 115 patients (12.5%) and anomaly of termination in 1 patient (0.1%). Out of 14 cases in total anomalies of origin, anomalies of origin of the left coronary artery are observed among 11 patients (1.2%), and anomalies of origin of the right coronary artery among 3 patients (0.3%). From mentioned 14 cases of the anomalous origin of the coronary arteries, anomalies with clinical significance (interarterial, malignant course) of the coronary arteries are found among 6 patients (0.65%) and anomalies without clinical significance are found among 8 patients (0.87%). Coronary artery anomalies of origin with malignant course are divided in two groups: LMA from right sinus of Valsalva with inter-arterial course observed in 4 patients (0.43%) and RCA from left sinus of Valsalva, also with inter-arterial course in 2 patients (0.21%). We found 4 patients (0.43%) with separated origin LAD and LCX, without LMA. The prevalence rates of separate origin of RCA and conus artery, anomaly origin of the LCX from right coronary sinus, anomaly origin of the LMA from posterior coronary sinus and LMA from right coronary sinus without inter-arterial course were seen in 0.1% of patients. Among 115 cases of anomalies of course 111 cases (12.07%) belongs to bridging (37 cases to LAD; 25 cases to D1 and D2 and 49 to ramus intermedius), and 4 cases (0.43%) belongs to intra-arterial course of RCA. Anomaly of termination presented with fistula between LCX and coronary sinus was found only in 1 case.

Conclusion: Coronary CT angiography is an excellent tool for diagnosis of CAAs regarding origin, course and termination of the coronary arteries.

Biography

Dr Fuad Zukic is currently Head of Institute at Institute of Radiology, Clinical centre university of Sarajevo, Bosnia and Herzegovina from July 2017 to till present. He had done his Masters from Medical Faculty of Sarajevo University. He worked as Resident at Institute of Radiology, Clinical Centre of Sarajevo University (2004-2009); He worked as Radiologist at Institute of Radiology, Clinical Centre of Sarajevo University (2009-2017).

Maternal high-fat diet exaggerates atherosclerosis in adult offspring by augmenting periaortic adipose tissue-specific proinflammatory response

Hiroyuki Yamada

Kyoto Prefectural University of Medicine, Japan

Maternal high-fat diet elicits offspring's metabolic disorders via epigenetic remodeling of visceral adipose tissue; however, its effect on atherogenesisis still poorly understood. We examined phenotypic alterations in offspring adipose tissue by maternal high-fat diet (HFD) and investigated their roles in atherosclerosis development using an adipose tissue transplantation model. Eight-week-old female apoE-/- mice were fed an HFD or normal diet (ND) during gestation and lactation. Offspring were fed a high-cholesterol diet from 8 weeks of age. Twenty-week-old male offspring of HFD-fed dams (O-HFD) showed a 2.1-fold increase in atherosclerotic lesion of the entire aorta compared with those of ND-fed dams (O-ND).While mRNA expressions of IL-6, TNF-α, and MCP-1, and accumulation of macrophages in epididymal white adipose tissue were less in O-HFD than in O-ND, thoracic periaortic adipose tissue (tPAT) showed an exaggerated inflammatory response in O-HFD. Intra-abdominal transplantation of tPAT from 8-week-old O-HFD alongside the distal abdominal aorta exaggerated atherosclerosis development of the infrarenal aorta in recipient apoE-/- mice compared with tPAT from O-ND. Although macrophage accumulation was rarely detected in tPAT of 8-week-old offspring, mRNA expression and protein levels of macrophage colony-stimulating factor (M-CSF) were markedly elevated in 8-week-old O-HFD, suggesting that increased M-CSF expression contributes to the augmented accumulation of macrophages, followed by the enhanced proinflammatory response. These data address a new insight into the mechanism by which maternal high-fat dietcontributes to the atherosclerosis development in adult offspring and give a unique opportunity to develop the therapeutic strategy which modulates the phenotype of perivascular adipose tissue in the prevention of atherosclerotic cardiovascular disease.

Biography

Hiroyuki Yamada is an Assistant Professor of Kyoto Prefectural University of Medicine. After postdoctoral training in Harvard Medical School under supervision of Professor Victor Dzau in 1998, I have been a faculty member of the department of cardiovascular medicine since 2002. My research interests lie in the areas of atherosclerosis and renin angiotensin system, and publications have contributed greatly to the understanding of consequences of bone marrow angiotensin receptors in atherosclerosis development. My work now focuses on the fetal programming of bone marrow cells via maternal nutritional status in the context of offspring atherosclerosis and metabolic disorders.

2 hour protocol using sensitive Troponin I and stress testing in the Emergency department for the early management of chest pain

Shahriar Dadkhah MD, MBA, FACP, FACC, FCCP, FSCAI

University of Illinois School of Medicine, USA
Director of Cardiology Research,Presence Saint Francis Hospital, USA

Background: The use of cardiac biomarkers in the evaluation of chest pain has a significant impact on patient triage and diagnostic and therapeutic outcomes. Recent efforts have focused on using sensitive troponin assays aiming to improve the detection of high-risk patients who may have obstructive coronary artery disease and who qualify for further evaluation and inpatient monitoring. Despite improvements in identifying high-risk patients with acute coronary syndromes (ACS), low-risk patients presenting with atypical chest pain and a non-diagnostic electrocardiogram (ECG) continue to undergo unnecessary testing and admissions. Since 1992, our chest pain protocol has included using 4-hour serial biomarkers at emergency department (ED) presentation in combination with stress testing to evaluate these low-risk patients.

Objectives: Our study aimed to determine whether a new accelerated diagnostic protocol using a sensitive cardiac troponin I (cTnI) on the PATHFAST Cardiac Biomarker Analyzer 2 hours after admission to the ED followed by stress testing is safe and effective in emergency settings, allowing for appropriate triage, earlier discharge and reduced costs.

Methods: We conducted a single center randomized trial at Presence St. Francis Hospital's chest pain center in Evanston, Illinois enrolling sixty four consecutive patients with atypical chest pain and non-diagnostic ECG. Participants were randomized to the accelerated 2-hr protocol or our pre-existing 4-hr protocol. Sixty patients completed the study and were randomized to either a 2-hour (29 patients) or 4-hour protocol (31 Patients) using simultaneous I-STAT and PATHFAST cTnI assays. Troponin I levels were evaluated at 0 and at 2 hours from ED presentation with an additional draw for patients in the 4-hour group.Patients with normal serial biomarkers were then evaluated with stress testing and qualified for early discharge if the stress test was negative, while those with a positive biomarker at any time were admitted. Thirty-six patients had exercise treadmill stress testing and 24 patients had either nuclear or echocardiogram stress testing.

Results: Fifty-three patients had a normal stress test and were discharged home. One patient in the 4-hour group with normal serial troponins developed ventricular tachycardia/fibrillation during the recovery period of a regular stress test. The subsequent angiogram showed obstructive coronary artery disease (CAD) with a 90% left anterior descending artery (LAD) stenosis requiring a stent. The PATHFAST cTnI was positive 45 minutes after the arrest, while the I-STAT cTnI was normal. Six patients had a positive PATHFAST cTnI and a normal I-STAT cTnI at 2-hours. Two out of these 6 patients went for coronary angiography. One patient had severe tortuous coronaries but no significant obstructive lesion and one had severe CAD who needed coronary artery bypass grafting. Three of the six patients had a normal stress test and one patient left against medical advice. The average cost for ED evaluation was 68.5% lower in the 2-hour group compared to 4-hour group. None of the patients with a normal stress test had a major cardiac event or adverse cardiac outcome at six-month follow up.

Conclusion: This study demonstrates that the 2 hour accelerated protocol using a sensitive troponin assay at 0 and 2 hours with comprehensive clinical evaluation and ECG followed by stress testing can successfully identify a low-risk patient population who may benefit from early discharge from the ED, reducing associated costs and length of stay. No major cardiac event was reported in patients who were enrolled in the accelerated protocol during ED evaluation, at 30 days and at 6 months follow up.

Biography

Dr. Shahriar Dadkhah is a board certified interventional cardiologist and is Associate Professor of Medicine at the University of Illinois College of Medicine and past president of the Society of Chest Pain Centers. He has been named as one of Chicago's Top Physician's by Chicago Hospital News. He has authored over 75 publications and three chapters in a cardiology text book. In 1999, he was named as a pioneer by NBC news for using Troponin in diagnosis of ACS. In 2004, his NEW ERA research study demonstrated that patients could be diagnosed with myocardial infarction in the pre-hospital setting by using a combination of 12 lead ECG and cardiac biomarkers.

Adjuvant pharmacological therapy in contemporary percutaneous coronary intervention

Osmar Antonio Centurión, MD, PhD, FACC, FAHA

Asunción National University-(UNA)., Asunción, Paraguay

Adjuvant pharmacological therapy with GP IIb/IIIa inhibitors, heparin, bivalirudin, and other antithrombin agent are very important aspects in the therapeutic management of patients undergoing percutaneous coronary interventions (PCI) with the hypothesis that it would reduce ischemic events in the setting of acute coronary syndrome (ACS). When bivalirudin was compared with unfractionated heparin alone there was no benefit in ischemic complications with a decrease in major bleeding. However, it was observed that bivalirudin did not reduce bleeding complications and was associated with higher rates of stent thrombosis, myocardial reinfarction, and repeat revascularization compared with heparin in the ACS setting. Moreover, a very recent meta-analysis suggests that routine use of bivalirudin offers little advantage over heparin among PCI patients. In the setting of PCI in ACS patients, and in the absence of GP IIb/IIIa inhibitors, bivalirudin did not offer any beneficial effect in the incidence of the composite end points when compared with heparin alone. Therefore, in real world practice, one would probably choose a well-known cheaper drug that has already passed the test of time, heparin. Instead of being the beginning of a new era with bivalirudin, it sure is a welcome back to an old friend, heparin. Indeed, after more than two decades, it is always good to welcome back an old friend, unfractionated heparin, as monotherapy and preferred anticoagulant regimen for contemporary PCI in ACS patients.

Biography

Professor Osmar Antonio Centurión, is a cardiologist with expertise in Coronary Heart Diseases and Cardiac Arrhythmias, Hemodynamics and Electrophysiology and Arrhythmia Ablation. He is Professor of Medicine at the School of Medical Sciences from the Asuncion National University (UNA) in Asunción, Paraguay. He received is PhD degree in Cardiology, at the Nagasaki University School of Medicine, Nagasaki, Japan in 1994. He is the Founding Member of Sociedad Latinoamericana de Cardiología Intervencionista (SOLACI). Author of more than 200 medical articles published in peer-reviewed American, European and Japanese journals in cardiology. He is a Fellow of the American College of Cardiology, American Heart Association, and member of more than 10 International Cardiovascular Societies. He is currently Chief of the Department of Cardiology, Hospital de Clinicas. In addition, he is the Director of the Department of Health Science Investigation at the Metropolitan Hospital. He is currently Member of the Editorial Board of more than 50 international scientific journals. He is Past-Editor-In-Chief of the Revista de la Sociedad Paraguaya de Cardiología, and current Editor-in-Chief of Mathews Journal of Cardiology, and Blood, Heart and Circulation Journal.

A retrospevtive observational study of syntax score in young patients with acute ST elevation myocardial infarction at a tertiaty care hospital in North India

Harsh Tilwani

Metro Hospital and Heart Institute, India

Background: Acute myocardial infarction below 45 years of age constitutes a specific subset of population having different risk factors and clinical features as compared to older patients. Pattern of coronary artery involvement and clinical outcome also varies suggesting different underlying pathophysiology.

The cut off age of 45 has been used in most studies to define young patients with CAD and myocardial infarction. There are many studies regarding the angiographic profile in these young patients with acute myocardial infarction but less data is available regarding the syntax score in these young patients. Also there is not much data regarding particular age limit above which the syntax score increases in these group of patients. So this study was undertaken to assess the syntax score this group of patients, at a tertiary care hospital in North India.

Materials and methods:

Study Area: The study was conducted at the Department of cardiology at a tertiary care hospital in North India.

Study Population: 101 young patients between 18 to 45 years of age having ST elevation myocardial infarction who had undergone coronary angiography with or without prior thrombolytic therapy have been included in this study. we divided our patients into three age groups, less than 25 years, 26-35 years and more than 35 years.

Sample Size: The study included 101 cases over a period of two years from June 2015 to May 2017.

Data Collection And Tools: Data was collected from available hospital records as per the pro forma sheet which had information about the patients presenting complains, gender, family history, treatment history (thrombolytic therapy given or not), personal habits (smoking , alchol, substance abuse), lab reports (fasting lipid profile, hba1c levels, homocystiene levels, protein c & s), type of st elevation myocardial inarction on ecg, 2d echo findings, coronary angiography findings accordingly as having single vessel disease(with the specific artery involved), double vessel disease & triple vessel disease (with the specific arteries involved), complete total occlusion, non-critical cad, and patients having normal coronaries on coronary angiography.

Synatx Score: Syntax score was calculated with the help of syntax score calculator from the website syntaxscore.com. Syntax score was assessed and compared for each of the age groups.

Data Analysis: All the statistical analysis was performed using SPSS version 20. The clinical profile of patients was analyzed by chi-square test for qualitative variables and student t test for quantitative variables. 5% probability level was considered as statistically significant i.e., $p<0.05$.

Results: The study population consisted of 101 patients. The mean age of the patients in this study was 38.8

years . The youngest patient was 20 years old and the eldest patient was 44 years old. 75 patients(74.3%) were more than 35 years of age. The male to female ratio was >9:1. 94 of the involved patients were male. 7 of the involved patients were females. The most common type of MI observed was anterior wall MI in 67.33 % of patients, followed by inferior wall MI 31.68 % of patients, followed by isolated lateral wall MI in 1 patient. None of the patients has isolated posterior wall MI.

The mean Syntax Score was 12.2. The highest Syntax Score was 25.5 and the lowest Syntax Score was 1. The mean Syntax Score for age >35 years was 12.73 and it was 10.3 for age less than 35 years. An increase in mean syntax score above the age of 35 years was observed. Also the incidence of myocardial infarction was maximum in the age group of patients more than 35 years of age.

			Age			Total
			<= 25	26 - 35	36+	
Syntax Score	< 22.0	Count	1	19	58	78
		% of Total	1.1%	20.7%	63.0%	84.8%
	22.0 - 32.0	Count	0	3	11	14
		% of Total	.0%	3.3%	12.0%	15.2%
Total		Count	1	22	69	92
		% of Total	1.1%	23.9%	75.0%	100.0%

Conclusion: Most of the patients were more than 35 years in age.

Mean SYNTAX SCORE increased with age more than 35 years

Only 3 patients of age group less than 35 had syntax score between 22-32, where as 11 patients of the age group more than 35 had syntax score between 22-32.

84% of the patients had syntax score less than 22

Male sex was more commonly involved.

Anterior wall MI was the most common type of MI.

4 patients with MI had normal coronaries.

Biography

Dr. Harsh Tilwani has completed his M.D (INTERNAL MEDICINE) at the age of 28 years from SAURASHTRA University and postdoctoral studies (D.N.B (interventional cardiology)–Diplomate of National Board) from Metro Hospitals and Heart Institue. He is a consultant of CARDIOLOGY at Metro Hospital, a premier cardiology hospital in North India.

Sex and racial disparities in cardiac rehabilitation referral at hospital discharge and gaps in long-term mortality

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Background: Cardiac rehabilitation (CR) referral is recommended for eligible patients, regardless of sex or race. It is unclear whether inequality in CR referral practices was associated with patients' long-term survival.

Methods and Results: We linked the American Heart Association Get with the Guideline Coronary Artery Disease (CAD) registry with Medicare claims data for 48,993 CAD patients from 365 hospitals across the United States between 2003 and 2009. We used generalized estimation equations to estimate the association between CR referral and mortality accounting for clustering within hospitals.Between 2003 and 2009, only 40% of eligible patients receiving CR referral. Females were 12% less likely to receive CR referral compared with males. Black, Hispanic, and Asian patients were 20%, 36%, and 50% less likely to receive CR referral than white patients. CR referral was associated with 40% lower 3-year all-cause mortality. Women and minorities who received CR referral at hospital discharge had significantly lower mortality compared with those who did not (Odds ratios=0.61 [95% CI: 0.56-0.66] for women, 0.75 [95% CI: 0.63-0.88] for black, 0.62 [95% CI: 0.50-0.79] for Hispanic, and 0.63 [95% CI: 0.46-0.85] for Asian patients). Seven percent of the black vs. white mortality gap could potentially be reduced by equitable CR referral.

Conclusions: CR referral rates at hospital discharge remained low. Gaps in receiving CR referral at hospital discharge were large for women and minorities, and the mortality gap could potentially be reduced through elimination of inequality in CR referral.

Biography

I obtained a Master of Science degree from McGill University, and a Doctor of Science degree from Harvard T. H. Chan School of Public Health. I am an epidemiologist with training in causal inference methods, mediation analyses, and health disparity. My research interests include: studying the link between various rheumatologic conditions and cardiometabolic health; identifying modifiable risk factor to reduce cardiovascular health disparity.

Challenges of management of hypertension in rural areas

Ratindra Nath Mondal

Rangpur Community Medical College, Bangladesh

Non-communicable diseases are the major challenge to development in the 21st century. Among the 35 millions deaths of non-communicable diseases, 28 millions occurs in developing countries, 14 millions out of them are preventable. *Hypertension* is one of the most common among non-communicable diseases that cause this high mortality and morbidity. Approximately one-third of the adult population in the South East Asia Region has high blood pressure. *Hypertension* kills nearly 1.5 million people each year in this region. In India (Chennai) prevalence of hypertension is 54% among low income group and 40% among high-income group. In Bangladesh 12 million people suffers from hypertension. Management of hypertension in developing countries is very difficult due to Physician crisis, huge patients, lack of awareness and country specific guideline of hypertension management, high cost of the drug, poor economic condition, illiteracy, wrong belief and perception of the patient (does not need lifelong treatment, Indigenous herbal treatment). Increase number of the physicians, implementation of national guideline of management of hypertension, increment of literacy rate, improvements of awareness and socioeconomic conditions, emphasis on motivation, empathetic approach, and lifestyle changes will improve management of hypertension in developing countries.

Biography

Dr. Ratindra Nath Mondal, completed most prestigious post-graduation of Bangladesh (FCPS-Fellow of the College of Physician and Surgeon) in Internal Medicine in January, 2012. Thereafter he joined in Department of Medicine, Rangpur Community Medical College; he worked there for 5 years, after that he joined in *Hypertension* and Research Center Rangpur. He completed many research on hypertension. Till date his 28 articles published in national and international journals. He has given lectures in many national and international conference. In 2015, he was awarded with the Fellowship of Indian Society of *Hypertension*.

Notes:

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