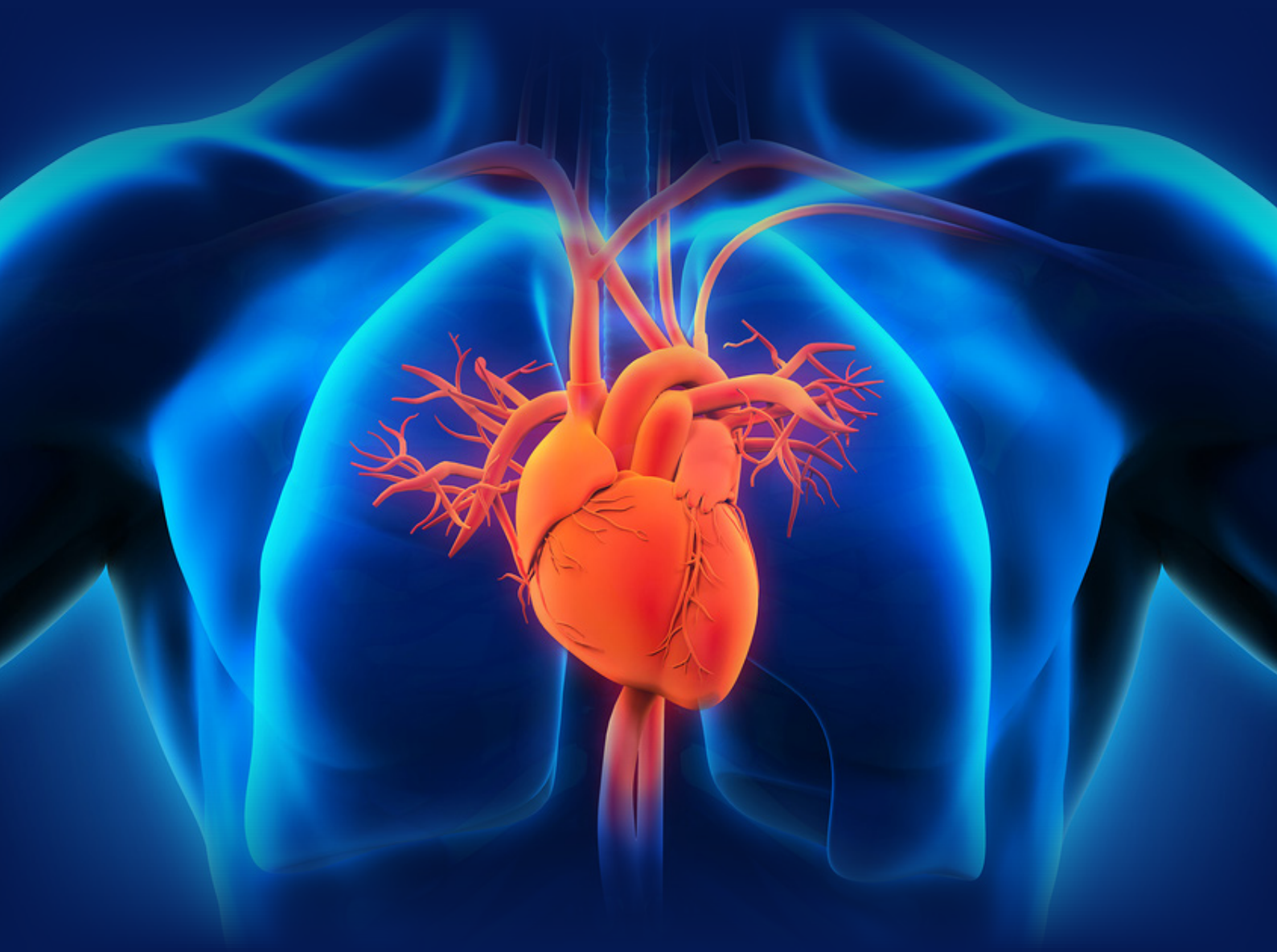


Proceedings of

2nd Global

HEART CONGRESS

November 21-22, 2018 | Osaka, Japan



Hosting Organization: Pulsus Group

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Heart Congress

November 21-22, 2018 Osaka, Japan

Keynote Forum



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Anatoly Ryzhikh

Tyche Medtech Inc., USA

Thin EP steerable catheters with improving performance

Application of EP (Electro Physiology) catheters for diagnostics and ablation of cardiac arrhythmias becomes more and more widespread. Many manufactures produce such catheters. Unfortunately, efficacy of EP catheters technology is still far from desirable. We have analyzed main weak points of all EP catheters available on the market. There were revealed three important obstacles of present EP devices. First, operators forced to use both hands to manipulate catheters during procedure. For example, operators use second hand to fix every chosen curve position and do it many times during every procedure. We have changed usual handle design by implementation of auto-lock mechanism. New handle design provides for operator possibility to use only one hand during whole procedure. Second, almost all existing EP catheters have steering problems. Most sensitive is steering not within one plane, like snaking or twisting. It is happening because of some design issues of distal shaft. Our new unique distal shaft design makes catheters steering very predictable exactly within one plane. Third, many applications need smaller diameter of EP catheters. Available on the market EP steerable catheters have minimal diameter by 5F only, that is not enough thin for many cases. We made design of very thin steerable catheters up to 2F that is enough for all cardiac applications even for child patients. So, we suppose that modern EP steerable catheter should be with auto-lock handle, with in-plane steering distal shaft and with small diameters up to 2F.

Biography

Anatoly Ryzhikh got his PhD degree in Biomedical Electronics at Moscow Engineering Physics Institute (Technical University) in 1995 for the design of Implantable Pacemaker for Cardiomyoplasty (active auto-muscle heart circulation support), also he has his own design of abdominal auto-muscle circulation assist device, diagnostics external pacemakers, diagnostic and therapeutic electrophysiological catheters, patch holters hardware and software. He worked as an associate professor at Moscow State Engineering Physics during the period of 1994-2007. Later he assigned as a CEO of Dutch Stimulators Ltd in Russia. And now he is the CEO and President of Tyche MedTech Inc., USA. His main research area includes Circulation assist device, Diagnostics external pacemakers, Electrophysiological catheters, and Patch holters.

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Nicola Fortune

University College Dublin, Ireland

A retrospective study on determinants of successful electrical cardioversion in Our Lady of Lourdes Hospital: Single center study

Introduction: Atrial fibrillation is a very common clinical problem. Often it is a frequent cause of hospitalization for patient admitted via emergency department or through acute medical assessment unit. The common symptoms of presentations are palpitation, dyspnea, chest pain, dizziness etc. These patients are often treated optimally with appropriate anticoagulants and heart rate control therapy. Eventually, they underwent electrical cardioversion DCCV (Direct Current Cardio Version). Despite of appropriate treatment regimen, patient has recurrence of atrial fibrillation. A very little is known about the medical comorbidities and function status of these patients. There is therefore an important paucity of the data indicating the prognosis, recurrence and failure or success of electrical DCCV. We sought to investigate the determinants of successful cardioversion in selective group of patients who were admitted electively for electrical cardioversion (DCCV) in Our Lady of Lourdes hospital last six months i.e. from 1st Jan 2017 to 30th June 2017.

Method: We audited the charts of the patient admitted electively for electrical cardioversion in our coronary care unit at Our Lady of Lourdes Hospital. Total of 58 patients had undergone electrical cardioversion during our study period in last six months, i.e. from January 2017 to June 2017. We retrospectively reviewed the case notes of all those patients with atrial fibrillation. Variable used were age, gender, medical comorbidities such as hypertension, diabetes, chronic obstructive pulmonary disease, chronic kidney disease, anemia, ischemic heart disease, cerebrovascular accident or transient ischemic attacks. We calculated CHA2DS VASC score, HAS Bled Score. We looked through their echo study in detail including their ejection function, Left atrial size, Right ventricular dysfunction any significant valvular disease.

Conclusion: The outlook of electrical cardioversion in treatment of atrial fibrillation in the present era remains substantial. There are no historical data available to report on individual determinants of success of electrical cardioversion. In our study we found that normal left atrial size is an independent decisive factor in successful restoration of sinus rhythm from atrial fibrillation followed by optimal blood pressure control (SBP <150 mmHg) and obesity respectively. In another subset of this observational study, we also noted that two or more than two medical comorbidities with moderately enlarged left atrium will have difficulty in restoration of sinus rhythm with electrical cardioversion.

Biography

Nicola Fortune is a Medical Doctor specialized in General Practice and has interest in cardiology, specifically in the optimal treatment of atrial fibrillation. She has completed her medical graduation from University College Dublin (UCD) Medical School. The majority of her medical practice has been at University-teaching hospitals in Ireland including St James University Hospital, Dublin, Our Lady of Lourdes Hospital, Drogheda and Cavan General Hospital. She has a wide range of international medical experience having previously worked in Fiona Stanley Hospital and Sir Charles Gardiner Hospital in Perth, Australia. She has also lived and directed a humanitarian medical-aid project in St Lukes Mission Hospital in Mpanshya, Zambia.

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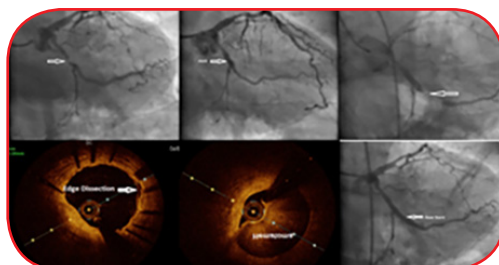


Muhammed Jameesh Moidy

HMC Heart Hospital, Qatar

Post PCI coronary intramural hematoma causing NSTEMI and short runs of VT

The optimal management of coronary intramural hematoma has not been well defined. Their occurrence can be a diagnostic challenge to the interventionist. Ischemia and hemodynamic compromise are possible complications, if not managed promptly. Conventional coronary angiography alone is often insufficient to identify an intramural hematoma without intimal dissection and a visible flap. Intra Vascular Ultrasound (IVUS) and Optical Coherence Tomography (OCT) are helpful modalities for diagnosis and evaluation of its extension. We present a case in which coronary occlusion developed due to an intramural hematoma after an elective Percutaneous Coronary Intervention (PCI) to the mid left circumflex artery. The patient was clinically asymptomatic after the angioplasty, but his highly sensitive troponins were trending very high and had two short runs of ventricular tachycardia. We did a relook angiography the next day and it showed new hazy 80% stenosis from the distal end of the newly implanted stent. In view of likely dissection, we decided to do OCT to identify the etiology of the new lesion. We choose OCT as it offers clear, high resolution images, compared to grainy, lower resolution IVUS images. Moreover, OCT provides a complete vessel wall assessment and can reveal more insight into the mechanisms of intramural hematomas like the entry point of the dissection, propagation direction, underlying arterial plaque, severity of the intramural hematoma and luminal compromise. OCT confirmed an edge dissection at the distal end of the stent, which created a big intramural hematoma compressing the true lumen. We decided to perform angioplasty, as the patient had two short runs of ventricular tachycardia and high sensitive troponin T was highly elevated. Direct stenting was performed using drug eluting stent overlapped with distal end of the previous stent covering the edge dissection. The inflation pressure was kept low at 10 atm for 17 seconds. Post dilation was performed only at the stent overlapped area using a Quantum 3.5 x 8 mm non-compliant balloon at a pressure of 16 atm for 16 seconds. Following the intervention there was 0% stenosis with TIMI 3 flow. Post stenting OCT (Optical Coherence Tomography) showed complete resolution of the intra mural hematoma and edge dissection, with well apposed stents. The patient was discharged after few days in a very good condition and his clinical outcomes were excellent at one month after intervention.



Biography

Muhammed Jameesh Moidy is a currently 3rd year Cardiology ACGMI accredited Fellowship program scholar at the Heart Hospital, Qatar. His research interest is in coronary artery disease root cause analysis, prevention and better long-term patient outcome. He has her expertise in evaluation and passion in improving the health and well-being by introducing innovative technologies in the field of intervention cardiology.

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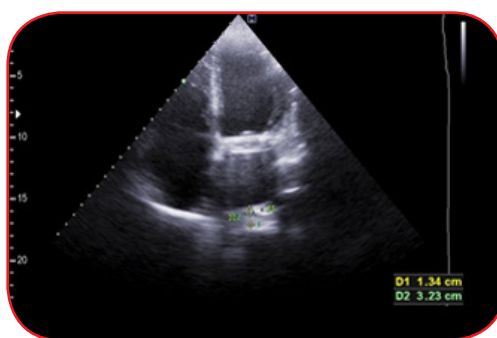


Mohammad Mostafa Ansari-Ramandi

Birjand University of Medical Sciences, Iran

Prosthetic mitral valve without anticoagulation for ten years: A case report

A 92 years old man visited the cardiology clinic with dyspnea on exertion of functional class III. On medical history he had history of mitral valve replacement 10 years before at a tertiary center. He had been on Warfarin for 6 months after surgery, but he did not continue follow up and discontinued taking Warfarin after that period as he was living in a far village without possibility of checking INR (International Normalized Ratio) and adjusting his medication. On P/E there was the metallic sound of prosthesis present and a soft systolic and diastolic murmur at the apex. As he was not on anticoagulation for years he was admitted for anticoagulation and performing trans-thoracic echocardiography. On admission he had Hb level of 12 vg/dL with platelets of 100,000/ml and his INR was 1. On echocardiography, he had severe LV (Left Ventricular) systolic dysfunction, thrombosed lateral leaflet of prosthetic valve with reduced mobility, a fixed clot in left atrium and pulmonary artery pressure of around 35 mmHg. As he was admitted in a rural hospital, he was candidate of referral to tertiary center for trans-esophageal echocardiography and evaluation for surgery. The patient refused to transfer and follow up; He was put on intravenous anticoagulation for 5 days with Heparin and also Warfarin was started for him. He was discharged with an INR of 3 on Warfarin, Aspirin, Furosemide and Carvedilol and Losartan. He had good follow up for 2 months and his INR was within 2.7 and 3.2 and was symptom free. Unfortunately, he did not have follow up for 6 months and he was admitted with epistaxis and high INR and Hb level of 6 g/dL. The valve condition remained the same and after blood transfusion and INR control he was discharged symptom free. It has been 2 months that he has had good INR control and is symptom free.



Biography

Mohammad Mostafa Ansari-Ramandi has completed his post graduate medical studies in Cardiology at Iran University of Medical Sciences and MD in Cardiology at Qazvin University of Medical Sciences, Iran. As a Cardiologist he has contributed much in research fields and his main field of interest is heart failure and cardiovascular imaging. He is working as the Head of the CCU and PCCU wards of Syed Mostafa Khomeini Hospital in Tabas, Iran.

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Anatoly Ryzhikh

Tyche MedTech Inc., USA

First attempt to make cable less Holter based on patch monitoring concept

Patch monitors became very popular because of the portability, small sizes and absence of patient cable. But unfortunately, majority of them are single-lead or maximum two-leads ECG (Electro Cardio Graphy) registrars, which is not enough for complete Holter data acquisition. Our pilot device looks similar to the conventional patch monitoring devices but provides recording of six standard ECG leads: I, II, III, aVL, aVF and aVF. It is becoming possible because of several technical innovations. First of all, patient unit of our Holter has four input electrodes. Instead of using of patient ECG cable, we have embedded electrodes on the rear surface of the device. Electrodes are connectors same time. These connectors are closed with a snap to convenient disposal ECG sticker electrodes. Therefore, our patient unit provides possibility to register all six standard ECG leads. Connection of device's electrodes with sticker ECG electrodes provides fixation of the device on the patient chest. Of course, to make such connection reliable unit mass has to be as light as possible. Mass of our device is about 30 g. Second, we used original software algorithm which compensates small distance between unit electrodes not only for ECG signal amplification but also recalculate registered ECG signals to emulate bigger inter-electrodes spacing similar to convenient ECG registrations. Waterproof design and rechargeable battery improve utility features. Internal memory of the patient unit is enough for up to one-year period of using, therefor it can be used also as event monitor. New Holter software based on different design approaches to completely utilize all high possibilities of patient unit. We have to overcome main limitation of conventional Holter's software such as impossibility to compute huge ECG records longer than several days. To make it possible we have created new Holter software based on unique WEB engine. Also, WEB engine provides natural cross platform work of our Holter software for Windows, Mac OS and Linux.

Biography

Anatoly Ryzhikh got his PhD degree in Biomedical Electronics at Moscow Engineering Physics Institute (Technical University) in 1995 for the design of Implantable Pacemaker for Cardiomyoplasty (active auto-muscle heart circulation support), also he has his own design of abdominal auto-muscle circulation assist device, diagnostics external pacemakers, diagnostic and therapeutic electrophysiological catheters, patch holters hardware and software. He worked as an associate professor at Moscow State Engineering Physics during the period of 1994-2007. Later he assigned as a CEO of Dutch Stimulators Ltd in Russia. And now he is the CEO and President of Tyche MedTech Inc., USA. His main research area includes Circulation assist device, Diagnostics external pacemakers, Electrophysiological catheters, and Patch holters.

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