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<p>YIA 1</p> <p>IMPACT OF MYOCARDIAL VIABILITY ASSESSMENT WITH CMR ON MANAGEMENT STRATEGY AND 1-YEAR OUTCOME IN PATIENTS WITH TRIPLE VESSEL DISEASE AND IMPAIRED LV FUNCTION</p> <p>YL Cham¹, AYY Fong¹, N Hanim MA¹, BC Chang¹, SK Chua¹, KL Yew¹, NZ Khiew¹, SK Tan¹, A Said¹, Annuar Rapae², YH Jong¹, P Joshi¹, TK Ong¹, KH Sim¹ ¹Cardiology Department, Sarawak General Hospital, ²Serdang Hospital</p> <p>Background: Patients with dysfunctional but viable myocardium benefit from myocardial revascularization while revascularizing non-viable myocardium is unlikely to derive prognostic benefit and subject patients to unnecessary procedural risks. The impact of cardiac magnetic resonance imaging (CMR) to guide revascularisation strategy, utilising coronary bypass surgery (CABG), percutaneous coronary intervention (PCI), or medical therapy only (MT), in patients with triple vessel disease (3VD) and significant left ventricular dysfunction (LVD) has not been established.</p> <p>Study Objectives: To compare the rate of management strategies (CABG vs PCI vs MT) in patients who underwent CMR before revascularisation, against those who did not, and their survival outcomes at 1 year.</p> <p>Method: Patients with non-left main 3VD and significant LVD (defined as LV ejection fraction <40%), and no significant valve disease, diagnosed with coronary angiography between 2004 and 2009 at Sarawak General Hospital were enrolled. Patients were grouped into CMR and non-CMR arms. The rates of CABG, PCI and MT, and 1-year survival outcomes were compared between the groups.</p> <p>Results: 24 patients were enrolled into the CMR group, and 32 patients into the non-CMR group. The mean age was 57.75 ± 10.14 and 57.19 ± 10.32 years in the CMR and non-CMR groups respectively (p 0.84). There were no significant differences between both groups in baseline clinical, biochemical, and echocardiographic characteristics. Among patients who underwent CMR, 50% were treated with CABG, 17% PCI and 33% medical therapy, compared to the non-CMR group, with 63% treated with CABG, 22% PCI and 15% medical therapy. Overall 1-year survival was 96% and 94% in the CMR and non-CMR groups respectively (p 0.61). There was also no statistically significant difference in survival outcomes between the 2 cohorts in subsets of CABG (p 0.431), PCI (p 0.428) and MT (p 0.411).</p> <p>Conclusions: While CABG remained the prevalent treatment strategy for patients with 3VD and significant LVD, the addition of CMR to guide revascularisation strategy resulted in a 20% reduction in CABG, and a 2-fold increase in MT, with no significant difference in 1-year survival. CMR should be the modality of choice to refine assessment of patients with severe ischaemic cardiomyopathy.</p>	<p>YIA 2</p> <p>ECHOCARDIOGRAPHIC INDICES FOR RIGHT VENTRICULAR (RV) ASSESSMENT IN PATIENTS POST TETRALOGY OF FALLOT (TOF) REPAIR WITH FREE FLOW PULMONARY REGURGITATION (PR): A COMPARISON STUDY WITH CARDIAC MAGNETIC RESONANCE (CMR)</p> <p>Permal D, Tamin SS, Kandavello G, Joshi S, Mahmood Z, Muhammad F, Serdari MS NCL Department, Institut Jantung Negara, Kuala Lumpur</p> <p>Background: Long standing free flow Pulmonary Regurgitation (PR) in post Tetralogy of Fallot (TOF) repair patients will cause Right Ventricular (RV) dilatation and dysfunction. Cardiac Magnetic Resonance (CMR) is the current accepted standard for RV function assessment. Automated Function Imaging (AFI) based on 2D speckle strain, newer echocardiographic index, is a validated tool for the assessment of Left Ventricle (LV) systolic function as it tracks myocardial fiber movement.</p> <p>Objective: To assess RV systolic function in patients post TOF repair with free flow PR using the echocardiographic parameters and to correlate the findings with CMR indices and New York Heart Association (NYHA) Functional Class.</p> <p>Methods: 18 patients post TOF repair and free flow PR were retrospectively reviewed. Mean age was 27.6 ± 13.7 years and mean duration post-TOF repair was 17.6 ± 8.8 years. RV AFI, other RV parameters, LV AFI were compared to CMR RV and LV indices and NYHA Functional Class.</p> <p>Results: CMR LV Ejection Fraction (EF) correlated to LV AFI (r2 0.246); RV echocardiographic indices correlation with CMR RV EF is as follows : RV Isovolumic Acceleration slope (IVA) (r2 0.091); Pulse Wave Tissue Doppler Imaging s' (PW TDI s') (r2 0.045); RV index of Myocardial Performance (RIMP) (r2 0.027); RV AFI (r2 0.018); Tricuspid Annular Plane Systolic Excursion (TAPSE) (r2 0.007); RV Fractional Area Change (RV FAC) (r2 0.006); Color TDI basal RV wall peak s' (Color TDI s') (r2 0.003) and RV Basal Wall Longitudinal Peak Systolic Strain by Doppler (RVBWLPPSSD) (r2 0.001); with CMR End Diastolic Volume (EDV) index is as follows TAPSE (r2 0.281), PW TDI s' (r2 0.132), RIMP (r2 0.119), RVBWLPPSSD (r2 0.114), Color TDI s' (r2 0.093), RV FAC(r2 0.049), RV IVA (r2 0.014, RV AFI (r2 0.003); with NYHA Functional Class is as follows PW TDI s' (r2 0.209), Color TDI s' (r2 0.122), TAPSE (r2 0.082), RV FAC (r2 0.080), RV AFI (r2 0.053), RV IVA (r2 0.018), RVBWLPPSSD (r2 0.003), RIMP (r2 0.003)</p> <p>Conclusion: Echo RV TAPSE correlated with CMR RV EDV index with statistically significant (p=0.024). There appears to be a correlation trend between CMR RV indices to other echo indices RV IVA, PW TDI s', RIMP, RV AFI although statistically not significant. There may be potential use of these echo indices in serial monitoring of RV function in this group of patient. However more studies with larger number of patients are needed.</p>
<p>YIA 3</p> <p>PERCUTANEOUS TRANSVENOUS MITRAL COMMISSUROTOMY: PAST 20 YEARS EXPERIENCE OF OVER 1500 PATIENTS IN AN ASIAN HEART CENTRE</p> <p>Lau Gin Choy, Robayah Zambahaari, Rosli Mohd Ali National Heart Institute, Malaysia</p> <p>Background: Mitral Stenosis(MS) is characterized by the narrowing of the mitral valve, with rheumatic carditis being the commonest cause. While the incidence of Rheumatic fever has decreased in developed countries, the occurrence in developing countries remains substantial. As such, Percutaneous Transvenous Balloon Commissurotomy(PTMC) to treat MS remains an important treatment in many Asian heart centres.</p> <p>Objectives: We reviewed our experience of performing PTMC in National Heart Institute Malaysia for the past 20 years.</p> <p>Methodology: A retrospective cohort study. Data was reviewed and collected from 1514 patients who underwent PTMC in National Heart Institute Malaysia from 1990 to 2010.</p> <p>Results: PTMC was performed in 1514 patients between 1990 to 2010. The mean age was 36.9 ± 11.9 years. Mean Wilkin's score was 7 ± 1.4. Females made up 1190(78.6%), with 7.9% being pregnant at time of procedure. 3% had previous surgical valvotomy and 4.3% had previous PTMC, 39.5% had co-existing atrial fibrillation. Immediate success was achieved in 97.8% of patients. 36(2.2%) had complications with 9 deaths. Mean mitral valve area calculated by echocardiogram Pressure Half Time improved from 0.8 ± 0.2 to 1.6 ± 0.4 (p<0.0001). Mean Disatolic Gradient pre was 16 ± 7mmHg and post was 4.2 ± 4mmHg (p<0.0001). At 15 year follow up, 83.9% were free from repeat procedure.</p> <p>Conclusion: PTMC remains a routine procedure in our heart centre with high immediate success and good long term results.</p>	<p>YIA 4</p> <p>EFFECTS OF LONG TERM RIGHT VENTRICULAR APICAL PACING ON THE RIGHT ATRIUM</p> <p>Tan Sian Kong, Khiew Ning Zan, Cham Yee Ling, Chua Seng Keong, Nor Hanim, Alan Fong Yean Yip, Chang Boon Cheng, Asri Bin Said, Ong Tiong Kiam, Sim Kui Hian Sarawak General Hospital Heart Centre</p> <p>Background: Permanent single chamber pacing can cause ventricular dyssynchrony and heart failure. However, its effect on right atrial (RA) dimension and function remains unknown.</p> <p>Objective: To investigate anatomical and functional changes in the right atrium and its relationship if any to left ventricular function.</p> <p>Methodology: 96 patients with VVI pacemakers implanted between 2002 and 2005 were included. Pacing was at the RV apex in all cases. Transthoracic echocardiographic measurements were obtained at baseline and annually.</p> <p>RA Ejection Fraction (RAEF) was calculated using Modified Simpson's method: (RA End Diastolic Volume – RA End Systolic Volume) x 100% RA End Diastolic Volume</p> <p>Mean and standard deviations were analyzed using independent T tests. Relationships between RA function and new onset TR as well as changes in LV parameters were investigated using Pearson's and Spearman's correlations.</p> <p>Results: 96 patients were enrolled. Only 75 patients were follow up for a mean of 5.5 years. 25 patients' data were available for analysis till 7 years. Their mean age was 68.78 +/- 12.17 years old. 67.89% had complete heart block, 15.78% had sick sinus syndrome and 7.98% had AV nodal disease</p> <p>Mean RAEF declined from 43.90% at baseline to 31.45% at 5 years (p=0.008). Mean RA area, RA end-diastolic volume and RA end-systolic volume increased from 16.79 to 20.58 cm² (p = 0.047), 50.78 to 69.30 ml (p = 0.043) and 31.28 to 50.20 ml (p = 0.036) respectively at baseline and 5 years.</p> <p>22 patients developed new tricuspid regurgitation by 3rd year. Trans-tricuspid pressure gradient increased from 28.65 mmHg at baseline to 56.60 mmHg at 5 years (p = 0.01).</p> <p>LVEF declined from 63.60% at baseline to 52.09% at 5 years (p = 0.02). 46 patients developed new atrial fibrillation at 3rd year and had persistent atrial arrhythmias thereafter. E/A reversal occurred after a mean of 2.5 years. E/A ratio and deceleration time at baseline and at 5 years were 0.86 and 1.58 (p = 0.392), and 251 and 199 ms (p = 0.092) respectively.</p> <p>RA function showed an inverse relationship to new onset tricuspid regurgitation and trans-tricuspid pressure gradient with Spearman's correlation(rs)= -0.954, a linear relationship to declining LVEF with Pearson's correlation(r)=0.958 and an inverse relationship to LV dimensions for both LVED volume(rs)= -0.955 and LVES volume(rs)= -0.878</p> <p>Conclusion: Single chamber pacing at the RV apex led to significant RA dilatation and dysfunction which may explain the worsening TR, new onset atrial arrhythmias and deterioration of LV function.</p>

This article was accepted: 29 October 2011

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<p>YIA 5</p> <p>LONG TERM SURVIVAL RATE POST ELECTRICAL STORM IN PATIENT IMPLANTED WITH IMPLANTABLE CARDIOVERTER DEFIBRILLATOR (ICD) Zulkeflee M, Zunida A, Azlan H, Azhari R, Surinder K, Tay GS, Noor Asyikin S, Rosila R, Sheikh MNA, Razali O. <i>Electrophysiology Unit, Department of Cardiology, Institut Jantung Negara</i></p> <p>Background: Implantable Cardioverter Defibrillator (ICD) is highly effective in prevention life threatening arrhythmias. Approximately 50% - 70% of patient treated with an ICD received appropriate device based therapy within the first 2 years. Some patient may need more than one therapy in short period of time to treat ventricular tachyarrhythmias. This condition calls electrical storm. This may lead high mortality for the patients.</p> <p>Objective: To determine the impact of electrical storms (ES) on overall mortality. To evaluate Electrical storm survival rate in Ischemic and Non Ischemic group.</p> <p>Methodology: This retrospective analysis of IJN cohort consisting of 687 patients who treated with ICD from 1996 to Nov 2010 for various indications. Electrical Storm is defined as ventricular tachycardia or fibrillation resulting in device intervention >2 times during a single 24-h period. There are 578 patients ES free (ESnegative group) compare to a total of 109 patients (15.9%) experienced a total of 247 episodes of ES (median 2 ES per patient, range 1-18 (ESpositive group). This group then divided into Ischemic, consist 65patients (59.6%) and Non Ischemic Heart Disease 44 patients (40.4%) median duration for the first ES occurrence was 474days (inter-quartile 662days) with median follow up of 820days (inter-quartile 1680 days).</p> <p>Result: ES occurred in 109 patients(15.9%) ESpositive group has higher mortality (95%CI 1.44-4.08, p<0.001,HR 2.69) compare to ESnegative patient. There is no significant different in survival rate for Ischemic or Nonischemic Heart Disease at 10 years follow up.</p> <p>Conclusion: ES is an independent predictor of mortality Mortality rate is higher with Hazard ratio 2.69 for the ICD patients who experiences ES. Electrical Storm may reflect a serious underlying heart disease.</p>	<p>YIA 6</p> <p>THE OUTCOME OF 'REAL WORLD' SINGLE CENTRE UNPROTECTED LEFT MAIN PERCUTANEOUS CORONARY INTERVENTION WITH DRUG ELUTING STENT Azme Mohd Ghazi, Al Fazir Omar, Chew Kean Shyong, Rosli Mohd Ali, Robaayah Zambahari <i>National Heart Institute of Malaysia, Kuala Lumpur, Malaysia</i></p> <p>Background: Coronary artery bypass graft surgery (CABG) has been the standard treatment for unprotected left main coronary artery disease. Recently, with the development of drug-eluting stents, left main percutaneous coronary intervention (LM PCI) has been increasing used to treat unprotected left main coronary artery disease.</p> <p>Objectives: To analyze data on patients treated at the National Heart Institute (NHI) of Malaysia between 2007 to December 2009 with drug-eluting stent for unprotected left main coronary artery disease.</p> <p>Methodology: Data collected from NHI PCI Registry over three years from 2007 to December 2009. Patients who underwent LM PCI will have their baseline characteristics, PCI procedural information and complications recorded. Information was obtained from patient medical records, cardiac catheter lab/CCU/ward data and discharged summaries. The patients were followed up at one year with telephone calls and clinics follow up.</p> <p>Results: A total of two hundred and two patients underwent unprotected LM PCI at NHI from January 2007 until December 2009. The mean age is 65.4 years old. Most of the patients are Male and from the Malay ethnic origin. The most important cardiac risk factor is Hyperlipidemia, followed by Hypertension and Diabetes. Only 20% of patients had Acute Coronary Syndrome (ACS) at presentation.</p> <p>35% of the patients had disease involving the ostium or midshaft of the left main, while the remaining 65% patients had distal bifurcation disease. In the distal bifurcation group, the most preferred bifurcation interventional technique is provisional stenting (61%) followed by crush stenting (31%). IVUS was used in 70% of patients and IAPB was used in 14% of patients. At 1 year follow-up, 6% patients died, 5.5% had target vessel revascularization; 8.2% with repeat percutaneous coronary intervention; and 2% with coronary artery bypass graft surgery. All the events occurred in the distal bifurcation group.</p> <p>Conclusion: These results from a single-center registry suggest the safety of performing percutaneous coronary intervention with drug-eluting stents in unprotected left main coronary artery disease with low major adverse cardiac events (MACE) rates at 1 year.</p>
<p>O1</p> <p>PULMONARY VEIN ISOLATION WITH A MULTI-ELECTRODE ABLATION CATHETER USING DUTY-CYCLED BIPOLAR AND UNIPOLAR RADIOFREQUENCY ENERGY Lau Gin Choy, Surinder Kaur, Razali Omar, Zunida Ali, Tay Giat Sing, Noor Asyikin Sahat, Azlan Hussin. <i>National Heart Institut, Malaysia.</i></p> <p>Background: Traditional conventional catheter ablation of atrial fibrillation (AF) requires long procedure times and high level of operator skill. A novel multielectrode catheter (PVAC, Ablation Frontier) combining circular mapping and duty cycled bipolar and unipolar radiofrequency energy delivery has been developed to map and isolate the pulmonary veins easier.</p> <p>Objectives: The aim of this study to evaluate the efficacy of PVAC for pulmonary vein isolation in paroxysmal AF ablation. A first of such study in Asia</p> <p>Methodology: A prospective observational study with historical control group. 50 consecutive patients with paroxysmal AF who have failed at least 1 anti-arrhythmic drug and eligible for catheter ablation were included in the study. All 4 pulmonary veins were isolated and confirmed absence of pulmonary vein potentials with PVAC. At 6 months and 12 months, 48 hours holter monitoring was performed to determine freedom of AF. 29 consecutive patients with paroxysmal AF who underwent catheter ablation using a conventional method (ESI) were included in the historical control group.</p> <p>Results: All patients had structurally normal hearts with mean duration of AF of 4.75+4.52years. The mean procedure time was 109.7 + 28.4 minutes compared to historical control using ESI method of 282.83 + 97.16 mins. Mean fluoroscopy time was 36.5 +12.3 minutes compared to 73.27+ 29.19 mins with ESI method. Mean number of RF applications were 27.79+13.80 minutes. The mean follow up duration was 9.39 +4.90 months. After AF ablation with PVAC 36 patients completed 6 months follow up and 25 patients (69.4%) were in sinus rhythm. No procedure related complication was observed.</p> <p>Conclusion: A novel method of pulmonary vein isolation using the PVAC system has a success rate of about 70% with the first ablation, with procedure times and fluoroscopy times significantly shorter than conventional technique. It is also safe.</p>	<p>O2</p> <p>CARDIAC RESYNCHRONIZATION THERAPY WITH OR WITHOUT DEFIBRILLATOR IN HEART FAILURE PATIENTS WITH NARROW QRS AND ITS IMPACT ON MORTALITY Tay GS, Zunida A, Noor Asyikin S, Surinder K, Azlan H, Razali O. <i>Electrophysiology Unit, NCL Department, Department of Cardiology, Institut Jantung Negara</i></p> <p>Introduction: Cardiac resynchronization therapy (CRT) are restricted to heart failure patients with a QRS >120ms. Implantable cardioverter defibrillator (ICD) is indicated for heart failure (HF) patients with left ventricular (LV) dysfunction. Without CRT, HF patients with narrow QRS < 120ms may survive from risk of sudden cardiac death (SCD) but not from HF. Unfortunately, CRT devices are expensive.</p> <p>Aim: The aim of this study was to determine if implanting a CRT-p would be just as effective than CRT-D in patients with narrow QRS complex < 120ms.</p> <p>Methods: 99 heart failure patients with narrow QRS < 120ms, 47 (47.5%) had CRT-D (defibrillator), while 52 (52.5%) had CRT-p (pacemaker) implanted.</p> <p>Time to first antitachycardia pacing (ATP) or defibrillation (shock), confirmed as appropriate ICD intervention were evaluated to determine the prevalence of ventricular tachyarrhythmia.</p> <p>The overall survival rate and left ventricular function were evaluated to assess the effectiveness of CRT.</p> <p>Results: CRT-D group, 42 male (89.4%); 28 ischemic (59.5%); mean age 51.7 + 12.9 years; mean follow-up 22.4 + 17.4 months. 13 patients had appropriate ICD therapy (27.7%). 9 were ischemic (69.2%);</p> <p>CRT-p group, 33 male (63.5%); 21 ischemic (40.4%); mean age 52.1 + 14.8 years; mean follow-up 18.6 + 20.5 months.</p> <p>All-cause mortality, 14 death; 7 in each group (7.1%) p value > 0.005. CRT-D, 3 were ischemic (10.7%); CRT-p, 5 were ischemic (23.8%)</p> <p>LV function at baseline and 12months: EF from 25.8 + 5.8% to 32.9 + 9.1% (p value < 0.005); LVESV from 151.7 + 60.7 mls to 123.2 + 62.0 mls (p value <0.005).</p> <p>Conclusions: CRT is beneficial in heart failure patients with narrow QRS < 120ms and LV dysfunction. CRT-D did not demonstrate a better survival than CRT-p even with the potential to reduce the sudden arrhythmia death rates. CRT-p may possibly be more cost effective than just an ICD for patients with poor EF < 35%.</p>

This article was accepted: 29 October 2011

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<p>O3</p> <p>CARDIAC EVENT RATE IN BRUGADA PATIENTS Tuan Nhan Tran, Razali Bin Omar, Surinder Kaur, Azlan Bin Hussin <i>Institut Jantung Negara</i></p> <p>Background: ICD implantation can prevent sudden cardiac death (SCD) in Brugada patients. However, selecting patient to receive an ICD for primary prevention is challenging. ICD implantation also carries some risks, including inappropriate shock.</p> <p>Objectives: The aims of this study: (1) To evaluate the incidence of VF as surrogate endpoints for SCD in Brugada patients implanted with ICD. (2) To evaluate the mean duration to the first appropriate shock. (3) To evaluate the incidence of inappropriate shock during follow up.</p> <p>Methodology: Retrospective analysis from the registry of 28 ICD implantations for Brugada patients over the past 10 years in IJN, categorized into 3 groups of patients: 1. Asymptomatic (n=5), 2. Syncope (n=11), and 3. Those with documented VT/VF or survivors of resuscitated SCD (n=12).</p> <p>Results: During mean follow up time 53months (min:4mths, max: 161mths), none of group 1 developed cardiac event. 1 patient in group 2 (9%) developed VF and got appropriated shock, 10 patients in documented VT/VF or resuscitated group (83.3%) had VF and appropriated shock. 1 patient in asymptomatic group had inappropriate shock.</p> <p>Conclusion: Although the number of patient is small but with good duration of follow up, this study demonstrated that the risk of SCD is low in asymptomatic Brugada patients. This will help physician to stratify Brugada patients better.</p>	<p>O4</p> <p>CARDIAC EVENT RATE IN HYPERTROPHIC CARDIOMYOPATHY PATIENTS Tuan Nhan Tran, Razali Bin Omar, Surinder Kaur, Azlan Bin Hussin <i>Institut Jantung Negara, Kuala Lumpur, Malaysia</i></p> <p>Background: ICD implantation can prevent sudden cardiac death (SCD) in high risk hypertrophic cardiomyopathy (HCM) patient. However, selecting patient to receive an ICD for primary prevention is challenging. ICD implantation also carries some risks.</p> <p>Objectives: The aims of this study: (1) To evaluate the incidence of VT, VF in HCM patients. (2) To evaluate the mean time duration to the first appropriate shock. (3) To evaluate the incidence of inappropriate shock.</p> <p>Methodology: Retrospective analysis from the registry of ICD implantations for 51 HCM patients over the past 10 years in IJN with 35 primary preventions (group 1) and 16 secondary prevention (group 2).</p> <p>Results: Mean follow up duration time in group 1: 44 ± 33.6 mths, 6 patients developed VT with appropriate shock (17%), mean duration time to first shock: 34.7mths, 2 patients developed electrical storm (5.7%). In group 2 with follow up duration: 38.40 ± 28.8 mths, 9 patients developed VT with appropriate shock (56%), mean duration time to first shock: 5.76mths, 5 patients developed electrical storm (31%). No patient developed VF.</p> <p>Conclusion: Although the number of patient is rather small but with good follow up duration, the study demonstrated high incidence of VT in HCM patients even in primary prevention. Secondary group has higher incidence and shorter duration time to develop event.</p>
<p>O5</p> <p>MICROVASCULAR REACTIVITY, ARTERIAL STIFFNESS AND BIOCHEMICAL MARKERS IN WOMEN WITH GESTATIONAL DIABETES 1 Aida Hanum G Rasool, 1 S.A.Aisyah, 1 A.A. Salmi, 2 A.G. Nor Aliza, 2 N.M. Nik Zaki, 3 Z. Rahimah <i>1 Pharmacology Vascular Laboratory, 2 Obstetric & Gynaecology Department, 3 Physiology Department School of Medical Sciences, Universiti Sains Malaysia, Kota Bharu, Malaysia</i></p> <p>Background: Diabetes is associated with impaired vascular function. Gestational diabetes (GDM) is a condition with transient impairment of glucose tolerance, however these women have increased risk of developing diabetes later in life. It is currently not known if impairment in microvascular function and increased arterial stiffness also occurs in GDM.</p> <p>Objectives: This study aims to compare microvascular reactivity, arterial stiffness, inflammatory and metabolic markers between gestational diabetes mellitus (GDM) and age and gestational age (GA) matched pregnant controls.</p> <p>Methodology: This cross sectional study involved 21 pregnant women with GDM and 27 pregnant controls without GDM in their early third trimester of pregnancy. GDM was diagnosed if fasting blood glucose (FBG) $75.8 \pm$ two hours post-glucose intake 77.8 mmol/L. Arterial stiffness was assessed using pulse wave analysis and pulse wave velocity (PWV). Laser doppler fluximetry and post-occlusive skin reactive hyperemia (PORH) was used to assess microvascular reactivity. Bloods were taken for tumor necrosis factor γ (TNF-γ), high sensitivity CRP, Plasminogen activator inhibitor 1 (PAI-1), HbA1c, and insulin levels. Insulin sensitivity was determined by homeostasis model assessment of insulin resistance index (HOMA-IR).</p> <p>Results: Mean age of subjects were 32.7 ± 0.9 years. There were no significant differences between GDM and controls in their age, GA, BP, serum total cholesterol and HbA1c. FBG and 2 hours glucose levels were higher in GDM (3.89 ± 0.09 vs 5.30 ± 0.34 mmol/L; 5.78 ± 0.22 vs 9.96 ± 0.50 mmol/L, $p < 0.001$). GDM has higher blood TNF-γ, PAI-1 and hsCRP levels. Baseline skin perfusion, and maximum change in perfusion with PORH were not significantly different between groups. However, time to reach peak perfusion post ischemia was significantly slower in GDM compared to controls. PWV and central augmentation index were not different between the groups. Fasting insulin was higher, while insulin sensitivity lower in GDM.</p> <p>Conclusion: Time to reach peak perfusion with skin PORH is longer in GDM indicating impaired microvascular function. This is associated with higher insulin levels and lower insulin sensitivity, higher blood TNF-γ, PAI-1 and hsCRP levels compared to controls.</p>	<p>O6</p> <p>RAMADAN FASTING AND CARDIAC BIOMARKERS IN PATIENTS WITH MULTIPLE CARDIOVASCULAR DISEASE RISK FACTORS Osama Ali M. Ibrahim, Nor Azmi Kamaruddin¹, Norasyikin A.Wahab², Shamsul Azhar Shah³ <i>¹Senior Consultant Endocrinologist and Head of Endocrine Unit at Medical Department, UKMMC ²Endocrine Specialist at Medical Department, UKMMC ³Senior Consultant Statistician at Department of Public Health, UKMMC</i></p> <p>Introduction: During Ramadan, Muslims are obliged to fast from dawn to sunset with total abstaining of food and drink. This study is to investigate whether Ramadan fasting has a negative effect on cardiovascular biomarkers [high sensitivity C-reactive protein (hs-CRP), plasminogen activator inhibitor type-1 (PAI-1)] in subjects with multiple cardiovascular disease (CVD) risk factors.</p> <p>Objectives: Primary objective: To determine the effect of Ramadan fasting on cardiovascular biomarkers (hs-CRP, PAI-1) in patients with multiple CVD risk factors. Secondary objective: To assess the effect of Ramadan fasting on body weight, blood pressure, fasting lipids (FSL) and fasting blood sugar (FBS) and HbA1c in patients with multiple CVD risk factors.</p> <p>Methods: This prospective cohort study was performed on 2 fasting months of Ramadan September 2008 and August 2009. The subjects were 76 who were seen 1 week pre-Ramadan, mid-Ramadan and a month post-Ramadan. We measured weight, body mass index (BMI), blood pressure and bloods were analyzed for hs-CRP and PAI-1.</p> <p>Results: More than 50% of the subjects had 4 risk factors such as diabetes mellitus (DM), hypertension, dyslipidaemia and either family history of coronary artery disease or smoking. There was significant reduction in the hs-CRP and PAI-1 during Ramadan compared to pre-Ramadan. The reduction in PAI-1 levels continued post-Ramadan compared to pre-Ramadan. On the other hand, there was a rebound in the levels of hs-CRP post-Ramadan compared to Ramadan. In addition there was reduction in the body weight, BMI, systolic and diastolic blood pressure during Ramadan compared to pre-Ramadan.</p> <p>Conclusion: The practice of fasting during the month of Ramadan by subjects with multiple CVD risk factors may be cardio-protective as it results in the lowering of both hs-CRP and PAI-1. However this benefit is short-lived as the hs-CRP rebound a month later.</p> <p>Keywords: Ramadan fasting, high sensitivity C-reactive protein (hs-CRP), plasminogen activator inhibitor type-1 (PAI-1).</p>

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<p>O7</p> <p>TOCOTRIENOL-TOCOPHEROL MIXED-FRACTION SUPPLEMENTATION HAS NEUTRAL EFFECT ON INFLAMMATION IN ESTABLISHED ATHEROSCLEROSIS Nurul Aishah binti Muhammad, Omar E., Thuhairah A.R., Mohd Shahril A.S, Nawawi H. <i>Faculty of Medicine, UiTM Sg Buloh campus, Sg Buloh, Selangor, Malaysia.</i></p> <p>Background: Palm-derived tocotrienol-tocopherol mixed-fraction (TTMF) is a potent antioxidant with anti-inflammatory properties. Chronic inflammation plays a pivotal role in atherosclerosis. The effect of TTMF on established atherosclerosis remains unclear.</p> <p>Objective: To determine the anti-inflammatory effects of TTMF in rabbits with established atherosclerotic lesions.</p> <p>Materials and methods: This is a prospective, experimental intervention animal study; 11 New Zealand white rabbits were given 1% high cholesterol diet (HCD) for 8 weeks to induce established atherosclerosis. Both groups were then switched to normal diet and were randomly divided into two treatment groups: (i) TRF (15mg/kg) and (ii) placebo, given for another 8 weeks. At the end of the study, the aortas were taken and examined for atherosclerotic lesion using Sudan IV staining. Expression of inflammatory markers i.e.: ICAM-1, NFκB, E-selectin and IL-6 within the atherosclerotic lesions were evaluated using immunohistochemistry. Quantitative analyses of the stains were performed using image analysis software.</p> <p>Results: No significant differences were observed in the amount of atherosclerotic lesions between the groups. In addition, no significant differences were also demonstrated for ICAM-1, NFκB, E-selectin and IL-6 expressions among the groups.</p> <p>Conclusion: TTMF supplementation has neutral effect on tissue inflammations in hypercholesterolemic-induced established atherosclerosis in rabbits.</p>	<p>O8</p> <p>MARKERS OF INFLAMMATION, ENDOTHELIAL DYSFUNCTION AND PLATELET ACTIVATION IN ACUTE CORONARY SYNDROME, AND THEIR RELATIONSHIP WITH CONVENTIONAL CARDIOVASCULAR RISK FACTORS Tiong Wen Ni2 5, Fong AYY1,3, Chan HC3, Nariman S3, Chia BY3, Ong TK1, Chang BC1, Wee CC2, Nor Hanim MA1, Chua SK1, Tan SK1, Cham YL1, Khiew NZ1, Tay SP6, Lau KB4, Sim UH5, Sim KH1 1. <i>Department of Cardiology, Sarawak General Hospital 2. Clinical Research Centre, Sarawak General Hospital 3. Emergency and Trauma Department, Sarawak General Hospital 4. Department of Pathology, Sarawak General Hospital 5. Faculty of Resource Science and Technology, University Malaysia Sarawak 6. Faculty of Medicine and Health Sciences, University Malaysia Sarawak</i></p> <p>Background: Acute coronary syndrome (ACS) is characterized by the presence of the vulnerable plaque. Atherosclerotic plaque rupture is underpinned by the interaction between inflammation, endothelial dysfunction and platelet activation. Patients in Malaysia present with ACS at a younger age compared to patients from the GRACE Registry.</p> <p>Objective: To determine the association between inflammation, endothelial dysfunction and platelet activation processes implicated in early phase of ACS and their relationship with conventional risk factors (smoking, hypertension, high cholesterol, diabetes mellitus and family history of coronary artery disease; CVRF) in a multiethnic Malaysian population.</p> <p>Methodology: We measured serum level of high sensitivity CRP (hsCRP; biomarker of inflammation), von Willebrand factor (vWF; biomarker of endothelial dysfunction) and soluble P-selectin (sP-sel; biomarker of platelet activation) in 22 patients with ACS (age 55.2\pm10.4 years) and 28 controls with angiographically documented occlusive coronary artery disease (CAD) without previous ACS events (age 53.5\pm8.4 years). Venous blood from ACS patients was obtained within 30 minutes of hospital admission.</p> <p>Results: ACS patients had significantly higher hsCRP [4.72 (0.22-9.57) vs 1.07 (0.18-9.46) μg/ml, $p = 0.001$] and vWF levels (16.96\pm5.92 vs 11.58\pm3.15 μg/ml, $p = < 0.001$), compared to controls. There was no significant difference in sP-sel serum level between ACS patients and controls (85.24\pm29.55 vs 71.34\pm25.95 ng/ml, $p = 0.083$). No correlation was found between hsCRP and vWF ($r = 0.217$, $p = 0.331$), and sP-sel ($r = 0.170$, $p = 0.450$), nor between vWF and sP-sel ($r = 0.164$, $p = 0.464$), respectively. Among ACS patients, 77.3% were smokers, 68.2% had hypertension, 40.9% had dyslipidemia, 27.3% had diabetes mellitus and 50% had family history of CAD. None of the CVRF was able to predict an elevated level of hsCRP, vWF or sP-sel.</p> <p>Conclusion: Serum levels of hsCRP and vWF were significantly higher in ACS patients compared with controls. This could indicate that during early hospital presentation with ACS in a multiethnic Malaysian population, inflammation and endothelial dysfunction play a more prominent role, and may precede platelet activation, in the pathogenesis of the disease. CVRF was unable to predict elevated levels of these biomarkers.</p>
<p>O9</p> <p>LONG TERM OUTCOME OF PERIPARTUM CARDIOMYOPATHY IN UNIVERSITY MALAYA MEDICAL CENTRE K. H. Chee, W. L. Cheng, Wan Azman <i>Cardiology Unit, Faculty of Medicine, University of Malaya</i></p> <p>Background: Peripartum cardiomyopathy (PPCM) is an uncommon form of congestive heart failure afflicting obstetric patients around the time of delivery. It is defined as (1) development of cardiac failure in the last month of pregnancy or within 5 months after delivery, (2) absence of a demonstrable cause for the cardiac failure, (3) absence of demonstrable heart disease before the last month of pregnancy, and (4) documented systolic dysfunction. Long term outcome of this condition is largely unknown in Asia Pacific region.</p> <p>Objective: To study long term outcome of PPCM patients follow-up in University Malaya Medical Centre (UMMC).</p> <p>Method: We retrieved the records of patients diagnosed with PPCM who were under the follow-up of this hospital from 1st January 2000 to 31st December 2009 from hospital database. These included patients who delivered in this hospital and also patients who were delivered in other hospitals and subsequently referred to this hospital. We collected data on demographic, clinical features, outcome and medications patients received. The data was analysed with descriptive statistics.</p> <p>Result: Nineteen patients with PPCM were managed in this hospital from 1st January 2000 to 31st December 2009. Twelve patients developed PPCM during their pregnancy in this hospital while seven patients was diagnosed in another hospital and subsequently followed up in this hospital. Two (11%) mortalities were reported within six month of delivery. One passed away secondary to disseminated intravascular coagulopathy and the other, secondary to sepsis. The mean age of these patients was 31.2 \pm 7.2 years (ranges: 19-43 years). On diagnosis, the mean left ventricular ejection fraction was 27.8 \pm 8.5 % (ranges: 12-40%). After the index event, 9 (53%) out of the 17 patients who were still alive regained normal left ventricular ejection fraction (LVEF) during follow up while 5 (29%) had persistent poor LVEF with 3 (18%) defaulters. The mean LVEF among the patients with poor LVEF was 27.4\pm9.2% (range =17-40%). No mortality was reported during the follow up. During follow up, most of them were taking ACE inhibitor or Angiotensin Receptor Blocker (93%), diuretics (71%) and beta blockers (50%). None of the patients were taking aspirin. The patients were still taking medications even though the LVEF has normalized.</p> <p>Conclusion: Only about half of the patients recovered with normalized left ventricular function. Medications were continued regardless of the outcome of left ventricular function. Two mortalities occurred during early postpartum period. No mortality was reported subsequently during long term follow up.</p>	<p>O10</p> <p>NOVEL PROTEIN THERAPEUTICS FOR CHRONIC SYSTOLIC HEART FAILURE: CHRONIC SUBCUTANEOUS BNP ADMINISTRATION. (NICE BNP) Hong H. Chen, James Glockner, John A. Schirger, Alessandro Cataliotti, Robert D. Simari, Margaret M. Redfield, John C. Burnett <i>Mayo Clinic, Rochester, MN</i></p> <p>Background: B-Type natriuretic peptide (BNP) is a cardiac hormone with vasodilating, natriuretic, renin-angiotensin (RAS) inhibiting and lusitropic properties. We have previously demonstrated that chronic cardiac hormone replacement with subcutaneous (SQ) administration of BNP in experimental heart failure (HF) resulted in improved cardiovascular function.</p> <p>Methods: We performed a randomized placebo-controlled double blinded proof of concept clinical trial comparing eight weeks of SQ BNP, 10 μg/kg bid (n=24) with Placebo (n=21), in patients with EF<35% and NYHA class II-III HF. Primary outcomes were LV volumes and LV mass determined by cardiac MRI. Secondary outcomes include diastolic function by Doppler echo, humoral function and renal function. ClinicalTrials.gov Identifier: NCT00252187</p> <p>Results: Eight weeks of chronic SQ BNP resulted in a greater reduction of LV systolic* and diastolic* volume index and LV mass index* as compared to placebo. This was associated with a significantly greater improvement of Minnesota Living with Heart Failure (MLHF) score*, diastolic function as demonstrated by the reductions of E/e' ratio* and decrease in LA volume index* as compared to placebo. GFR was preserved with SQ BNP. (*$p < 0.05$ vs placebo)</p> <p>Conclusion: Chronic protein therapy with SQ BNP improves LV remodeling; diastolic function and MLHF score in patients with stage C systolic HF on optimal therapy. RAS was suppressed and GFR preserved. SQ BNP represents a novel, safe and efficacious protein therapeutic strategy in human HF to deliver chronically, BNP, a cardiac hormone, which possesses unique cardiorenal and neurohumoral properties. Further studies are warranted to determine if these physiologic observations can be translated into improved clinical outcomes.</p>

This article was accepted: 29 October 2011

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<p>O11</p> <p>HOME-BASED ADVANCE CARE PROGRAM IS EFFECTIVE IN REDUCING HEALTHCARE UTILIZATION OF END STAGE HEART FAILURE PATIENTS Raymond Wong, Carolyn Lam, Seow Swee Chong, Seow Yen Hoon, Tan Poh Tin, Suzanna Aziz, Angeline Seah, Chai Ping <i>National University of Singapore</i></p> <p>Background: Chronic heart failure (HF) is associated with high morbidity and mortality. In end stage HF not eligible for destination mechanical assist device or heart transplant, palliative care within a chronic disease management programme serves to maximize symptom controls and quality of life.</p> <p>Aim: To evaluate the impact of home-based advance palliative care programme (ACP) on healthcare utilization in end stage HF patients.</p> <p>Methods: Prospectively collected registry data on all end stage HF recruited into ACP between July 2008 and July 2010 was analyzed. Chart reviews were conducted on heart failure database and hospital electronic records. Relevant phone interview and home visit details by ACP team were used to complete data entry. HF and all cause hospitalizations one year before and after ACP inception were defined as events. Standard statistical analysis was employed.</p> <p>Results: Forty-four patients, mean age 79±9 years, 39% men, were followed up for 15±8 months. 57% had diabetes, 66% hypertension, 80% ischemic heart disease, 36% atrial fibrillation, 60% chronic kidney disease, and 32% had stroke. All but two were in functional class III and IV at enrolment. Laboratory tests showed mean sodium 136±6 mmol/L, creatinine 186±126 mmol/L, and hemoglobin 11±2 g/dL. 30 (68%) died within program, and mean time to death from ACP recruitment was 5.5 months. Mean all cause and heart failure hospitalizations were 3.6 and 2.0 per patient before enrolment, but improved to 1.0 and 0.6 per patient after recruitment to ACP. 36 (71%) patients experienced reduced number of HF hospitalization, while 2 (5%) had more frequent admissions. When only the surviving patients were considered (N=14), 10 (71%) and 9 (64%) experienced reduced HF (mean -1.0 per patient) and all cause hospitalizations (mean -2.0 per patient) respectively, in mean follow up duration of 15 months.</p> <p>Conclusion: Home-based advance care program is effective in reducing healthcare utilization of end stage heart failure patients, primarily by reducing heart failure re-hospitalizations.</p>	<p>O13</p> <p>ROLE OF ENDOTHELIN-CONVERTING ENZYME-1 INHIBITION IN PULMONARY VEIN REMODELING DURING DEVELOPMENT OF SECONDARY PULMONARY HYPERTENSION Anggoro Budi Hartopo¹, Noriaki Emoto^{1,2}, Keiko Yagi², Kazuhiko Nakayama², Vita Yanti Anggraeni¹, Hirowati Ali¹, Nur Arlian¹, Dyah Samti Mayasari¹, Dwi Aris Agung Nugrahaningsih¹, Eko Purnomo¹, Ken-ichi Hirata¹ ¹ Division of Cardiovascular Medicine, Department of Internal Medicine, Kobe University Graduate School of Medicine, Kobe, Japan ² Clinical Pharmacy, Kobe Pharmaceutical University, Kobe, Japan</p> <p>Background: Pulmonary arterial hypertension associated with connective tissue diseases (APAH-CTD) is characterized by an involvement of pulmonary veins. Unlike idiopathic pulmonary artery hypertension (IPAH), which involves pulmonary artery, remodeling of pulmonary venous system is observed in APAH-CTD. This may explain lack of APAH-CTD respond to specific PAH treatment as compared with IPAH. Endothelin-1 (ET-1) is a multifunctional peptide produced from big ET-1 by endothelin-converting enzyme-1 (ECE-1). In normal lung, ECE-1 and ET-1 are coexpressed more abundantly in pulmonary veins than pulmonary artery. During pathologic condition, this expression may be modified.</p> <p>Objective: To examine the expression of ECE-1 and ET-1 in pulmonary veins during secondary PAH development and the role of ECE-1 inhibition.</p> <p>Methodology: We gave intratracheal bleomycin to mimic model for secondary PAH. We used mice heterozygous deficient for ECE-1 (ECE-1 +/-) and their wild-type litter mate (ECE +/-). Immunohistochemistry and semiquantitative analysis were used to evaluate the expression of ECE-1 and ET-1 with its receptors (ETA and ETB) in pulmonary veins. We conduct morphometric analysis to evaluate pulmonary vein remodeling.</p> <p>Results: In control mice, ECE-1 and ET-1 were coexpressed in the intimal and medial layer of the pulmonary veins. After 4 weeks bleomycin treatment, the expression of ECE-1 and ET-1 were upregulated in small and proximal pulmonary veins. This upregulations were more prominent as compared with those in pulmonary artery ($p < 0.05$). ECE +/- mice had higher ECE-1 and ET-1 upregulation in pulmonary veins than ECE +/- mice ($p < 0.05$). In accordance with this finding, pulmonary vein medial thickness and wall thickness were slightly greater in ECE +/- mice.</p> <p>Conclusion: ECE-1 and ET-1 were upregulated in pulmonary veins of bleomycin-induced secondary PAH mice model. This contributed to pulmonary vein remodeling. The inhibition of ECE-1 had a role in attenuation of pulmonary vein remodeling.</p>
<p>O14</p> <p>ENDOTHELIAL CELL-DERIVED ENDOTHELIN-1 CONTRIBUTES TO PULMONARY VASCULAR REMODELING IN MICE MODEL OF PULMONARY FIBROSIS Anggoro Budi Hartopo¹, Noriaki Emoto^{1,2}, Keiko Yagi², Kazuhiko Nakayama², Vita Yanti Anggraeni¹, Hirowati Ali¹, Nur Arlian¹, Dyah Samti Mayasari¹, Dwi Aris Agung Nugrahaningsih¹, Eko Purnomo¹, Ken-ichi Hirata¹ ¹ Division of Cardiovascular Medicine, Department of Internal Medicine, Kobe University Graduate School of Medicine, Kobe, Japan ² Clinical Pharmacy, Kobe Pharmaceutical University, Kobe, Japan</p> <p>Background: Pulmonary fibrosis (PF) is a devastating disease which can progress to the development of secondary pulmonary hypertension (PH). The main pathologic feature of chronic PH is pulmonary vascular remodeling, which is also observed in PF. Endothelin-1 (ET-1) has been implicated as an important mediator in the progression of PF and subsequent pulmonary vascular remodeling. In the lung, ET-1 is mainly released from endothelial cells as well as epithelial and vascular smooth muscle cells.</p> <p>Objectives: We hypothesized that endothelial cell-derived ET-1 contributes to pulmonary vascular remodeling in PF.</p> <p>Methodology: We gave single intratracheal bleomycin instillation to induce PF in vascular endothelial cell-specific ET-1 knockout (VEETKO) mice and their wild-type (WT) littermates. We assessed pulmonary vascular remodeling with morphometry analysis of alpha smooth muscle actin (SMA) (+) pulmonary artery medial layer. Collagen deposition in pulmonary artery adventitial layer was examined with Sirius-Red staining. Adventitial fibroblast was quantified with point counting for S100A4 (+) cells within adventitial layer of pulmonary artery.</p> <p>Results: VEETKO mice exhibited less pulmonary fibrosis than WT mice after four week intratracheal bleomycin ($p < 0.05$). The number of muscularized small pulmonary artery ($< 100 \mu\text{m}$ in diameter) was less in VEETKO mice than in WT mice ($p < 0.05$). Medial wall index of small pulmonary artery was smaller in VEETKO mice than in WT mice (13±3.5% vs 22±6.4%, $p < 0.01$). Collagen deposition in pulmonary artery adventitial layer was increased in WT mice and was attenuated in VEETKO mice (32±10% vs 17±10%, $p < 0.01$). Furthermore, pulmonary artery adventitial fibroblast accumulation was higher in WT mice than in VEETKO mice (40±7% vs 18±10%, $p < 0.01$).</p> <p>Conclusion: Our study shows that ET-1 released from endothelial cells contributed to pulmonary vascular remodeling in pulmonary fibrosis which may lead to secondary pulmonary hypertension</p>	<p>O16</p> <p>EFFECT OF HYPERTENSION AND ITS REVERSE ON SERUM NITRIC OXIDE CONCENTRATION AND VASCULAR PERMEABILITY IN TWO-KIDNEY ONE CLIP HYPERTENSIVE RATS Khazaei M1, Zarei M2 ¹ Department of Physiology, Faculty of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran ² Department of Physiology, Faculty of Medicine, Hamadan University of Medical Sciences, Hamadan, Iran</p> <p>Background and Objectives: Hypertension is associated with vascular abnormalities. The aim of this study was to evaluate the effect of hypertension and its reverse on serum Nitric Oxide (NO) concentration and vascular permeability in two-kidney one-clip (2K1C) hypertensive rats.</p> <p>Methodology: 28 male wistar rats were divided into four groups: (i) 2K1C for 12 weeks; (ii) sham-clipped for 12 weeks; (iii) 2K1C for 12 weeks and unclipped for 12 weeks; (iv) sham-clipped for 12 weeks and unclipped for 12 weeks. Blood samples were taken before experiment, 12th week and 24th week (in groups 3 & 4). Coronary vascular and aortic endothelial permeability were determined by extravasation of Evans blue dye method.</p> <p>Results: Serum NO level was significantly lower in hypertensive group compare with sham group (9.47±1.34 vs. 4.21±1.28 $\mu\text{mol/lit}$, respectively). Reversal of hypertension didn't improve serum NO concentration in 2K1C group (4.21±1.28 vs. 4.32±1.34 $\mu\text{mol/lit}$). Coronary vascular and aortic endothelial permeability weren't different between hypertensive and normotensive groups and reversal of hypertension didn't alter vascular permeability.</p> <p>Conclusion: lower serum NO concentration in 2K1C hypertensive rats even after reversal of hypertension suggested that in addition to NO, other mechanisms could be involved in surgical reversal of hypertension. Hypertension and its reverse didn't change vascular permeability at least in this model of hypertension.</p> <p>Keywords: Hypertension; two kidney one clip; Nitric Oxide; Permeability; Endothelium</p>

This article was accepted: 29 October 2011

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<p>O20</p> <p>OSTEOPROTEGRIN LEVELS PREDICT MORTALITY IN SYMPTOMATIC AORTIC STENOSIS Lars Gullestad MD, PhD1,2, Pål Aukrust MD, PhD2,3,5, Christen P. Dahl MD2, Ole G. Solberg MD1, Svend Aakhus MD, PhD1, Thor Ueland PhD2,4 <i>1Department of Cardiology, the 3Research Institute for Internal Medicine, 4Section of Endocrinology, 5Section of Clinical Immunology and Infectious Diseases, Oslo University Hospital, Rikshospitalet, 2Faculty of Medicine, University of Oslo, Oslo, Norway</i></p> <p>Background: Osteoprotegerin (OPG) is a member of the tumor necrosis factor super family with pleiotropic effects on the bone metabolism, endocrine function and the immune system. It could therefore be involved in the progression of aortic stenosis (AS)</p> <p>Objective: The aim of the present study was to examination of the relationship between OPG and measures of AS and heart failure, and to explore the prognostic value of elevated OPG levels in relation to all-cause mortality.</p> <p>Methodology: We examined plasma OPG levels in 145 patients evaluated for aortic valve surgery due to symptomatic severe AS and in 20 sex- and age-matched healthy controls as well as the relationship of OPG to transvalvular gradients, valve area, valve calcification (backscatter analysis) and measures of heart failure. Finally, we assessed the prognostic value of elevated plasma OPG in relation to all-cause mortality in these patients.</p> <p>Results: OPG was significantly increased in patients with symptomatic AS compared with controls. Elevated OPG was poorly correlated with degree of AS but was associated with increased backscatter measurements and deteriorating cardiac function. Furthermore, OPG was predictive of all-cause mortality in patients with symptomatic AS, independent of conventional risk markers. The strongest risk prediction was obtained by using a combination of high OPG and high N-terminal pro-brain natriuretic peptide (NT-proBNP), suggesting that these markers may reflect distinct pathways in the development and progression of AS.</p> <p>Conclusion: Circulating OPG is increased in patients with severe symptomatic aortic stenosis, reflects impaired myocardial function, and is a strong predictor of all-cause mortality alone and in combination with NT-proBNP.</p>	<p>O21</p> <p>PREVALENCE OF PERIPARTUM CARDIOMYOPATHY IN UNIVERSITY MALAYA MEDICAL CENTER, TEN YEARS' EXPERIENCE K. H. Chee, W. L. Cheng, Wan Azman <i>Cardiology Unit, Department of Medicine, University of Malaya</i></p> <p>Introduction: Peripartum cardiomyopathy (PPCM) is an uncommon form of congestive heart failure afflicting obstetric patients around the time of delivery. It is defined as (1) development of cardiac failure in the last month of pregnancy or within 5 months after delivery, (2) absence of a demonstrable cause for the cardiac failure, (3) absence of demonstrable heart disease before the last month of pregnancy, and (4) documented systolic dysfunction. Prevalence of this condition is largely unknown in Asia Pacific region.</p> <p>Objective: To study retrospectively the 10 year prevalence of patients diagnosed PPCM in University Malaya Medical Centre (UMMC).</p> <p>Methodology: Patients who delivered in this hospital whom subsequently diagnosed with PPCM from 1st January 2000 to 31st December 2009 were collected from hospital database. Their files were retrieved and relevant data was collected. Related information including patients' demographic data, clinical features, diagnosis, treatment and outcomes were collected. The data was tabulated and analyzed with descriptive statistics.</p> <p>Result: A total of 12 patients were diagnosed with PPCM from 1st January 2000 to 31st December 2009, giving a prevalence of 2.48: 10,000 live births. Only one mortality (8.3%) was reported. She passed away secondary to disseminated intravascular coagulopathy. The mean age of these patients was 32.3 ±6.6 years (ranges: 24-43years). Eight of them (67%) were multiparous while 4 of them (33%) were primigravida. Twin pregnancy was common among these patients where 25% of them had twin pregnancies. One patient developed recurrent ventricular tachycardia requiring implantable cardio-defibrillator device. After the index event, 6 (55%) out of the 11 patients who were still alive regained normal left ventricular ejection fraction during follow up while 3 (27%) had persistent poor ejection fraction. Two patients defaulted follow up.</p> <p>Conclusion: The prevalence of peripartum cardiomyopathy in UMMC is uncommon at 2.48 cases per 10,000 live birth. Twin pregnancies were common. Only about half of the patients recovered with normalized left ventricular function.</p>
<p>O23</p> <p>ACUTE MYOCARDIAL INFARCTION – SERDANG HOSPITAL EXPERIENCE FOR THE YEAR 2010 Mahadevan G, Navaratnam R, Jalani R, Chong YS, Abdul Ghapar AK, Yusoff MR</p> <p>Background: This is a retrospective study of the patients who presented to Hospital Serdang from 1 January 2010 to 31 December 2010 with acute myocardial infarction (STEMI). This also included patients who presented via the emergency department of Hospital Serdang and patients who were transferred in from other centres.</p> <p>Objective: To observe the demographic details with regards to racial predisposition, risk factors, time of onset of pain, thrombolysis agent and door to needle time in patients with acute myocardial infarction.</p> <p>Methodology: All patients who presented to CCU Hospital Serdang from 1 January 2010 to 31 December 2010 with ST elevation myocardial infarction were included in this study. In retrospect data was extracted and analysed using excel 2010.</p> <p>Results: A total of 292 patients were included in the study out of which 88.6% were males and 11.4% were females, 56.5% Malays, 26.4% Indians, 13.7% Chinese and 0.03% others. In the risk factor analysis, 58.9% had Hypertension, 48.6% had Hyperlipidaemia, 46.9% were smokers and only 33.2% were diabetic prior to presentation. The most common type of MI being anterior (49.7%) followed by inferior (27.1%) and Massive MI (11.9%). The main choice of reperfusion was thrombolysis with Streptokinase (78.7%), followed by Primary PCI (14.8%) and TNK TPA (4.2%). The average door to needle time was 44.48minutes. Mortality rate calculated for our centre was 8.2% irrespective of choice of reperfusion. All patients who did not receive reperfusion for some reasons, succumbed.</p> <p>Conclusion: This is a pioneer study of demographic data involving patients with ST elevation myocardial infarction in Hospital Serdang for the year 2010. Most patients received reperfusion with streptokinase in our centre. Patients who don't receive reperfusion have a higher mortality.</p>	<p>O24</p> <p>MYOCARDIAL INFARCTION IN YOUNG ADULTS IN SINGAPORE: CLINICAL CHARACTERISTICS, RISK FACTORS AND OUTCOMES Loh Seet Yoong, Wong Chun Pong, Ho Hee Hwa, Loh Kwok Kong, Chia Yew Woon, Chia Pow-Li, Yong Quek Wei, Ong Jae Lueng Paul, Foo Chee Guan David <i>Department of Cardiology, Tan Tock Seng Hospital, Singapore</i></p> <p>Background: There is limited data on the clinical features of young adults with acute myocardial infarction(AMI) in Singapore.</p> <p>Objectives: We investigated the clinical characteristics, risk factors and in-hospital outcomes of young adults with AMI in Singapore. As Singapore is a multi-racial society, we analysed whether ethnic differences exist between the three dominant races, Malay, Chinese and Indian with regards to the clinical features.</p> <p>Methodology: From October 2004 to September 2010, 333 consecutive patients aged between 25-45 years were diagnosed to have AMI at our institution. Clinical data was collected retrospectively on demographic characteristics, presenting signs and symptoms, blood investigation, hospital course and in-hospital mortality.</p> <p>Results: For the overall study group, the mean age of presentation was 40.2 ± 4.0 years with male predominance(94%). The majority of patients were Chinese (48.6%) followed by Indians (29.2%), Malays (16.8%) and others (5.4%). The most common risk factor was smoking (74%) followed by hypertension(28.5%), dyslipidemia (20.0%) and diabetes mellitus (16.5%). 63% of patients were considered obese (BMI > 25 kg/m²). The mean total cholesterol, low-density lipoprotein and high-density lipoprotein levels were 5.6 ± 1.2 mmol/L, 3.8 ± 1.1 mmol/L and 0.93 ± 0.25 mmol/L respectively. The mean left ventricular function was 44.0 ± 10.1 % with the incidence of heart failure 3% and cardiogenic shock 4.5%. Overall in-hospital mortality was low with 4 deaths (1.2%).</p> <p>For ethnic subgroup analysis, Indians has a 3-fold unadjusted risk of developing AMI before age of 46 compared to Malays 1.25-fold risk and Chinese 0.7-fold risk respectively. There was no significant difference between the 3 races with regards to traditional cardiovascular risk factors and lipid profile. However, Indians have the strongest family history of ischaemic heart disease and were more likely to be diagnosed with new-onset diabetes mellitus at presentation. The incidence of in-hospital major complications and in-hospital mortality did not differ between the 3 races.</p> <p>Conclusion: Young adults with AMI in Singapore are characterized by early age of presentation, male predominance, high incidence of smoking and obesity. Overall in-hospital clinical outcomes are favorable. Among the 3 races, Indians have the highest risk of developing young AMI.</p>

This article was accepted: 29 October 2011

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O25

ASSOCIATION BETWEEN CARDIOVASCULAR RISK FACTORS AND HEALTH-RELATED QUALITY OF LIFE AND PSYCHOSOCIAL DISTRESS AMONG THE GENERAL POPULATION IN SARAWAK, EAST MALAYSIA.

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Background: Cardiovascular disease (CVD) is the leading cause of death in Malaysia. Psychological factors are important risk factors for CVD. In turn, CVD and its risk factors may have an impact on health-related quality of life (HRQoL). The associations between CVD risk factors and psychological factors and HRQoL have not been examined in Malaysia previously.

Objectives: The aim of the study was to evaluate the relationship between CVD risk factors and HRQoL and psychological distress.

Methodology: Subjects were recruited from an urban setting in Sarawak, Malaysia. HRQoL was assessed using the Short-Form 36 questionnaires version 2 (SF36v2) physical component summary (PCS) and mental component summary (MCS) scores while psychological distress was assessed using the Kessler 10 (K10). The SF36v2 PCS and MCS were Sarawak-weighted norm-based scores (mean = 50, standard deviation = 10), with higher scores indicating better HRQoL. Higher K10 scores (range: 10 to 50) represent higher psychological distress. We performed hierarchical multiple linear regression analyses with socio-demographic variables, followed by lifestyle factors, medical history clinical variables as independent variables separately with PCS, MCS and K10 as dependent variables, respectively.

Results: Data from the first 800 subjects from the LIFECARE study were analysed. Majority were female (68.3%), married (63.8%), attained secondary education (55.0%), working (95.3%), smoking (85.4%), and not drinking alcohol (59.8%). The mean (SD) age was 36.1 (8.2). Mean (SD) K10 score was 19.4 (5.9). Women had lower MCS than men and those aged 30-39 had the highest MCS. After adjusting for potential confounders, the presence of diabetes was associated with worse PCS while none of the CVD risk factors were associated with MCS. In line with the findings for HRQoL, men showed greater psychological well being than women and those aged 40-49, and who had the lowest education status, showed the least psychological distress. After adjusting for potential confounders, only alcohol drinking remained significantly associated with higher psychological distress.

Conclusion: Our preliminary data suggests that some cardiovascular risk factors are associated with HRQoL and psychological distress. When considering the causes and effects of these chronic disorders, it is important to consider both HRQoL and psychological factors.

O28

ACUTE CORONARY SYNDROME (ACS) SECONDARY PREVENTION PHARMACOTHERAPY: A COMPARISON OF THE FIRST, SECOND AND THIRD NATIONAL MULTICENTER AUDIT
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Background: Dual antiplatelets, beta-blockers (BB), HMG-CoA Reductase Inhibitors ('statins') and Angiotensin Converting Enzyme Inhibitors/Angiotensin Receptor Blockers (ACEI/ARBs), were shown to improve cardiovascular outcomes for Acute Coronary Syndrome (ACS), and consequently reflected in our National Guidelines. The first and second national multicenter ACS audit in 2008-2009 revealed that some of these medications were prescribed to <90% of patients discharged.

Objective: To compare the prescribing trend of ACS secondary prevention pharmacotherapy between the first audit cycle (FAC) (December 2008 - January 2009), the second audit cycle (SAC) (November - December 2009), and the third audit cycle (TAC) (August - December 2010) of Ministry of Health (MoH) hospitals.

Methodology: Ward and pharmacy documentations of patients admitted with ACS from 9/8/2010 to 8/12/2010 were audited, while prescribers were concurrently exposed with an intervention display of clinical evidence, international standards and results from the FAC and SAC. Collected data were transmitted securely through a dedicated web-based electronic case report forms (eCRF), and analyzed using SPSS version 16.0.

Results: 871 ACS patients from 17 hospitals were enrolled in this audit cycle. At baseline, patient characteristics in all audit cycles was similar in demographics, clinical history, and ACS stratum. Aspirin was commonly prescribed in all cycles (90.8% FAC vs. 91.2% SAC vs. 93.7% TAC). There was also an increasing trend observed in prescribing Clopidogrel (71.7% FAC vs. 75.4% SAC vs. 83.9% TAC), which also contributed to the overall increase of at least 6.0% in ACS patients discharged with double anti-platelets each year (69.9% FAC vs. 76.5% SAC vs. 82.5% TAC). The percentage of patients discharged with Beta Blockers for FAC and SAC were comparable to the TAC (73.6% vs. 73.7% vs. 71.9% respectively). Comparing all phases, statin prescriptions remained high (96.2% FAC, vs. 97.8% SAC vs. 97.5% TAC). ACEI/ARB prescription increased from 73.1% in the FAC to 77.3% in the SAC, and then reduced slightly to 76.3% in the TAC.

Conclusion: There is an encouraging trend in the utilization of evidence-based ACS secondary prevention pharmacotherapy in MoH hospitals. However, new strategies could be explored to increase the translation of evidence-based guidelines to direct patient care.

O26

THROMBOLYSIS FOR STEMI: FAILURE OF A PROTOCOL TO IMPROVE DOOR-NEEDLE-TIME AND REASONS FOR DELAY

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Introduction: Streptokinase remains the major treatment modality for Malaysian patients with ST-elevation acute myocardial infarction (STEMI). Achieving the recommended door-needle time (DNT) of <30min presents a challenge for hospitals worldwide.

Objectives: This study's objective is to compare DNT before and after implementation of a formalised thrombolytic therapy protocol for STEMI and to identify factors leading to a prolonged DNT.

Methodology: This was a prospective cohort study. A thrombolysis protocol was developed. The protocol has a tick/box format and provides information on diagnostic criteria for thrombolysis, contraindications, the referral process and recognition and management of complications to the treating doctor. DNT was analyzed before (from May 2007 until August 2008 = Group A) and after (September 2008 until May 2009 = Group B) introduction of that protocol. Cases with DNT > 30min were analyzed for reasons for delay.

Results: 297 STEMI patients were thrombolysed during the study period, 169 patients before implementation (group A) and 128 patients after the implementation (group B) of the protocol. The mean age was 54.77 years (25-86; SD ± 11.87 year). A total of 264 males (88.9%) and 33 females (11.1%). The mean DNT of Group A was 70.32 minutes (SD ±59.69) and of Group B 72 minutes (SD ±64.55) (p= 0.3, Mann Whitney Test). Reasons for delay were: (1) Multiple (? 3) doctors involved in the decision making process to initiate thrombolysis in 191 patients (64.3%) (p<0.01; Chi square test); (2) Wrong initial ECG diagnosis in 65 patients (29.1%) (p<0.01; Chi square test); (3) Inappropriate initial triage to a lower priority zone within the Emergency department in 56 patients (25.1%) (p<0.01; Chi square test). Less important causes for delay included (4) need for prior stabilization or CPR (5.1%); (5) evolving STEMI in hospital (4.4%); (6) prolonged preparation time of streptokinase (2.4%); (7) need for further investigations prior to thrombolysis

Conclusion: The door-to-needle time in the study was about 70 minutes and exceeded current guidelines by 40 minutes. The key reasons for delay are (1) multiple referrals; (2) incorrect initial ECG diagnosis by the Emergency department officer and (3) inappropriate triage. The thrombolysis protocol failed to improve the DNT as these particular areas of delay were not addressed by it. A new protocol must focus on the 3 key areas for delay by (1) limiting the number of doctors involved in the decision chain, i.e. the emergency department doctor and the on-call cardiologist at maximum; (2) improving training in ECG interpretation; (3) optimizing the triaging process.

O29

RELATIONSHIP BETWEEN ADMITTING (NON-FASTING) BLOOD GLUCOSE AND IN-HOSPITAL MORTALITY STRATIFIED BY DIABETES MELLITUS AMONG ACUTE CORONARY SYNDROME PATIENTS IN OMAN

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Background: Hyperglycemia in patients admitted for acute coronary syndrome (ACS) is associated with increased in-hospital mortality.

Objectives: We evaluated the relationship between admitting (non-fasting) blood glucose and in-hospital mortality in patients with and without diabetes mellitus (DM) presenting with ACS in Oman.

Methodology: Data were analyzed from 1551 consecutive patients admitted to 15 hospitals throughout Oman with the final diagnosis of ACS during May 8, 2006 to June 6, 2006 and January 29, 2007 to June 29, 2007, as part of Gulf RACE (Registry of Acute Coronary Events). Admitting blood glucose was divided into 4 groups; namely, euglycemia (<77 mmol/l), mild hyperglycemia (>77 to <9 mmol/l), moderate hyperglycemia (>9 to <11 mmol/l), and severe hyperglycemia (>11 mmol/l).

Results: Thirty-eight percent (n=584) and 62% (n=967) of the patients were documented with and without a history of DM, respectively. Non-diabetic patients with severe hyperglycemia were associated with significantly higher in-hospital mortality compared with those with euglycemia (13.1% vs 1.52%; P<0.01), mild hyperglycemia (13.1% vs 3.62%; P=0.03) and even moderate hyperglycemia (13.1% vs 4.17%; P=0.04). Even after multivariate adjustment, severe hyperglycemia was still associated with higher in-hospital mortality when compared with both euglycemia (odds ratio (OR), 6.3; P<0.01) and mild hyperglycemia (OR, 3.43; P=0.11). No significant relationship was noted between admitting blood glucose and in-hospital mortality among diabetic ACS patients even after multivariate adjustment (all P-values > 0.05).

Conclusion: Admission hyperglycemia is common in ACS patients from Oman and is associated with higher in-hospital mortality among those patients with previously unreported DM.

This article was accepted: 29 October 2011

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O31

STATINS AND RESPONSE TO CARVEDILOL GIVEN TO PATIENTS WITH CHRONIC HEART FAILURE

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Aim: To evaluate response to carvedilol given to heart failure patients on chronic treatment with statins
Patients and Methods: 80 males, mean age 55 years (SD=8.19), with symptomatic heart failure, EF<40%, NYHA class II and III, without prior beta blocker therapy but receiving ACEI and diuretics. Group I – 50 patients on statins (atorvastatin 18.5= 12.4 mg/daily); group II – 50 patients without statin therapy. Analysis at baseline and at 3 months: NYHA functional class, HRs, echocardiographic parameters ((LVEF, LVDs, LVDd, E/A), exercise capacity using cardiopulmonary exercise testing techniques CPX (t max, METS, VO2peak), heart rate variability by 24h ECG monitoring and plasma levels of BNP, CRP, IL-6 and TNF-alpha. Statistical analysis: chi square test for qualitative variables and analysis of variance (ANOVA).

Results: At baseline patients receiving statins has higher BMI (27.8±3.8 vs. 26.0±4.4) p=0.045 and higher EF% 35.3±6.4 vs. 32.0±8.8. Mean carvedilol dose at 3 months was: group I - 22.0±13.3 vs. group II- 26.07±14.2 mg/daily. The remaining parameters did not differ significantly. At 3 months a significant increase in EF was found in both groups, although more pronounced in those receiving statins (group I: EF% 28.43 vs. 35.3, p=0.001; group II (EF% 29.0 vs. 32.0, p=0.02). Levels of ET-1, BNP and CRP were significantly decreased in both groups, but again even more in those receiving statins. The duration of CPX was increased in both groups, but to a lesser degree in group I (Tmax- 611.81 vs. 672.33; group II – 582.81vs. 693.8 s, p=0.046), similar to METS group I: 4.5 vs. 4.97, p=0.001; group II 4.2 vs. 5.2; VO2peak in group I 15.3 vs. 15.0 p=0.001; group II 15.1 vs. 15.5 pg/kg/min, p=0.001.

Conclusions: 1. 3-month therapy with carvedilol in patients receiving statins significantly increases LVEF as compared with untreated subjects. 2. Levels of BNP and ET-1 were even more decreased in patients receiving statins. 3. Patients receiving statins had a shorter duration of CPX, poorer exercise tolerance (METS) and lower VO2 peak as compared with subjects not receiving statins.

O32

A PROSPECTIVE COHORT STUDY TO VALIDATE BLEEDING RISK SCORES FOR PATIENTS ON WARFARIN IN MALAYSIA: PRELIMINARY DATA

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Background: Oral anticoagulant therapy (OAT) has been shown to be efficacious in preventing thrombotic complications. Although beneficial, anticoagulant usage can be associated with serious side effects such as intracranial and gastrointestinal bleeds. To determine the risk of bleeding, various bleeding risk models (BRM) have been developed to enable clinicians to improve risk assessment for those at risk of bleeding while on OAT. The OBRI, Kujjer, Shireman and HEMORR2HAGES BRM have not been applied to a multi-ethnic Malaysian population on conventional OAT (Warfarin).

Objectives: To determine baseline characteristics of patients on OAT and risk stratify based on the above BRM.

Methodology: 148 patients on conventional OAT attending a public sector INR clinic at a tertiary cardiology referral centre were enrolled between June 2010 and December 2010. Clinical data were obtained from medical records, and standard management for patients provided. Clinical events were screened for and recorded at each subsequent INR clinic visit.

Results: In our cohort, 52% were male, with a mean age of 54.7±13.54 years old. Ethnic distribution was 49.3% Malay, 33.8% Chinese and 16.2% non-Malay Bumiputera. 61.5% were on OAT for non-valvular atrial fibrillation and 38.5% for mechanical valve replacement. The mean INR was 2.47 ± 0.77. 16.9% of patients were on concurrent antiplatelet therapy. 52.5% with a target INR 2.0-3.0, and 42.9% with a target INR 2.5-3.5 were in therapeutic range. In the OBRI and Kujjer models, the majority of patients were categorised under the intermediate risk group: 45.1% and 69.6%, respectively. In the Shireman and HEMORR2HAGES risk scores, the majority of patients were categorized into the low risk group: 93.9% and 84.46%, respectively.

Conclusion: The majority of patients in the INR clinic were relatively young and of male gender, with an ethnic distribution reflecting the urban population around the centre. 2 of 4 BRM classified the majority of patients into intermediate bleed risk compared to low risk. Subsequent follow-up will enable us to ascertain which of the BRM would be most appropriate to be applied in a multi-ethnic Malaysian population on OAT.

O33

ATTENUATED PLATELET INHIBITION BY CLOPIDOGREL DOES NOT RESULT IN MAJOR ADVERSE CARDIAC EVENTS IN PATIENTS WITH ACUTE CORONARY SYNDROME

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Background: Platelet activation plays a pivotal role in atherothrombosis. Clopidogrel has been shown to reduce adverse clinical events in patients with acute coronary syndrome (ACS). Failure to respond adequately to Clopidogrel is called "Clopidogrel resistance" or "low responder" and has been reported to occur in 4% to 30%. There is lack of data regarding Clopidogrel resistance in Malaysia.

Objectives: 1. To establish the prevalence of Clopidogrel resistance among patients admitted with ACS 2. To examine the link between Clopidogrel resistance and major adverse cardiac events (MACE) in patients with ACS

Methods: This prospective cohort study was conducted at University Malaya Medical Centre between July and November 2009. 88 consecutive patients presenting with ACS were loaded with 300mg of Clopidogrel. Blood samples were obtained 12-24 hours after the loading. The ADP-induced platelet aggregation was assessed as aggregation units against time (AU.min) using multiple electrode platelet aggregometry (MEA) (Dynabyte Medical). A cut-off value to define low response to clopidogrel was set at the upper quintile of patients. The company recommended cut off value is 500 AU.min. Patients were followed up for 30 days.

Results: The upper quintile was found to be at > 477.2 AUC.min and was used to define Clopidogrel low responders. 18 (20.5%) patients were low responders. 8 patients had MACE within the 30 days follow up period: 1 patient died and 7 patients developed another ACS. All 8 patients with MACE were good clopidogrel responders. 27 (30%) patients used aspirin 100mg daily already before admission. Patients on aspirin showed significantly (p<0.012; t-test) less inhibition of platelet aggregation by Clopidogrel (448.81 AU.min ± 242.49) when compared to patients not on aspirin (311.61 AU.min±164.61).

Conclusion: The rate of low responders to clopidogrel was 20.5%. There was no link between low responsiveness to Clopidogrel and MACE within 30 days following admission for ACS. Patients using aspirin showed a statistically significant lower inhibition of platelet aggregation. There might be an aspirin - clopidogrel interaction. Further larger studies are warranted.

O34

EFFECTS OF ATORVASTATIN TREATMENT ON ABDOMINAL FAT AND SERUM ADIPOCYTE FATTY-ACID BINDING PROTEIN

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Background: Apart from lipid lowering, the so-called pleiotropic effects of statins, including anti-inflammatory, immunomodulatory and direct anti-atherosclerotic effects had been comprehensively discussed. Several studies demonstrated that statins have direct impact on adipose tissue, although results were not consistency. Adipocyte fatty acid-binding protein (A-FABP), a marker of adipocyte differentiation and mainly released from adipose tissue, was found to be involved in the pathogenesis of metabolic syndrome and atherosclerosis.

Objective: We investigated the impact of 12-week atorvastatin therapy on abdominal adipose tissue and serum adipokine, including A-FABP.

Methods: Total 43 subjects with clinical evidence of atherosclerosis were enrolled and received atorvastatin 40mg treatment daily for 12 weeks. Serum concentration of A-FABP and adiponectin were determined by ELISA method. Abdominal visceral and subcutaneous adipose tissue volumes were measured by computed tomography at the umbilical level. Other biochemical markers, including lipid profile, fasting glucose, HbA1c and hsCRP levels were also analyzed before and after therapy.

Results: The baseline serum A-FABP level positively correlated with age, body mass index (BMI), total cholesterol, LDL-C, visceral (VAT), subcutaneous (SAT) and total abdominal adipose tissue volume. Total abdominal adipose tissue volume correlated with fasting glucose, BMI and serum A-FABP level. After adjustment for age, gender and fasting glucose, circulating A-FABP remained independently associated with volume of total abdominal fat (B-coefficient = 4.51; R² = 0.49, P = 0.001). Twelve-week of 40mg atorvastatin therapy caused significant serum A-FABP reduction (A-FABP: baseline 22.3 ng/ml, follow-up 17.8 ng/ml; P < 0.001). The interval changes of total abdominal adipose tissue did not reach statistical significance; however, the extent of VAT volume reduction positively correlated with serum A-FABP reduction (r = 0.50, P < 0.001).

Conclusion: We revealed that serum A-FABP was independently associated with abdominal adipose tissue volume. 12-week median dose atorvastatin treatment caused significant decrease in serum A-FABP and demonstrated its possible pleiotropic effect on adipogenesis.

This article was accepted: 29 October 2011

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<p>O35</p> <p>PHARMACOLOGICAL INTERVENTIONS BENEFICIAL IN IMPROVING VASCULAR FUNCTION AND CARDIOVASCULAR RISK IN OBESE PATIENTS (VASCULAR STUDY) – EFFECT ON MICROVASCULAR ENDOTHELIAL FUNCTION Aida Hanum G Rasool, Belqes AA, al-Safi Ismail AA, Tee GB, Siti Azima, Wan Rimeh, Halim AS, Zurkurnai Yusof, Farah D, AR Wong <i>Pharmacology Vascular Laboratory, School of Medical Sciences, Universiti Sains Malaysia Hospital, Universiti Sains Malaysia, Health Campus, Kota Bharu, Malaysia</i></p> <p>Background: We have previously shown that obese patients have impaired microvascular endothelial function that is associated with increased cardiovascular risk as demonstrated by increased blood pressure (BP), triglyceride, inflammatory markers and reduced adinopectin and HDL-C levels.</p> <p>Objective: This study reports the effect of 9 months pharmacological interventions for obesity with orlistat and sibutramine on microvascular endothelial function in obese patient.</p> <p>Methodology: This randomised, controlled clinical study involved 76 obese subjects, given orlistat 120 mg three times daily or sibutramine 10 mg daily for 9 months. Baseline weight, height, and microvascular endothelial function were recorded before starting treatment, and 3, 6 and 9 months after starting treatment. Microvascular endothelial function was assessed non-invasively using laser Doppler fluximetry (LDF) and the process of iontophoresis. LDF measures skin perfusion, while iontophoresis refers to transdermal transfer of drugs propelled by very small electrical current. Sodium nitroprusside (SNP) and acetylcholine (ACh) were used to measure endothelial independent and endothelial dependent vasodilatation. Maximum absolute change in skin perfusion due to iontophoresis with acetylcholine (AChmax) indicates microvascular endothelial function.</p> <p>Results: 48 subjects (24 each for orlistat and sibutramine groups) completed the 9 months study, their data was used for analysis. Mean age and body mass index (BMI) of subjects were 36.8±1.4 years and 34.1±0.6 kg/m² respectively. There were no significant differences between the 2 groups in their baseline age, BMI, BP, heart rate and skin perfusion. There was significant improvement in endothelial dependent vasodilatation in the orlistat treated group after 9 months intervention compared to baseline (60.64±44.79 vs. 37.30±31.60 AU, p=0.08 after and before treatment respectively). No significant change was observed in sibutramine treated group. Endothelial independent vasodilatation with SNP iontophoresis, as expected, did not change after 9 months treatment compared to baseline for both groups.</p> <p>Conclusion: We conclude that orlistat treatment for 9 months improved microvascular endothelial function in obese patients.</p>	<p>O36</p> <p>A RANDOMIZED CONTROLLED TRIAL OF EFFECTIVENESS OF 12 WEEKS CARDIAC REHABILITATION ON LEFT VENTRICULAR EJECTION FRACTION IN POST CORONARY-EVENT PATIENTS: A MODEL TO INCREASE ADEHERENCE Mohammad H Haddadzadeh PhD, Dep. of Physiotherapy, Manipal University, Manipal; India & Guest Clinical Advisor, Cardiac Rehabilitation Unit, Golsar Hospital, Iran Arun G Maiya PhD, Dep. of Physiotherapy, Manipal University, Manipal; India Padmakumar R MD, DM, Dep. of Cardiology, Manipal University, Manipal; India Bijan Shad, MD, DM, Dep. of Cardiology, Guilan Medical University, Golsar Hospital, Iran Fardin Mirbolouk, MD, DM, Dep. of Cardiology, Guilan Medical University, Golsar Hospital, Iran</p> <p>Background: Coronary Artery Disease (CAD) is the leading cause of death worldwide. Despite 30 years of the rise of Cardiac Rehabilitation (CR) programs, still it is underused in cardiac hospitals in developing countries. However Left Ventricular Ejection Fraction (LVEF) clinically used as a predictor of long term prognosis and mortality, there is a scarcity of data on effectiveness of CR on LVEF in post-coronary event patients.</p> <p>Objective: To investigate the efficacy of 12 weeks structured cardiac rehabilitation on LVEF in early post-coronary event patients.</p> <p>Methodology: Study was approved by the ethical committee of Golsar Hospital. In a single blinded randomized controlled trial, post-coronary event patients (within one month of hospital discharge), age of below 80, surgically (CABG or PTCA) or conservatively treated were recruited from Golsar Hospital; Iran. Exclusion criteria were patients at high risk (AACVPR-99) and any contraindication to exercise testing and training. Recruited patients were randomized either into Control or study. To increase the patient adherence to program, the study group divided into Home-based (HmCR) and Hospital-based (HsCR) cardiac rehabilitation according to their convenience. HmCR group underwent 12 weeks of structured home-based CR: individually tailored for patient according to the ACSM-2005 guidelines which translated to speed of walk; understandable for patient. HsCR group underwent 12 weeks of structured CR under direct monitoring in hospital. Control group only received the usual cardiac care without any CR. LVEF was measured by echocardiography before and after 12 weeks of CR for both groups. Data analyzed by using SPSS 17, and repeated measures ANOVA.</p> <p>Results: 43 patients having given written informed consent with mean age of 60.5± 8.9 enrolled in the study. There was a significant increase in EF in study (46.9± 5.9 to 61.5± 5.3) group compare to control (47.9± 7.0 to 47.6± 6.9) group (p=0.001). There was no significant difference between HmCR and HsCR groups (p=1.0).</p> <p>Conclusion: 12 weeks early individually tailored CR can significantly improve LVEF in post-coronary event patients. Administration of a Home-based program which was individually tailored for patient can be safely used and is as effective as HsCR programs to improve LVEF. KEYWORDS: Left Ventricular Ejection fraction (LVEF), Cardiac Rehabilitation, Coronary Artery Disease (CAD)</p> <p>Authors identified there was no conflict of interest.</p>
<p>O37</p> <p>BENEFICIAL EFFECT OF EVEROLIMUS INTRODUCTION AND CALCINEURIN INTRODUCTION IN THORACIC TRANSPLANT RECIPIENTS WITH ADVANCED CHRONIC RENAL FAILURE Satish Arora, Bengt Rundqvist, Hans Eiskjær, Hans E Bøtker, Svend-Aage Mortensen, Kari Saunamäki, Bjørn Ekmebæg, Kjell Jansson, Svein Simonsen, Einar Gude, Dag Solbu and Lars Gullestad. <i>Oslo University Hospital, Oslo, Norway (SA); Sahlgrenska University Hospital, Gothenburg, Sweden (BR); Skejby University Hospital, Aarhus, Denmark (HE, HB); Rigshospitalet, Copenhagen, Denmark (SAM, KS); Lund Hospital, Lund, Sweden (BE); Heart Center University Hospital, Linköping, Sweden (KJ) and Novartis Norway AS, Oslo, Norway (DS).</i></p> <p>Background: The NOCTET (NÖrdic Certican Trial in HEart and lung Transplantation) trial demonstrated that everolimus can significantly improve renal function in maintenance heart transplant recipients. Nevertheless, switch to everolimus is currently not recommended for patients with advanced renal failure.</p> <p>Objectives: In this study, we evaluate NOCTET data to assess the effect of everolimus introduction amongst thoracic transplant recipients with pre-existing advanced renal failure. Methodology: In this 12-month multicenter Scandinavian study 282 maintenance thoracic transplant recipients were randomized to everolimus with reduced CNI or continue their current CNI-based immunosuppression. GFR was measured at baseline and at month 12 using Cr-ethylenediamine tetraacetic acid clearance.</p> <p>Results: In patients with baseline GFR <30 ml/min (n=21) renal function improved significantly in the everolimus group (? GFR 6.7±9.0) as compared to a decline in the control group (? GFR -1.6±5.1) (p=0.03). Amongst patients with moderate renal impairment (GFR 30-59 ml/min; n=173) improvement in renal function was also significantly greater amongst patients treated with everolimus as compared to controls (? GFR 5.1±11.1 versus -0.5±8.7 ml/min, respectively; p<0.01). Time since transplant was an important mediating factor as GFR improvement amongst patients with baseline abnormal renal function was limited to patients with time since transplant < median value of 4.6 years [figure 1].</p> <p>Conclusion: Conversion to everolimus and reduced CNI significantly improves renal function amongst maintenance thoracic transplant patients with pre-existing advanced renal failure. However, this beneficial effect is limited to patients undergoing conversion less than 5 years after transplant indicating a "window of opportunity" that is appropriate for pharmacological intervention with everolimus.</p>	<p>O38</p> <p>ANTI-PHOSPHATIDYL SERINE AUTOANTIBODY AS POTENTIAL BIOMARKER FOR PATIENTS WITH PREMATURE CORONARY EVENTS Prof Dr Zainalabideen A. Abdullah <i>Consultant of Microbiology & Immunology, College of Medicine, University of Mosul-Iraq</i></p> <p>Background: Anti-phospholipid syndrome (APS) is an autoimmune disease. Ischemic coronary events associated with APS can occur at a younger age than typical atherosclerotic cardiac events. This study sought to determine the frequency rates of anti-phosphatidyl serine (aPS), anti-cardiolipin (aCL) dependent on the presence of ?2-GPI, and anti-?2-glycoprotein I (a?2-GPI), IgG autoantibodies among patients with coronary events.</p> <p>Methods: For this study, 50 patients with coronary events in form of angina and 50 healthy individuals as control subjects recruited from Mosul, Erbil, and Dohuk provinces in Northern Iraq between March 2004 and March 2005 were evaluated. All cases were under 50 years-of-age and had no recognizable risk factors. Using ELISA to evaluate the presence of IgG isotype of aPS, aCL, and a?2-GPI autoantibodies in their blood.</p> <p>Results: The results indicated that the frequency of aPS was 12/50 (24%), a?2-GPI was 9/50 (18%), and aCL was 6/50 (12%) among patients. In contrast, aCL was detected in 2/50 (4%) of control subjects; each of the other anti-phospholipid antibodies (APLA) was never observed. Of all the aPS+ cases, the incidence of patients having the combined profile of aPS + a?2-GPI was 9/12 (75%) and of aPS+ aCL was 6/12 (50%). Only 3/12 (25%) of these aPS+ patients also expressed a?2-GPI+ in the absence of aCL. The frequency of patients expressing all three markers was only 6/12 (50 %). In none of the APS positive patients were aCL or a?2-GPI expressed in the absence of aPS. Conversely, IgG aPS as a sole marker was seen in 3/12 (25%) of these patients (i.e. in absence of either other marker).</p> <p>Conclusions: It can be concluded from these studies that the among the three major forms of APLA examined, the presence of IgG aPS autoantibodies appeared to correlate best with patients having angina who were concurrently suffering APS.</p>

This article was accepted: 29 October 2011

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<p>O39</p> <p>SIGNIFICANCE OF CARDIAC SCINTIGRAPHIC EVALUATION IN CHRONIC RENAL FAILURE Ana Abreu, Edgar Pereira, Luis Oliveira, Paula Colarinha, Vanessa Veloso, Isabel Enriksson, Gonalo Prouena, Paulo Delgado, Luis Rosario, Joaquim Sequeira <i>Hospital Particular de Almada, Almada, Portugal</i></p> <p>Background: Chronic renal failure (CRF) is often associated to coronary artery disease (CAD). Cardiac imaging evaluation is used in patients with cardiac symptoms and in asymptomatic who are referred to renal transplant.</p> <p>Objectives: The aim of this study was to evaluate the prognostic value of Cardiac Gated-SPECT in CRF patients (P).</p> <p>Methodology: 188 CRF patients, 113 male (60%), mean age 63 years old (26-90), 141 (75%) on dialysis. 127 patients had at least 1 CAD risk factor, 86 P (46%) hypertension and 61 P(32%) diabetes. Previous known CAD was present in 29 P (15%), with myocardial infarction in 12 P (6%). No symptoms were present in 134 P (71%). Stress and rest tetrofosmin SPECT (SPECT), with rest gated study, was performed. Presence, location, severity and extension of ischemia and necrosis were evaluated. Left ventricular (LV) volumes and ejection fraction were quantified, unless for technical reasons. Clinical follow-up (Fup) was done at a mean period of 18 months. Cardiac events like, cardiac death, myocardial infarction, unstable angina, cardiac failure, cardiac revascularization, hospitalization for cardiac reason, were registered.</p> <p>Results: Normal perfusion SPECT (negative SPECT) were seen in 92 P (49%) and abnormal perfusion SPECT, with ischemia or necrosis (positive SPECT) in 96 P (51%). Reversible perfusion defects (PD) were seen in 58 P (31%), partly reversible DP in 19 P (10%) and fixed DP in 19 P (10%). Gated SPECT was done when technically possible in 169 P (90%). Left ventricular dilation was present in 44 P (26%) and left ventricular dysfunction in 34 P (20%). 158 P were clinically followed, with 30 P (15%) lost to follow-up. 47 P (30%) had at least one cardiac event at 18 months (mean time). Events occurred in 24 P with myocardial dysfunction and Fup (83%) and in 18 P with normal LV function and Fup (16%), with a significant difference ($p < 0.001$). 38 P with positive SPECT (58%) versus 9 P with negative SPECT (10%) had cardiac events, with a statistically significant difference ($p < 0.001$). A positive predictive value for cardiac scintigraphy was calculated in 58% and a negative predictive value in 90%.</p> <p>Conclusion: This group of chronic renal failure had a high frequency of events at 18 months mean time follow-up. Patients with left ventricular dysfunction or positive SPECT had significantly more events. Although cardiac scintigraphy had a low positive predictive value for events, the negative predictive value was high, allowing to select patients with a low probability of events.</p>	<p>O40</p> <p>EVALUATING THE STATUS OF HYPOPERFUSED MYOCARDIAL SEGMENTS DURING 99mTc-SESTAMIBI RESTING MYOCARDIAL PERFUSION IMAGING STUDY USING THE NEW INTEGRATED IMAGING MODALITY POSITRON EMISSION TOMOGRAPHY COMPUTED TOMOGRAPHY (PET/CT) Abdul Jaill Nordin¹, Wan Himratul Azliza Wan Harun², Ahmad Zaid Fatah Azman¹, Ahmad Fazli Abdul Aziz¹, Fathinul Fikri Ahmad Saad¹, Zul Hilmi Yaakob², Annuar Rapae³, Wan Azman Wan Ahmad² ¹ Diagnostic Nuclear Imaging Centre, Universiti Putra Malaysia, Serdang, Malaysia ² Cardiology Unit, Universiti Malaya, Kuala Lumpur, Malaysia ³ Cardiology Department, Serdang Hospital, Serdang, Malaysia</p> <p>Background: Myocardial perfusion imaging (MPI) study using 99mTc-sestamibi is a non invasive technique commonly employed in the assessment of patients suspected or diagnosed coronary artery disease. Despite being a routine procedure, the technique is limited by its ability in validating viable myocardial segments. This preliminary study aims at assessing the viability of hypoperfused segments at resting MPI using new integrated diagnostic imaging modality, Positron Emission Tomography Computed Tomography (PET/CT) using fluorodeoxyglucose (FDG) as the viability marker.</p> <p>Objective: The objective of this study is to clarify the usefulness of FDG as a potential surrogate marker in the assessment of myocardial viability.</p> <p>Methodology: This prospective study was conducted at Diagnostic Nuclear Imaging Centre, Universiti Putra Malaysia and Universiti Malaya upon ethic committee approval. Twenty three patients diagnosed with coronary artery disease were selected to participate in this study. They underwent pharmaceutical stress and rest (MPI) study using 99mTc-sestamibi. Patients with hypoperfused- rest results were selected for further evaluation using Positron Emission Tomography Computed Tomography (PET/CT) for viability utilizing FDG as the biomarker. 18[F]FDG PET/CT study was conducted using glucose loading protocol and oral tab Niacin 200mg. The results were tabulated and analyzed using SPSS version18.</p> <p>Results: Data from 18 patients were analyzed, 14 male and 4 female patients. The mean age is 57.7 ± 10.8 (mean ± sd). A total of 99 abnormal hypoperfused segments identified and included in the analysis based on the rest perfusion 99mTc-sestamibi study. Comparing to FDG PET/CT viability study, 28% of non perfused segments on MPI were confirmed infarcted, 60% were hibernating while the remaining 12%, were viable. The sensitivity and specificity of MPI is 11.4% and 96.6% respectively. The positive predictive and negative predictive values are 88.9% and 31.1% with kappa value of 0.49 ($p = 0.20$).</p> <p>Conclusion: Our study showed high percentage of hibernating myocardium on FDG-PET/CT of all the underperfused myocardial segments as detected on MPI. These results provide a rationale for further clinical work to explore the usefulness of FDG-PET/CT as a surrogate biomarker for hypoperfused myocardial segment given the potential of its revascularization as compared to the non-viable tissue.</p>
<p>O41</p> <p>THE VALUE OF TISSUE DOPPLER-DERIVED E/e' IN PREDICTING HEART FAILURE IN PATIENTS ADMITTED FOR UNSTABLE ANGINA AND NON ST ELEVATION MYOCARDIAL INFARCTION Maureen V Valentin, MD <i>University of Santo Tomas Hospital Manila, Philippines</i></p> <p>Background: In patients with acute myocardial infarction (AMI), diastolic function provides important prognostic information that is incremental to systolic function. Unlike other Doppler parameters of diastolic function, early mitral annulus velocity, e' appears to be relatively independent of preload. In addition, the ratio of early transmitral flow velocity, E to e', E/e' has been shown to be the most accurate predictor of left ventricle (LV) filling pressure.</p> <p>Objectives: The aim of this study was to determine the prognostic significance of E/e' ratio obtained by tissue Doppler imaging (TDI) among patients admitted for unstable angina (UA) and non ST elevation myocardial infarction (NSTEMI) in relation to the development of congestive heart failure (CHF).</p> <p>Methods: Fifty three (53) patients admitted with a diagnosis of NSTEMI or UA had transthoracic echocardiogram done within 72 hours from admission. The patients were followed up during hospital stay. The end-point was occurrence of CHF.</p> <p>Results: The computed cut off value using ROC analysis for E/e' ratio that would predict the development of CHF during hospital admission was 11.4. Twenty three (46%) patients had an E/e' ratio > 11.4. During hospital stay of a mean of 12.04 days, 18 patients (34%) had congestive heart failure. In a stepwise multivariable model, one of the most powerful independent prognostic indicators for the development of CHF was an E/e' ratio > 11.4 (OR 5.45, 95% CI 1.07 to 53.00, $p = 0.050$). The other independent predictors were history of smoking and diabetes mellitus (OR 2.69, 95% CI 1.80 to 40.36, $p = 0.017$), use of statins (OR 0.01, 95% CI 0.00 to 0.37, $p = 0.015$), pulmonary vein systolic flow velocity (PVS) (OR 0.89, 95% CI 0.80 to 0.99, $p = 0.026$) and pulmonary vein diastolic flow velocity (PVD) (OR 1.21, 95% CI 1.04 to 1.41, $p = 0.013$).</p> <p>Conclusion: An E/e' > 11.4 is a good predictor of the occurrence of heart failure in patients with NSTEMI or UA.</p>	<p>O43</p> <p>ECHOCARDIOGRAPHIC QUANTITATION OF REGURGITANT SEVERITY, PLASMA NATRIURETIC PEPTIDES AND PEAK OXYGEN CONSUMPTION DURING EXERCISE INDEPENDENTLY PREDICT NEED FOR SURGERY IN ASYMPTOMATIC/MILDLY SYMPTOMATIC MR PATIENTS Wai Sun Choo^{1,3}, Hla Yee², Michelle Reyes-Mariano¹, Lingli Gong², James W. Yip¹, Lieng H.Ling¹ ¹National University Heart Centre, Singapore, ²National University of Singapore, Singapore, ³Penang Medical College, Penang</p> <p>Background: The optimal timing of intervention in asymptomatic or minimally symptomatic patients with chronic organic mitral regurgitation (MR) remains a challenge. Functional indices or biomarkers that could finesse the risk-benefit assessment of surgery would be clinically helpful.</p> <p>Objective: The aim of this study was to identify new functional indices that may help in risk stratification of patients with chronic organic mitral regurgitation.</p> <p>Methods: We prospectively studied 118 pts (mean age 51±15 yrs, 66% male) referred for moderately severe to severe MR, principally due to mitral valve prolapse or flail leaflets. Exclusions included LV ejection fraction <60% and chronic atrial fibrillation. All pts had quantitative echocardiography with myocardial deformation imaging, determination of VO2max at cardiopulmonary exercise testing, and measurement of plasma B-type natriuretic peptide (BNP) and N-terminal pro-BNP (NT-proBNP). Test variables were compared in the 44 patients with vs. the 74 pts without AHA-ACC class I/IIa indications for corrective mitral surgery, i.e. symptoms, adverse LV remodeling and moderate pulmonary hypertension.</p> <p>Results: NYHA functional class was I in 98 pts (83%), II in 18 (15%); 2 were deemed to be in class III. Three pts had paroxysmal AF. By quantitation, MR was moderately severe or severe in 112 pts (95%) and moderate in 6. Mean mitral regurgitant volume (RVol) by proximal isovelocity surface area method was 91±40 ml, effective regurgitant orifice area (ERO) 0.59±0.29 cm², and LV ejection fraction 67±5%. Univariately significant predictors of eligibility for surgery were RVol ($p < 0.001$), ERO ($p < 0.001$), BNP ($p = 0.002$), NT-proBNP ($p = 0.005$) and VO2max ($p = 0.02$). RVol (or ERO), BNP (NT-proBNP) and VO2max were also independently predictive. Areas under the receiver-operating-characteristics curves for VO2max, BNP, NT-proBNP, ERO and RVol were 0.69, 0.69, 0.71, 0.76 and 0.78, respectively (p for all comparisons >0.15).</p> <p>Conclusion: Among patients with chronic organic MR, sinus rhythm and "preserved" LV systolic function who largely have no or mild symptoms, routine quantitative assessment of MR severity, natriuretic peptide levels and VO2max may aid risk stratification.</p>

This article was accepted: 29 October 2011

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<p>O44</p> <p>MEDIUM-TERM CLINICAL OUTCOME OF PATIENTS TREATED WITH PACLITAXEL-COATED DRUG ELUTING BALLOON (DEB) ANGIOPLASTY Al Fadz Omar, Rosli Mohd Ali, David Chew, Aizan Azan, Amin Ariff, Shaiful Azmi, Robaayah Zambahari, <i>IJN DEB Registry INSTITUT JANTUNG NEGARA</i></p> <p>Background: There remains a concern for the incidence of in-stent-restenosis (ISR), stent thrombosis, bifurcation stenting, small vessel stenting and stenting in diabetic patients despite advancement with drug-eluting stents (DES). Drug eluting balloon (DEB) provides an attractive and viable option especially in this group of patients.</p> <p>Objective: The aim of this study is to evaluate the safety and efficacy of paclitaxel-coated drug eluting balloon in patients specifically in patients with in-stent restenosis (ISR), small vessel size (< 2.5mm), diabetics and in bifurcation lesions.</p> <p>Methods: A total of 107 patients receiving DEB from March 2008 to April 2010 were enrolled into the registry. The primary end point of the study was major adverse cardiac events (MACE) including myocardial infarction (MI), cardiac death and target lesion revascularization (TLR) during procedural, in-hospital, 6 months and during the last follow-up. Factors that could affect the MACE such as diabetes, ISR, vessel size and bifurcations were evaluated.</p> <p>Results: The median follow-up for the patients in this registry was 390 days. The majority of patients was hypertensive and had dyslipidemia. Sixty five patients (62%) were diabetics. Sixty six patients (62%) who underwent DEB angioplasty had denovo lesions and the remaining had ISR. Thirty eight patients (36%) involved bifurcation lesions and fifty patients (47%) had small vessels. The median size and length of DEB were 2.6 + 0.5 mm and 25.8 + 5.0 mm, respectively. The median deployment pressure was 10 atmospheres. No procedural complications except non-flow limiting dissections noted in eight patients (7.5%). All patients were discharged safely with no in-hospital MACE. During the 6 months follow-up, MACE occurred in six patients (5.6%) including death (5%) and target lesion revascularization (1%). Twenty patients (19%) had repeat coronary angiograms and only one needed repeat target lesion revascularization. Analysis of patients with diabetes, ISR, small vessel size and bifurcation were not statistically significant (p>0.05) in contributing to MACE.</p> <p>Conclusion: In this real-world population, the usage of paclitaxel-coated drug eluting balloon in patients with small vessel, diabetes, ISR and bifurcation lesions appears to be safe and effective.</p>	<p>O45</p> <p>BASELINE CHARACTERISTICS, MANAGEMENT PRACTICES AND HOSPITAL OUTCOME OF PATIENTS UNDERGONE PERCUTANEOUS CORONARY INTERVENTION AT THE NATIONAL HEART INSTITUTE OF MALAYSIA-LOCAL PERCUTANEOUS CORONARY INTERVENTION REGISTRY. Azmee Mohd Ghazi, Jacqueline De Costa, Nur Wahidah Zainuddin, Rosli Mohd Ali, Robaayah Zambahari <i>National Heart Institute of Malaysia, Kuala Lumpur, Malaysia</i></p> <p>Background: Percutaneous coronary intervention (PCI) is a widely accepted form of coronary revascularization worldwide. It is important for us to know the current practice and outcome of patients undergone PCI.</p> <p>Objectives: To examine the patient characteristics, management practices and hospital outcome of patient undergone PCI at the National Heart Institute (NHI) of Malaysia between 2007 to June 2010</p> <p>Methodology: Data collected from NHI PCI Registry over 3 ½ years from 2007 to June 2010. Patients who underwent PCI will have their baseline characteristics, PCI procedural information and complications recorded. Information was obtained from patient medical records, cardiac catheter lab/CCU/ward data and discharged summaries. We followed up these patients at 3 months and 6 months with telephone calls and clinics follow up.</p> <p>Results: A total of 8366 patients underwent PCI at NHI during the 3 ½ years period. The mean age is 57.2 years. 81.8% were males. Majority Malays (55.2%), followed by Indians (26%) and Chinese (16.1%). The most important cardiac risk factor is Hyperlipidemia (82.6%). This is followed by Hypertension (76.1%), Diabetes (50.2%), positive Family history (21.9%) and Current smoker (16.6%). 45.7% of patients had previous MI, 4.2% Heart Failure (EF<40%) and 7.4% Chronic renal failure and 1.6% previous CVA. The most common vascular access is femoral (52.9%) and radial approach (41.1%). 51% of patients have single vessel disease and 49% multiple vessel disease. The total number of lesions was 11995. LAD accounts for 68.1%, LCx 23.7% and RCA 41.6%. We performed a total of 2.4% Left Main PCI. Grafts PCI account to-LIMA 0.2% and SVG 1.6%. Majority of the lesions are within Type B and Type C lesions. 96.8% cases underwent successful PCI and most of the lesions achieved TIMI-3 flow (95.7%) post PCI. Most of the coronary lesions were treated with drug eluting stents (60.6%). The remaining were bare metal stents (26.2%) and 1.7% were antibody coated stents. We used 3.9% drug eluting balloons in our PCI. Other intracoronary devices -Aspiration catheter 0.3%, cutting balloon 2.5%, rotablator 1.2% and distal embolic protection device 0.5% of cases. IVUS was used in 5.2% of our cases. IABP were used in 1.8%. During the procedure heparin was given in 91.3% cases. 96.2% case on Aspirin, 97.6% on Clopidogrel and 3.7% on Ticlopidine prior to PCI. We recorded low procedural complications. These include MI (0.3%) and cardiogenic shock(0.4%). Inpatient mortality post PCI from Cardiac cause is 0.7%. At 3 months follow up – 0.3% death (91% cardiac cause) and 6 months follow up – 0.7% death (83% cardiac cause).</p> <p>Conclusion: From our local registry, we have shown that we have a good success rate with low complications and mortality rates. This is comparable to international standards including from the GRACE PCI Registry.</p>
<p>O46</p> <p>EFFECT OF CLOPIDOGREL AND ASPIRIN ON BIOMARKERS OF PLATELET ACTIVATION AND AGGREGATION IN PATIENTS INTENDED FOR PERCUTANEOUS CORONARY INTERVENTION: PRELIMINARY RESULTS OF THE PLATELET-PCI STUDY Alan Fong Yean Yip^{1,2}, Tiong LL2, Ong TK1, Lai LYH2, Chang BC1, Wee CC2, Tiong WN2, Nor Hanim MA1, Chua SK1, Tan SK1, Cham YL1, Khiew NZ1, Lee TC3, Sim KH1 <i>1.Department of Cardiology, Sarawak General Hospital, Kuching, Sarawak, Malaysia 2.Clinical Research Centre, Sarawak General Hospital, Kuching, Sarawak, Malaysia 3.Infokinetics Sdn Bhd, Penang, Malaysia</i></p> <p>Background: A double antiplatelet loading strategy (DALs) is recommended in patients undergoing percutaneous coronary intervention (PCI), to reduce adverse cardiovascular (CV) outcomes associated with platelet resistance (PR) to a single antiplatelet agent. Aspirin and Clopidogrel combination of DALs is common in Malaysia; but each is associated with a significant bleeding risk.</p> <p>Objective: As the pattern of PR to DALs in a multi-ethnic Malaysian population undergoing PCI has not been conclusively established, we sought to profile these using biomarkers of platelet activation and aggregation, and assess their relationship with clinical outcomes.</p> <p>Methodology: 135 from 184 consecutive patients intended for PCI were enrolled between 18/10-17/12/10. Venous blood was drawn on the day of admission for P-Selectin levels and PR using impedance aggregometry (Multiplate). Peri-procedural, in-hospital, and bleeding outcomes were measured. All patients were on Aspirin 75mg ? 2 days. Patients on Clopidogrel were divided into 4 groups. Group 1- Clopidogrel 75mg ?3 days (n=13); Group 2- Clopidogrel 75mg ?4 days (n=59); Group 3- Clopidogrel 300mg single dose (n=8); Group 4- no Clopidogrel (n=55). PR to Clopidogrel and Aspirin were compared between the groups (AUC*min).</p> <p>Results: Mean levels of PR to Clopidogrel in Groups 1-3 were 337.08±137.94, 285.63±148.67 and 373.25±230.17. Differences of PR to Clopidogrel were non significant: Groups 1 vs 2, p=0.26; Groups and Groups 2 vs 3, p=0.15. Mean levels of PR to Aspirin in Groups 1 to 4 were 127.38±89.55, 101.03±88.54, 144.38±173.26 and 145.65±149.26 (p=NS between 4 groups). P-Selectin levels in Groups 1 to 4 were 31.93±11.754, 32.85±11.802, 37.11±8.353, 36.61±10.700 (p=NS between the four groups). Overall, we noted that 3% were resistant to Aspirin (AUC*min >500), and 12.5% resistant to Clopidogrel (AUC*min >450). There were no adverse peri-procedural and in-hospital outcomes and noted only minimal post-procedural bleeding (0.74%).</p> <p>Conclusion: There were no significant differences in PR to Clopidogrel and Aspirin in a cohort of patients with similar levels of platelet activation. Platelet resistance to antiplatelets was generally low, but resistance to Clopidogrel was more common than to Aspirin. This could reduce the need for routine DALs in patients undergoing PCI.</p>	<p>O47</p> <p>THE EFFECT OF A NOVEL FLUOROSCOPIC IMAGE PROCESSING TECHNIQUE :STENTBOOST GUIDING THE POSTDILATATION Huang Dang-sheng, Yang Fei-fei, Shen dong, et al. <i>Department of Cardiology, the first affiliated Of General Hospital of PLA, Beijing, China</i></p> <p>Background: Adjunctive balloon postdilatation following stent deployment is often used to optimize stent expansion. However, the benefit of this strategy with modern stent delivery systems is not known</p> <p>Objective: To test the hypothesis that the use of motion-corrected fluoroscopic images (StentBoost) results in enhanced coronary stent visualization and guiding the stent postdilatation.</p> <p>Methodology: We analyzed measurements of 335 coronary stents implanted in 184 patients (75.54% were men) from March 2009 to July 2010 using StentBoost.</p> <p>Results: After the postdilatation, stent diameter were larger than that before the postdilatation, which the change of minimum stent diameter was 72.72±0.35mm vs 2.42±0.39mm?, maximum stent diameter 73.26±0.37mm vs 3.09±0.38mm?, average change of stent diameter was 72.99±0.36mm vs 2.76±0.43mm? respectively. Stent eccentricity index was smaller (0.17±0.04 vs 0.22±0.06). (P<0.05.)</p> <p>Conclusion: There is important clinical practical value that application of StentBoost in evaluating stent implantation and guiding high-pressure balloon post-inflation.</p>

This article was accepted: 29 October 2011

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<p>O48</p> <p>EARLY RESULT OF PATIENTS WITH LEFT MAIN DISEASE UNDERWENT PERCUTANEOUS CORONARY INTERVENTION OF LEFT MAIN TRUNK IN A NEWLY ESTABLISHED HEART CENTRE Lim Chiao-Wen, Chong Yoon-Sin, Abd Kahar Abd Gaphar <i>Department of Cardiology, Serdang Hospital, MALAYSIA</i></p> <p>Background: Left Main disease is a common finding in patient with coronary artery disease during diagnostic coronary angiography. Coronary Artery Bypass Grafts (CABG) Surgery is the treatment of choice in most of our patients. They are increasing number of patients with high surgical risk, not suitable for surgery, multiple co-morbid and refusal of surgery as mode of treatment. Those patients were offered percutaneous coronary intervention (PCI) of left main trunk (LMT).</p> <p>Objective: The aim of this study was to determine the immediate and short term safety and adverse event of patients with left main disease underwent PCI to LMT in a newly established heart center.</p> <p>Methodology: Retrospective study to all patients underwent elective PCI to LMT in our heart centre from January 2010 till December 2010. We assessed the demographic, lesion type, PCI stenting technique, complication, immediate and short term major adverse cardiac event.</p> <p>Results: 24 patients underwent PCI to LMS, the mean age was 50.1 year-old, 62.5% are male, 50% has diabetes mellitus, mean LVEF was 49%. Left main lesions are 17% ostia lesions, 8% mid lesions and 75% distal lesions. IVUS was used in 100% of cases and FFR was used in 16% of cases. Drug eluting stent was implanted in 96% of cases and bare metal stent in 4% of cases. There is 100% procedure success rate with no immediate complication. There was no reposed case of acute stent thrombosis, death and MI during the clinical follow up.</p> <p>Conclusion: Percutaneous coronary intervention of left main disease provides an alternative method of treatment for patients who are not suitable for CABG surgery. In our small study cohort, PCI to LMS demonstrate an excellence immediate and short term result in the treatment of left main disease. However further long terms follow up with larger sample size is needed to determine its long term clinical benefit and outcome.</p>	<p>O49</p> <p>IJN REGISTRY OF CHRONIC TOTAL OCCLUSION IN YEAR 2009: PROCEDURAL AND 1-YEAR OUTCOME Retna Dewayani, Rosli Mohd Ali <i>Department of Cardiology, IJN</i></p> <p>Background: Chronic total occlusion (CTO) accounts for 20 – 40% of patients with CAD. Percutaneous coronary intervention (PCI) of CTO is one of the major challenges in interventional cardiology. The primary success rate is relatively low. Moreover, the overall procedure and fluoroscopy times are longer and equipment use higher than with PCI of non-occluded vessels. Previous studies have demonstrated the importance of revascularization of CTOs, with improvement of angina symptom, increase long-term survival, improve left ventricular function, reduce predisposition to arrhythmic events and improve tolerance of contralateral coronary occlusion. However, limited data on acute and follow-up result in patients treated with PCI on CTO in our center are available.</p> <p>Objective: The aim of our study was to investigate procedural success, in-hospital, and 1-year outcomes after PCI for CTO over the year 2009.</p> <p>Methods: We evaluated the in-hospital and 1-year clinical outcome of 143 patients (148 procedures) who underwent percutaneous coronary intervention (PCI) for CTO.</p> <p>Results: Most of patients are male (134, 90.5%) with comorbidities such as diabetes (54.1%), hypertension (83.8%) and dyslipidemia (85.8%). Clinically present as stable angina (92%), silent ischemia (6%) and ACS (2%). Multivessel disease accounts for 56% of cases in which multivessel angioplasty were done in 25% of all cases. Single wire strategy was the most frequently attempted technique (75%) then parallel wire (20%) and retrograde wire (5%) subsequently, with relatively long procedural time (mean 92.92 minutes). Hard, spring and tapered wire was the most frequent wire used to cross CTO (43%) and microcatheter was used in 44% of cases. Utilizing these strategies, moderate procedural success rate (69.3%) was accomplished. Independent predictor of procedural failure was: CTO longer than 20 mm. In-hospital adverse event rates were zero (death, infarction and stroke). Potential disadvantages of these procedures, including a large amount of contrast volume (median 250 ml) and long fluoroscopy time (median 30 minutes). Although coronary perforations were documented by angiography (5.4%), clinically significant perforation resulting in cardiac tamponade was only 1 case (0.7%). 1-year adverse event rates were low (death 0%, non Q wave 1.4%, Q wave MI 0.7% and TLR 1.4%).</p> <p>Conclusions: IJN CTO registry provides for the first time the trends of CTO PCI treatment in IJN. The result in term of angiographic success was lower from Japanese and European series. Advanced techniques were not commonly used. CTO lesions can be safely and successfully treated.</p>
<p>O50</p> <p>A NOVEL COSTING MODEL ON MEDICAL MANAGEMENT OF ST ELEVATION MYOCARDIAL INFARCTION (STEMI) IN PUBLIC TERTIARY REFERRAL CARDIOLOGY CENTRE. Then PHH1, Lu LTC1, Fong AYY2,3, Sim KH2,3 <i>1Swinburne University of Technology, Sarawak 2Department of Cardiology, 3Clinical Research Centre, Sarawak General Hospital</i></p> <p>Background: ST-elevation myocardial infarction (STEMI) is common in Malaysia, affecting a younger population compared to developed countries from the GRACE Registry, and can lead to significant morbidity and mortality. Treatment outcomes for STEMI are most favourable when patients are treated at tertiary referral cardiology centres (TRCC), and this mirrored by the significant cost in the provision of these treatments. The cost for providing medical treatment for STEMI in Malaysia has not yet been established.</p> <p>Objective: To ascertain the cost for medical management of STEMI in a public TRCC.</p> <p>Methodology: A novel costing model was applied to derive this cost, using a combination of activity-based costing (ABC), top-down and bottom-up micro-costing. 28 patients admitted with STEMI between 1/6/2010-23/9/2010, with complete data sets, were enrolled into this study. Costs were obtained from 2 different perspectives for comparison purposes: (1) Patient's cost (PC; consisting of actual cost of patient's pharmacotherapy, consumables, blood and other imaging diagnostics, meals, salaries of hospital staff), and (2) Patient's billed charges (PB; consisting of the payment the patient has to make at discharge at the public TRCC). Bottom-up costing was given priority when retrieving monetary values, top-down micro-costing was applied when bottom-up micro-costing was unable to retrieve the figures.</p> <p>Results: There was a significant difference in the PC compared to PB. The mean figure for PB was RM1,223.86±530.31, while that for PC was RM21,438.61±17,817.04. Unsurprisingly, a substantial amount from the PC was attributed to the cost for treating complications associated with STEMI and hospital staff salaries.</p> <p>Conclusion: A combination of ABC, top-down and bottom-up micro-costing provides a novel model for costing STEMI in a developing country with a two-tier healthcare system. The actual cost for medical management of STEMI remains high, but lower than many developed countries, with comparable in-hospital clinical outcomes.</p>	<p>O51</p> <p>THE VALUE OF SHOCK INDEX AND ALBUMIN/INR RATIO IN PROGNOSTICATING SURVIVAL OF PATIENTS WITH SEVERE SEPSIS AND SEPTIC SHOCK Dr Shah Jahan1, Dr Alexander Loch2, Dr Idzwan Mohd Zakaria1, Prof Dr Wan Azman Wan Ahmad2 <i>1Department of Emergency Medicine, University Malaya Medical Center, 2Department of Cardiology, University Malaya Medical Center</i></p> <p>Background: The importance of early sepsis recognition and its effect on survival has long been recognized. Reliable indicators to prognosticate the survival of such patients are lacking. Shock index (SI) (defined as the quotient of heart rate divided by systolic blood pressure) reflects the cardiovascular system's compensatory response, however has not been studied yet as a prognostic marker in sepsis. Both reduced albumin levels and increased international normalized ratios (INR) are common in severely septic patients reflecting multiorgan involvement and a novel index comprised of both values is hypothesized to predict outcome.</p> <p>Objectives: To determine the prognostic value of shock index (SI) at arrival and 2 hours post resuscitation for the short-term outcome of patients with severe sepsis. To assess the prognostic value of albumin to INR ratio (?Alb/INR) as a marker of survival in such patients.</p> <p>Methodology: This is a retrospective observational study conducted at University Malaya Medical Centre between June 2009 and June 2010. Patients with severe sepsis (defined as the presence of dysfunction of one or more organs, or the presence of tissue hypoperfusion with sepsis) and septic shock (defined as persistent hypotension despite adequate fluid resuscitation with sepsis) were included. Shock index at presentation (SI-1) and after 2 hours of resuscitation (SI-2) combined with multiple clinical parameters were recorded. Significant parameters ($p < 0.05$) were analyzed for sensitivity, specificity, cut-off point and AUC value. The primary outcome was defined as either death or survival to discharge.</p> <p>Results: This study included 50 patients comprising of 19 (38%) males and 31 (62%) females. The median age was 54.5 (-/+17-84) years. The number of patients with severe sepsis and septic shock were 31 (62%), and 19 (38%) respectively. There were a total of 23 (46%) survivors and 27 (54%) deaths. SI-2 best prognosticates death with a sensitivity of 80.77%, specificity of 79.17%, AUC value of 0.8894 [CI95 0.8052, 0.9736] at a cut-off point of SI-2 of >1.0. The best predictor for survival to discharge was ?Alb/INR ratio with a sensitivity of 83.33%, a specificity of 80.77%, AUC value of 0.8758 [CI95 0.7819, 0.9697] at a cut-off point of >4.56.</p> <p>Conclusion:</p> <ol style="list-style-type: none"> The shock index calculated after 2 hours of resuscitation (SI-2) is a good and reliable predictor for death in severe sepsis and septic shock patients. The hypothesized (?Alb/INR) ratio ("survival index") is a reliable tool in predicting survival to discharge for severely ill sepsis patients.

This article was accepted: 29 October 2011

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<p>O52</p> <p>EDUCATION PROGRAM FOR PATIENTS UNDER WARFATIN THERAPY HAS CLINICAL BENEFITS IN KEEPING PT-INR BETWEEN THERAPEUTIC RANGE Kazunori Kasiwase <i>Osaka Police Hospital, Japan Akio Hirata, Osaka Police Hospital, Japan Mayu Nishio, Osaka Police Hospital, Japan Mitsutoshi Asai, Osaka Police Hospital, Japan Koushi Matsuo, Osaka Police Hospital, Japan Yasunori Ueda, Osaka Police Hospital, Japan Kazuhisa Kodama, Osaka Police Hospital, Japan</i></p> <p>Background: We provide our patients under warfarin therapy with the education program in which they receive education for dose regimen, efficacy, dietary instructions by medical team composed of doctors, nurses, pharmacists and nutritionists.</p> <p>Objectives: To examine the effectiveness of this education program in terms of PT-INR.</p> <p>Methodology: The study population consisted of 82 patients who underwent our Warfarin education program between January 2005 and December 2005 in our institution. 60 patients with atrial fibrillation, 7 with coronary heart disease, 7 with valvular surgery and 8 with other diseases were prescribed warfarin. We assessed Deviation of PT-INR (maximum PT-INR minus minimum PT-INR), and Percentage of achievement the period that patients could keep PT-INR between 1.6 and 2.6 (the range recommended in Japan) for a year before and after the education program.</p> <p>Results: Deviation of PT-INR after the program was smaller than that of before (0.91±0.60 vs. 1.13±0.74, p<0.05). Percentage of achievement after the program was higher than that of before (0.51±0.36 vs. 0.32±0.32, p<0.01). There were no major bleeding, and stroke.</p> <p>Conclusion: Education program has clinical benefits in keeping PT-INR between therapeutic range in patients under warfarin therapy.</p>	<p>O53</p> <p>FACTORS ASSOCIATED WITH SUCCESSFUL SMOKING CESSATION, IJN EXPERIENCE CH Tee, Norehan A, Marshita A, SG Khoo, Aizai A <i>Institut Jantung Negara</i></p> <p>Backgrounds : Cigarette smoking accounts for a massive 25% of all deaths in Malaysia. Each year, nearly 2 in 5 cigarette smokers try to quit, but not many succeed. Various studies had identified factors associated with successful quitting. In this study, we would like to determine the success rate of quitting by using Varenicline and the factors associated with successful quitting for our local population.</p> <p>Objectives: In this study we identified the success rate of quit smoking by using Varenicline and also the factors associated with successful quitting so that cessation programs could be tailored to those at highest risk for relapse.</p> <p>Methodology : This is a retrospective study from March 2009 to June 2010 involving 38 patients using multiple regression analysis to compare demographic, behavioral and environmental characteristics of the successful quitters and those who failed to quit after given Varenicline.</p> <p>Results : From this study, we managed to conclude that the quit smoking rate by using Varenicline for local population is 44.7% and successful quitters were more likely among those who married.</p> <p>Conclusions : Programs promoting smoking might benefit by involving family. However, studies need to be continued to further clarify the factors associated with successful smoking cessation as the sample of this study is small.</p>
<p>O54</p> <p>ATTITUDE TOWARDS CADAVERIC ORGAN DONATION AMONG HEALTH CARE WORKERS IN MALAYSIA Dr Wee Tong Ming¹, Dr Alexander Loch¹, 2, Dr Idzwan Mohd Zakaria¹, Prof Dr Wan Azman Wan Ahmad² <i>¹Department of Emergency Medicine, University Malaya Medical Center ²Department of Cardiology, University Malaya Medical Center</i></p> <p>Background : The first heart transplant in Malaysia was carried out in 1997. Progress since then has been slow, allegedly due to the lack of cadaveric donors. A study recently conducted by us demonstrated that the willingness of Malaysians to donate their organs is not much different from other populations. We hypothesize that the lack of cadaveric organ donation in Malaysia is largely due to the lack of infrastructure to support the donation process and passivity among health care workers to approach potential donors.</p> <p>Objectives : To examine the knowledge and attitudes of health care professionals towards cadaveric organ donation.</p> <p>Methodology: The study was conducted at University Malaya Medical centre (UMMC) and General Hospital Kuala Lumpur. Doctors and paramedics were recruited by convenient sampling and asked to answer a specifically designed questionnaire.</p> <p>Results: 462 questionnaires were completed. 29.6% of the doctors and 55.7% of the paramedics are not familiar with the concept of brain death. 82.3% of the health professionals did not know how to contact and activate the hospital's organ transplant coordinator when faced with a potential donor. 64% of the healthcare workers have never approached the families of brain dead patients regarding organ donation despite being exposed to such patients frequently. 48% of health care workers are willing to donate their own organs (with some ethnic differences). 66% prefer to maintain the opt-in policy practised in this country.</p> <p>Conclusion: There is a lack of knowledge among health care professionals with regards to identifying suitable donors and to activating transplant teams. There is also an attitude of non-proactivity in approaching families of brain dead patients. The fact that 82% of health care workers of the two biggest Malaysian hospitals are ignorant of transplant coordinators and mechanisms to activate them clearly reflects lack of awareness and exposure and might explain the low cadaveric transplantation rate in this country.</p> <p>In our opinion, the key to a successful cadaveric donation programme is to improve doctors' knowledge and awareness of cadaveric organ donation. In particular, knowledge on brain death criteria, on techniques how to approach grieving families sensitively and to activate transplant teams needs to be disseminated.</p>	<p>O55</p> <p>JOINT CARDIOLOGY AND OBSTETRIC CARE IN PREGNANT PATIENTS WITH CARDIAC SHUNTS Ismat Mohd Sulaiman, Wan Shaari WH, Abdul Ghapar AK, Yusoff MR</p> <p>Background: This study is a single center experience of the outcome of pregnancy in patients with cardiac shunts from 2007 – 2010. We hope to better understand the outcome of pregnancy in pregnant women with cardiac shunts, a valuable experience for risk assessment and therapeutic plan.</p> <p>Objective: This observational study was to look at the outcome of pregnancy in patients with cardiac shunts.</p> <p>Methodology: Joint Cardiology and maternity records were reviewed from our institution for the period 2007 - 2010. All patients with Atrial Septal Defect (ASD), Ventricular Septal Defect (VSD) and Patent Ductus Arteriosus (PDA) were included.</p> <p>Results: There were 12 patients in the cohort. 9 (75%) patients had ASD, one of which also has PDA. 3 (25%) patients had VSD. Mean age was 26 (range 21 – 30 years old).</p> <p>Mean ejection fraction was 67% (SD +/- 9.0). 75% were in NYHA class I at presentation. 3 (25%) were in NYHA Class II, 2 of which also presented with heart failure. 7 (58%) patients had no change in NYHA status through out the pregnancy. One third (4 patients) had worsening NYHA status requiring additional diuretic therapy for stabilization only as outpatient. However 1 patient developed right heart failure on subsequent visit and was the only patient advised for termination of pregnancy (TOP) at 17 weeks of pregnancy.</p> <p>5 (42%) patients had spontaneous vaginal delivery, between 36 – 40 weeks of pregnancy, including 1 with twin pregnancy. 2 patients had assisted vaginal delivery, both for prolonged second stage of labour. 4 patients had caesarean section, all of which are elective cases, 2 non cardiac cause (maternal request and evidence of intra-uterine growth retardation), and the other 2 due to progressive dilatation of the right sided heart chambers with reduced right heart function.</p> <p>All mothers and babies were alive at the end of pregnancy (0% mortality). One baby had evidence of intra-uterine growth retardation (IUGR).</p> <p>Conclusion: Patients with cardiac shunts are safe to proceed with their pregnancy with low morbidity and mortality to the mother and the baby. Echo study should concentrate on right heart function. Most patients can be allowed normal vaginal delivery. Regular follow-up to reassess NYHA status and failure symptoms determines mode of delivery.</p>

This article was accepted: 29 October 2011

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<p>O56</p> <p>CARDIAC OUTPUT MEASUREMENT WITH TRANSTHORACIC ELECTRICAL BIOIMPEDANCE METHOD (PHYSIOFLOW) COMPARISON WITH THE SWAN-GANZ METHOD (CONTINUOUS CARDIAC OUTPUT OR BOLUS TECHNIQUE) IN POST CARDIAC SURGERY CRITICAL CARE Ronggo Prakoso*, Rita Z Ibrahim, Zuswa Y Samsu*, Maizul Anwar*, Anna U Rahayu <i>Department of Cardiology and Vascular Medicine, University of Indonesia *Post Cardiac Surgery Critical Care Unit National Cardiac Center Harapan Kita, Jakarta, Indonesia</i></p> <p>Background: PhysioFlow redefines noninvasive hemodynamic for a broad cross-section of patients. It is helpful for CHF patients, patients with drug-resistant hypertension, and patients with pacemakers. There is little information about this method in post cardiac surgery critical care patients.</p> <p>The purpose of this study was to evaluate the reliability of a transthoracic electrical bioimpedance method (PhysioFlow) for determination of cardiac output in Post Cardiac Surgery Critical Care patients comparison with the Swan-Ganz method.</p> <p>Method: The study was a prospective, conducted at National Cardiac Center Harapan Kita Hospital in Jakarta-Indonesia. CO measurements were made with pulmonary artery catheter placed for either intraoperative patient. Cardiac output determination by PA catheter was made by using both the continuous CO readout catheters and by the bolus injectate technique. Simultaneous CO measurements were made with a TBI monitor (PhysioFlow). Values were compared by use of Bland-Altman analysis</p> <p>Result: There were 50 patients enrolled in the study. The average age was 57 years (range 40-77 years) with a gender distribution of 46 male, female 4 subjects. Each patient have twice or three times measurement. Time between two measurement 5 until 6 hours. There are 128 measurements. All patient diagnosed coronary artery bypass surgery. The Bland-Altman plot is shown the intra class correlation between the PF CO and TD CO measurement was 0.57 (0.39-0.70) p; 0.038</p> <p>Conclusion: This study showed a Transthoracic electrical bioimpedance metode can reliable to determination CO in patient post cardiac surgery in critical care.</p>	<p>O57</p> <p>TRANSRADIAL CORONARY PROVOCATION TEST USING ACETYLCHOLINE ON THE LEFT CORONARY ARTERY: SINGLE CENTER EXPERIENCE. Dr Benjamin Leo Cheang Leng1, Dr Park Jae Hyoung2, Dr Kim Je Sang2, Dr Ahn Chul Min2, Dr Lim Do Sun2 <i>1 Hospital Sultanah Aminah Johor Bahru, Malaysia, 2 Korea University Medical Center, Anam, Seoul, Korea</i></p> <p>Background: In patients with chest pain but no significant stenosis on coronary angiogram, coronary artery provocation test should be performed to detect presence of spasm and alter management accordingly. Provocation testing is usually performed via femoral approach because of the potential need for a temporary pacemaker. Testing also takes up more time if both coronary vessels are tested. We routinely performed transradial coronary provocation test using acetylcholine only on the left coronary artery.</p> <p>Methods: The study population consists of 762 consecutive patients with chest pain and acetylcholine provocation test performed between February 2009 and June 2010 after initial coronary angiography revealed no significant lesions. Acetylcholine was injected in incremental doses of 25, 50 and 100µg into the left coronary artery. Coronary arteriography was performed after each dose of acetylcholine and patients were actively asked for symptoms of chest pain. Following arteriography after the last dose of acetylcholine was administered, 200µg of intracoronary nitroglycerin was given. Angiograms were also performed after nitroglycerin was administered to confirm the transient nature of the lesion. Positive results were defined as focal or diffuse transient luminal narrowing of >90% accompanied with typical chest pain and/or ST-T segment changes on the Electrocardiogram.</p> <p>Results: 272 (37.7%) patients had a positive test. 161(21.1%) were males and 111(14.6%) females. There were no major complications observed in all the cases. Minor complications occurred in 256 (33.6%) of patients and were transient heart block of any type 236 pts (31%), paroxysmal atrial fibrillation 14 pts (1.8%), premature ventricular complexes 3 pts (0.3%) and transient supraventricular tachycardia 2 pts (0.1%). None of the patients required a temporary pacemaker insertion or cardioversion.</p> <p>Conclusion: Our center's experience shows that routine transradial coronary provocation test can be performed safely and is practical even in a busy catheterisation laboratory setting. The detection rate of spasm remains high (37.7%) although we only tested the left coronary system. Further studies would be needed to evaluate proportion of patients who may have only right coronary artery spasm which we would not pick up in our study.</p>
<p>O58</p> <p>PREDICTORS AND IMPACTS OF ATRIAL FLUTTER AND FIBRILLATION ONE YEAR AFTER TRANSCATHETER CLOSURE OF ATRIAL SEPTAL DEFECTS AT TERTIARY CARDIAC CENTER IN THAILAND Chodchanok Vijarnsom MD*, Kritvikrom Durongpisitkul MD*, Prakuil Chantong MD*, Jarupim Soongswang MD*, Paweena Cheungsomprasong MD*, Duangmanee Laohaprasitiporn MD*, Apichart Nana MD*, Suruthai Kurasinikul MD** <i>*Division of Pediatric Cardiology, Department of Pediatrics, Faculty of Medicine Siriraj Hospital, Bangkok, THAILAND **Department of Pediatrics, Faculty of Medicine Siriraj Hospital, Bangkok, THAILAND</i></p> <p>Background: Atrial arrhythmia is a well known long term morbidity of atrial septal defects (ASD) despite surgical closure the defect. Transcatheter closure is challenging therapy to be able to decline medium term risk of atrial fibrillation and flutter (AFF) in preliminary reports.</p> <p>Objectives: To determine the prevalence, nature and potential risks of atrial arrhythmia associated with transcatheter closure of atrial septal defects (ASD) in Siriraj Hospital</p> <p>Designs: Single center, retrospective, comparative study.</p> <p>Setting: Tertiary cardiac center of Thailand.</p> <p>Patients and methods: Between February 1999 and February 2010, 621 patients underwent transcatheter closure of ASD. 353 patients had complete one - year follow up in our institute. We divided the patients into 3 groups by age: children (<18 year-old; n=99), adults (18 – 50 year-old; n=169) and elderly adults (age > 50 year-old; n= 85). Clinical database was reviewed. Main outcomes included the presence of AFF and supraventricular tachycardia (SVT) at one year after procedures. Potential predictors were scrutinized by risk analysis between case (AFF) and control.</p> <p>Results: Of 353 patients, there were 5 patients documented paroxysmal AF prior procedure. Ten patients (2.8%) presented with AFF at one year. The majority was elderly group (80%), 4 were known AFF cases. Important predisposing factors of late AFF following a procedure were older age (> 50 years) and prior diagnosis of AFF (OR = 13.8, 22.8, respectively). Whereas, device size, ratio of device and defect, gender, pulmonary pressure and residual shunt were not associated. Patients with late AFF were 16.9 times more likely to develop syncope (95% CI= 2.8-100). Other symptoms, palpitation, chest pain, migraine were not correlated. Of 5 patients who previously diagnosed AF, one middle age patient reported free of AFF during one year follow up. No SVT was reported in the study.</p> <p>Conclusion: Atrial arrhythmia in pediatrics underwent transcatheter closure of ASD is rare. Alternatively, it can be subsequently developed in adults associated with age above 50 years and previous AFF. However, transcatheter technique may be restored a sinus rhythm in case prior AFF with middle age.</p>	<p>O59</p> <p>BRADYARRHYTHMIA ONE YEAR FOLLOWING TRANSCATHETER CLOSURE OF ATRIAL SEPTAL DEFECTS AT TERTIARY CARDIAC CENTER IN THAILAND Chodchanok Vijarnsom MD*, Kritvikrom Durongpisitkul MD*, Prakuil Chantong MD*, Jarupim Soongswang MD*, Paweena Cheungsomprasong MD*, Duangmanee Laohaprasitiporn MD*, Apichart Nana MD*, Suruthai Kurasinikul MD** <i>*Division of Pediatric Cardiology, Department of Pediatrics, Faculty of Medicine Siriraj Hospital, Bangkok, Thailand ** Department of Pediatrics, Faculty of Medicine Siriraj Hospital, Bangkok, Thailand</i></p> <p>Background: Long standing volume overload of the right heart from atrial septal defects (ASD) may result in the conduction delay, prolonged atrial refractoriness, even when surgical repaired at the early life. There is a little published data on conduction disturbances after transcatheter closure of ASD.</p> <p>Objectives: To assess the prevalence, nature and potential risks of bradyarrhythmia at 1 year after transcatheter closure of atrial septal defects (ASD) in Siriraj Hospital.</p> <p>Designs: Single center, retrospective, comparative study.</p> <p>Setting: Tertiary cardiac center of Thailand.</p> <p>Patients and methods: Between February 1999 and February 2010, 621 patients underwent transcatheter closure of ASD. 353 patients who completed one - year follow up in our institute were eligible. We divided the patients into 3 groups by age: children (<18 year-old; n=99), adults (18 – 50 year-old; n=169) and elderly adults (age > 50 year-old; n= 85). Clinical database was reviewed. The interested outcomes were the presence of atrioventricular block (AVB) and junctional rhythm at one year after procedure. Potential factors were scrutinized by risk analysis between case and control.</p> <p>Results: Mean ASD diameter in the study was 22.1±7.3mm. Device:ASD diameter was 1.25±0.33. Of 621 patients, there were six (0.96%) documented bradyarrhythmia at 24 hours post procedure. All were reversible spontaneously. At one year, of 353 patients, de novo bradyarrhythmia were presented in 3 adults (0.84%), 2 patients documented first degree AVB, one revealed a junctional rhythm rate 50/min. There was no cardiac events associated, neither chest discomfort nor palpitation, syncope. One patient with junctional rhythm reported migraine (RR= 9.2, 95% CI= 0.8-100). Elderly, pulmonary arterial systolic pressure> 40 mmHg, the ratio of device and defect >1.33 and residual shunt were not statistically shown as a predictor. However, the large size of device (> 30 mm.) had high possibility to be a predisposing factor of late bradyarrhythmia (P value = 0.015).</p> <p>Conclusion : Transcatheter closure of ASD is a small risk of AV conduction disturbances. Nonetheless, long term follow up for late bradyarrhythmia will be necessary in particular using a large device.</p>

This article was accepted: 29 October 2011

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<p>O60</p> <p>CPRPNARY FLOW IN NEONATES WITH IMPAIRED INTRAUTERINE GROWTH</p> <p>Aburawi EH, MD, FACC, PhD1,3, Malcus P, MD, PhD2, Thuring A2, Fellman V, MD, PhD1, Pesonen E, MD, PhD1 <i>1Departments of Pediatrics, Division of Pediatric Cardiology and 2Department of Obstetrics and Gynaecology Lund University and Skåne University Hospital, Lund, Sweden. 3Department of Pediatrics, Faculty of Medicine and Health Sciences, United Arab Emirates University, Al-Ain, UAE</i></p> <p>Background: Subclinical myocardial injury has been reported in newborns with fetal weight below 2 standard deviations for the gestational age.</p> <p>Objectives: The aim was to investigate whether impaired intrauterine growth affects cardiac function and coronary flow (CF).</p> <p>Methodology: Seventeen newborns with impaired intrauterine growth and fifteen age-matched healthy controls were enrolled in the study. Fetal growth was assessed by fetometry. Doppler velocimetry of the umbilical artery and maternal uterine arteries blood flow was assessed. Cardiac function and left anterior descending artery (LAD) coronary flow were measured by transthoracic Doppler echocardiography at one week of age.</p> <p>Results: Their mean growth deviation from normal was -2.5 ± 0.2. The left ventricular mass and left ventricular shortening fraction was similar in patients and controls. The mean LAD diameter was 0.99 ± 0.1 mm in patients and 0.8 ± 0.1 in controls, $p=0.002$. LAD flow velocity time integral (VTI)/min correlated with left ventricular mass ($R = 0.46$, $p=0.0001$) and with mitral peak E-wave velocity ($R = 0.74$, $p<0.01$). Impaired intrauterine growth was associated with increased peak flow velocity in diastole 34.5 ± 4 cm/s and 19 ± 6 cm/s in controls, $p = 0.0001$ as well as increased CF 37 ± 7.3 ml/min; in controls 8.2 ± 3.0 ml/min, $p = 0.001$.</p> <p>Conclusion: Coronary flow is significantly increased in neonates with impaired intrauterine growth. However, their LV mass and systolic and diastolic functions remain normal. The clinical significance of the increase of CF is unclear but it might lead to a decreased coronary flow reserve.</p>	<p>O61</p> <p>CARDIOPULMONARY EXERCISE TESTING IN ADULTS AFTER REPAIR OF TETRALOGY OF FALLOT</p> <p>Jasvinder Kaur, Geetha Kandavelloo, Mazeni Alwi, Hasni Samion, Haifa Abdul Latif, Khairul Faezah, Choo Kok Kuan, Thavarasa N. <i>Department of Paediatric Cardiology, Institute Jantung Negara, Kuala Lumpur, Malaysia.</i></p> <p>Background: Tetralogy of Fallot is the most common cyanotic congenital heart disease with an incidence of 0.5 per 1000 live births. Adult survivors with tetralogy of Fallot (TOF) constitute a growing population with congenital heart disease. Therefore, adults with total correction of tetralogy of Fallot (TOF) may have impaired exercise capacity associated with impaired right heart function and pulmonary regurgitation. Many of these patients maybe asymptomatic. New York Heart Association classification is just a subjective assessment of their quality of life. Cardiopulmonary exercise testing instead provides assessment of the integrative exercise responses involving the pulmonary, haematopoietic, neuropsychological and skeletal systems.</p> <p>Objectives: The ventilatory responses to exercise were studied in a group of patients post repair of tetralogy of Fallot to assess relations between ventilation, exercise capacity and right ventricular dysfunction. We also recorded their post-operative complications such as pulmonary regurgitation, residual or recurrent right ventricular outflow tract obstruction, right ventricular dilatation, reoperation and persistent atrial or ventricular arrhythmias.</p> <p>Methodology: 59 patients were studied retrospectively between 1983 and 2010, and compared with 31 healthy controls. All were in New York Heart Association class 1.90 % of the patients had free flow pulmonary regurgitation. Subsequently, thirteen patients needed pulmonary valve replacement for severe pulmonary regurgitation. QRS duration was measured from electrocardiogram. The presence of right ventricular dilatation and significant free flow pulmonary regurgitation was recorded on transthoracic echocardiography. Cardiopulmonary exercise testing was performed with a treadmill using STEEP protocol. V02 max, breathing reserve and respiratory quotient was recorded.</p> <p>Results: 26 patients were males; the mean age was 23 ± 9 years. The QRS duration was 142 ± 25 ms, and did not precipitate arrhythmias. The mean V02 max was reduced at 20.3 ± 6.3 ml/kg/min, compared to the controls. All patients had a good heart rate and blood pressure response. The mean respiratory exchange ratio was 0.81. However, the breathing reserve was increased in the Fallot group (64.2). There was statistical significance between the Fallot group and the normal controls for body mass index, V02 max, resting expiratory ratio, breathing reserve and QRS duration with a p value of < 0.0001. There was no difference in the V02 max or ventilator response to exercise between the group of patients with no measurable pulmonary regurgitation and the rest of the patients. Similarly, there was no correlation between cardiothoracic ratio and either exercise performance or ventilator response to exercise.</p> <p>Conclusions: Cardiopulmonary exercise testing has become an important tool to evaluate exercise capacity and predict outcome in patients with heart failure and other cardiac conditions. Our study shows that the exercise capacity in adults after repair of tetralogy of Fallot is significantly reduced. We have also linked these parameters with the associated echocardiographic features and electrocardiogram characteristics. These findings will clearly influence the timing for early intervention and pulmonary valve implantation.</p>
<p>O62</p> <p>ABNORMAL VENTILATORY RESPONSE TO EXERCISE IN ADULTS WITH CONGENITAL HEART DISEASE RELATES TO PULMONARY HYPERTENSION AND PREDICTS QUALITY OF LIFE</p> <p>Jasvinder Kaur, Geetha Kandavelloo, Mazeni Alwi, Hasni Samion, Haifa Abdul Latif, Choo Kok Kuan, Khairul Faezah, Thavarasa N. <i>Department of Paediatric Cardiology, National Heart Institute, Kuala Lumpur, Malaysia.</i></p> <p>Background: Adults with congenital heart disease constitute a growing population that require life long tertiary care. 5 - 10 % of them develop pulmonary hypertension, owing to increased shear stress and circumferential stretch induced by increased pulmonary blood flow, leading to endothelial dysfunction and progressive vascular remodelling, in cardiac defects with left to right shunting. These patients have a higher morbidity over medium and long term compared with healthy individuals of similar demographic characteristics. Therefore, development of risk stratification methods would permit resources to be directed to these group of patients who are at greatest risk. Cardiopulmonary exercise testing (CPET) provides assessment of the integrative exercise responses involving the pulmonary, haematopoietic, neuropsychological and skeletal system. It is an important step in pulmonary arterial hypertension staging and subsequent clinical follow up.</p> <p>Objectives: The aim of our study was to evaluate objective exercise capacity in a cohort of patients with adult congenital heart disease who had pulmonary hypertension, clarify the correlates of exercise capacity in these patients and to investigate whether the degree of objective exercise intolerance has prognostic implications.</p> <p>Methods: All cardiopulmonary tests done at the National Heart Institute in adults with atrial septal defect (ASD), ventricular septal defect (VSD) and patent ductus arteriosus (PDA) with pulmonary hypertension between May 2005 and June 2010 were analysed retrospectively. CPET was performed on a treadmill using the STEEP protocol. Ventilation, oxygen uptake and carbon dioxide production were measured. The presence of pulmonary hypertension was recorded on the basis of doppler echocardiography and/or cardiac catheterization data according to current guidelines. New York Heart Association (NYHA) functional class was determined by the patients' self-reported symptoms before exercise. Deterioration in functional class was recorded.</p> <p>Results: Data were obtained from 60 patients with pulmonary hypertension. The underlying cardiac lesions were ASD in 39 patients, VSD in 10 and PDA in 11 respectively. Their mean age was 33 ± 14 years. They were compared with 31 healthy matched controls. 65.9 % of them were in functional class I and 34.1 % in class II. Cyanosis was present in 10 %. The mean V02 max was 13.6 ± 4.2 ml/kg/min in patients with ASD, 17.3 ± 3.5 in VSD and 14.1 ± 3.5 ml/kg/min in patients with PDA, compared to the healthy controls that had a mean V02 max of 28.6 ± 7.4 ml/kg/min. The significant correlates of V02 max were NYHA class, heart rate reserve, peak systolic blood pressure, peak heart rate and respiratory exchange ratio. V02 max was significantly different amongst the cardiac defects for patients in NYHA class I. Cyanotic and non-cyanotic patients had an RER < 1.0. 15 patients experienced deterioration.</p> <p>Conclusion: Extensive comprehension of pulmonary hypertension requires assessment of detailed parameters. CPET provides a holistic approach for functional class evaluation of these patients. Our study demonstrated that patients with pulmonary hypertension and cyanosis have depressed exercise capacity. Therefore, strong efforts are needed to promote the use of CPET in clinical and research setting.</p>	<p>O63</p> <p>UNIQUE FEATURES OF NON-COMPACTION OF THE VENTRICULAR MYOCARDIUM IN CHILDREN</p> <p>Sulafa Khalid M Ali <i>Sudan Heart Centre</i></p> <p>Background: Non-compaction of the ventricular myocardium (NCVM) is an under-diagnosed cardiomyopathy.</p> <p>Objectives: To describe the clinical and echocardiographic features of NCVM in Arab and African patients.</p> <p>Methods: Patients diagnosed with NCVM at the King Abdulaziz Cardiac Centre, Riyadh, KSA from January 2000 to July 2004 and at the Sudan Heart Centre from August 2004 to July 2007 were included</p> <p>Results: Fifty-two patients with NCVM were identified (22 per 10000 echocardiograms). Patients were divided into three groups, namely, group 1: isolated NCVM (21 patients), group 2: NCVM associated with congenital heart disease (CHD) (26 patients), and group 3: NCVM associated with mitral regurgitation (MR) (seven patients). Group 1 included 14 females and four males. Five patients (27%) had a positive family history with a lethal outcome in five other siblings; 14 patients (76%) presented with myocardial dysfunction and two had left ventricle thrombus. Group 2 included CHD; the most common pathologies were ventricular septal defects (VSD), pulmonary and tricuspid atresia and hypoplastic left heart syndrome. Sixteen patients (61%) had myocardial dysfunction, seven had surgical repair/palliation, and four (80%) developed serious post-operative complications. Group 3 included seven patients with MR associated with deformity of the anterior mitral leaflet and malcoaptation. Myocardial function was preserved in all patients with this pathology. In four patients of the whole cohort there was clinical as well as echocardiographic improvement. In two patients, left ventricular hypertrophy was noted. There were significantly more females in the group with isolated NCVM than in the group with associated CHD ($p = 0.03$, odds ratio = 4.2, 95% CI = 0.529-716.1).</p> <p>Conclusion: We presented the largest series of NCVM in our area, and found it to be not as rare as was thought, with females being more affected. Spontaneous improvement and left ventricular hypertrophy were unique features, and mitral valve deformity leading to MR was an established association.</p>

This article was accepted: 29 October 2011

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<p>P1</p> <p>A RETROSPECTIVE STUDY OF PREVALENCE OF ATRIAL FIBRILLATION/FLUTTER IN PATIENTS ADMITTED WITH STROKE K. H. Chee, Y. K. Teh <i>Cardiology Unit, Department of Medicine, University of Malaya</i></p> <p>Introduction: Atrial fibrillation (AF) is an important and independent risk factor for stroke. Compared with the general population, AF increased the risk of stroke in both men (relative risk 2.4) and women (relative risk 3.0). In a previous study performed by Dulli et al (2003) among 1061 patients admitted with ischemic stroke, 20.2% was found to have atrial fibrillation. In addition to that, bedridden state was more common with stroke associated with atrial fibrillation compared to stroke patients without atrial fibrillation.</p> <p>Objective: To study the prevalence of atrial fibrillation/flutter among patients admitted with stroke.</p> <p>Methodology: We conducted a retrospective study of patients admitted to University of Malaya Medical Centre (UMMC) with the diagnosis of stroke (ischemic and/or haemorrhagic). Patients' records were retrieved to look for the presence of atrial fibrillation/flutter. Related information including patients' demographic data, clinical features and treatment were collected. We then performed descriptive analysis using statistical package.</p> <p>Result: A total of 208 stroke patients were admitted to UMMC from 1st January 2009 to 31st June 2009. Twenty two (10.6%) patients were found to have atrial fibrillation or flutter (AF), of which there were 12 male patients (54.5%) and 10 female patients (45.5%). Associated medical conditions among these patients with AF were diabetes mellitus (40.9%), ischemic heart disease (27.3%) and hypertension (22.7%). Mean age of stroke patients with AF were 71.0±10.3 years old while patients without AF were younger (63.6±12.2 years old). Patients with AF suffered from ischemic stroke (19 patients, 86.4%) mainly, followed by mixed ischemic-haemorrhagic (2 patients, 9.1%). None of these AF patients suffered from haemorrhagic stroke. Outcome for the stroke patients with AF was also found to be less favourable compared with those without AF. Death among patients with AF and without AF were 27.3% (6 patients) and 9.7% (18 patients) respectively. The frequency of bedridden state was 37.5% in patients with AF, compared to 10.5% in patients without AF ($p < 0.0005$)</p> <p>Conclusion: The prevalence of AF among stroke patients in UMMC is 10.6%. Most the AF patients suffered from ischemic stroke. The AF patients have higher mortality rate. Bedridden state were more frequent among these patients, too.</p>	<p>P2</p> <p>THE EFFECT OF RIGHT VENTRICULAR OUTFLOW TRACT SEPTAL PACING VERSUS RIGHT VENTRICULAR APICAL PACING ON THE LEFT VENTRICULAR FUNCTION IN PATIENTS WITH SYMPTOMATIC BRADYCARDIA: A METAANALYSIS Gertie May B. Plameras, M.D., Maureen V. Valentin, M.D., Jo-Anne Ponce, M.D., Marcellus Francis Ramirez, M.D. <i>Section of Cardiology, University of Santo Tomas</i></p> <p>Background: Right ventricular apex (RVA) was the traditional site for ventricular lead placement. However, reports showed that this site had been associated with abnormal ventricular depolarization that can lead to adverse outcomes, particularly decrease in left ventricular (LV) function. An alternate site, the right ventricular outflow tract (RVOT) septum was observed to have a more physiologic pattern of depolarization resulting to better outcomes.</p> <p>Objective: The purpose of this metaanalysis is to compare the left ventricular ejection fraction (LVEF) in RVA and RVOT septal pacing among patients with symptomatic bradycardia with and without atrial fibrillation (AF).</p> <p>Methodology: We performed a systematic literature search of randomized controlled trials comparing the LVEF of patients who underwent RVOT septal pacing with RVA pacing (control). The mean ejection fraction was analyzed using Review Manager (REVMAN) Software Version 5.0 as continuous variables.</p> <p>Results: A total of 6 randomized, controlled trials were included in the final analysis. Two sets of analysis were done, one group composed of 3 studies involving patients with symptomatic bradycardia without atrial fibrillation (AF) and the other group composed of 3 studies with symptomatic bradycardia and AF. The first group included a total of 221 patients who underwent permanent pacemaker implantation (PPI). There was a significantly higher LVEF after 1-7 years of follow-up in the RVOT pacing group [mean difference (95% CI) 2.12 (0.04, 4.32), $p=0.05$]. The second group included a total of 136 patients with symptomatic bradycardia and AF who underwent PPI. There was also a significant difference in the LVEF after 3-24 months of follow up favoring the RVOT septal pacing. [mean difference (95% CI) 4.40 (0.79-8.0), $p=0.02$] When all the 6 studies were analyzed, result showed that there was a significant difference in the LVEF favoring RVOT septal groups [mean difference (95% CI) 3.41 (0.76, 6.06), $p=0.01$]. However, there was no significant difference between the RVOT septal and RVA groups in terms of the incidence of heart failure.</p> <p>Conclusion: RVOT septal pacing resulted in a significantly higher LVEF compared to RVA pacing in patients with symptomatic bradycardia with and without AF.</p>
<p>P3</p> <p>CIRCADIAN ARRHYTHMIAS VARIATION IN PATIENTS WITH ISCHAEMIC CARDIOMYOPATHY OF EJECTION FRACTION < 35% Khiew NZ, Tan SK, Chua SK, Cham YL, Yew KL, N Hanim MA, S Asri, Chang BC, Alan FYY, Ong TK, Sim KH. <i>Sarawak General Hospital Heart Centre.</i></p> <p>Background: Patients with poor left ventricular ejection fraction (PLVEF, defined LVEF<35%) is known to be associated with a diurnal surge of plasma catecholamine level. Elevated levels of plasma catecholamines are associated with supra-ventricular (SVA) and ventricular arrhythmias (VA). The relationship between PLVEF with SVA and VA has not yet been established.</p> <p>Objective: To compare the quarterly frequency of cardiac arrhythmias, characterised by SVA and VA, in patients with PLVEF with patients with preserved LVEF (LVEF>55%)</p> <p>Methodology: Records of 1288 patients underwent both transthoracic echocardiography (TTE) and 24-hour Holter ECG recording (24HER) were obtained. Patients were divided into two groups, age and gender matched. Group A were patients with PLVEF (n=80) and Group B with preserved LVEF (n=68). 24HER were assessed for SVA and VA, and circadian patterns were assessed by dividing a 24-hour period into quarterly intervals. Results from the 24HER were compared between both groups.</p> <p>Results: 80 patients were analyzed (Mean age 68.19 +/- 12.06, n (female) = 18, n (male) = 62). Patients with heart failure LVEF < 35% had significantly more daytime and nocturnal episodes of supra-ventricular and ventricular arrhythmias than the control groups ($p < 0.001$). However, patients with LVEF < 35% had significantly more supra-ventricular and ventricular arrhythmias between 0600-1200 interval periods as compared to other quarterly interval of the day. Premature atrial ectopics, atrial fibrillation and VPE were significantly more as compared to other arrhythmic events (742.30 +/- 255.23, 10786.11 +/- 3848.23 and 892.11 +/- 257.00, $p < 0.05$). However, there was no statistical significance increase in the total number of supra-ventricular as compared to the ventricular events ($p = 0.134$) and neither of these two events had circadian correlation (Spearman's correlation, $R_s = 0.546$).</p> <p>Conclusion: Compared with patients with preserved LVEF, patients with PLVEF demonstrated significantly more SVA and CA, in particular, during the morning quarterly interval. This could be due to an imbalance in the circadian neurohormonal cycle. Further studies need to be conducted to ascertain the significance of this finding, and could result in a treatment strategy that could reduce clinical events associated with this phenomena.</p>	<p>P4</p> <p>EFFECTS OF ATRIOVENTRICULAR NODE ABLATION IN PATIENTS WITH CHRONIC ATRIAL FIBRILLATION CANDIDATE FOR CARDIAC RESYNCHRONIZATION THERAPY. Ataallah Baghezadeh, MD1, Mansoor Moghaddam2, MD, Maryam Moshkani Farahani, MD 3 <i>1Department of Pacemaker and Electrophysiology, Imam Khomeini Hospital complex, Tehran University of Medical Sciences, Tehran, Iran. 2Department of Pacemaker and Electrophysiology, Shariati Hospital, Tehran University of Medical Sciences, Tehran, Iran. 3Department of Echocardiography, Baghiyatalah Hospital, Baghiyatalah University of Medical Sciences, Tehran, Iran.</i></p> <p>Objectives: Cardiac resynchronization therapy (CRT) is an important advance for the treatment of end-stage heart failure (HF). The aims of this study were (i) to assess the clinical benefit of CRT in patients with Atrial Fibrillation (AF) and (ii) to evaluate the impact of Atrioventricular junctional (AVJ) ablation on the outcome of AF patients undergoing CRT.</p> <p>Method: A total of 68 permanent AF patients were included in this prospective study and CRT implantation was done. The patients randomized in 2 groups, 34 Patients received optimized medication to control ventricular rate and other 34 patients who underwent an AVJ ablation and were followed up for 21 ± 11 months. Clinical parameters and echocardiographic parameters were compared at baseline and after a follow-up of 1 and 6 months after procedure and every 6 months thereafter. Patients were evaluated for the occurrence of cardiac death, hospitalization for HF, and responsiveness to CRT (survival with improvement of 1 New York Heart Association (NYHA) class at 6 months).</p> <p>Results: Although EF and NYHA class was improved with marginal significance, QRS duration and severity of Mitral Regurgitation was not significantly changed in Medical Therapy group but all of these parameters were significantly improved in AVJ ablation group. Although the clinical characteristics was somewhat improved in both groups after CRT implantation, the improvement was much higher in AVN ablation group.</p> <p>Conclusion: Beneficial effects of CRT could be noticed in a significant number of AF patients, therefore these patients should not be excluded from CRT implantations. AF without AVJ ablation was an independent predictor of hospital admissions and non-responsiveness to CRT. Performing AVJ ablation in AF patients undergoing CRT seems crucial to attain maximal clinical benefit.</p>

This article was accepted: 29 October 2011

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<p>P5</p> <p>PLACING RIGHT VENTRICLE PACING LEAD AT ALTERNATIVE SITE FOR PERMANENT PACEMAKER AMONG PATIENTS IN HOSPITAL SERDANG, MALAYSIA Anak Nyadong Juliana, Md Zamri A Rahman <i>Cardiology Department, Hospital Serdang, Malaysia</i></p> <p>Background: Alternative site pacing has been shown to reduce future chronic atrial fibrillation occurrence in patients with sick sinus syndrome. Persistent long term right ventricle pacing can be associated with negative ventricle remodeling and risk of heart failure. There is however a learning curve to place the right ventricle lead at an alternate site.</p> <p>Objective: Pacemaker implants were started since 2006 in Hospital Serdang, Malaysia. Implanters started to attempt implanting right ventricle (RV) pacing lead at alternative site. The objective is to review the placement of RV lead at the right ventricle outflow tract (RVOT) against traditional RV apex (RVA) pacing for permanent pacemaker implants in Hospital Serdang.</p> <p>Method: This is an all comer registry. All single chamber and dual chamber permanent pacemaker implants from January 2006 until December 2010 were screened. Only patients who needed a new RV lead were included. Attempts were made to place the RV lead at alternative site in right ventricle outflow tract (RVOT) but the final position is at the implanters' discretion with the best pacing parameters. Final position of RV lead site was recorded. Acute complications looked for and recorded were acute lead dislodgement before discharge and deteriorated pacing parameters at 1 month follow up.</p> <p>Result: During the period, 220 procedures were included. A total of 220 patients. 111 of the patient were females and 109 were males. By race distribution, Malays numbered 106, Chinese were 61 and Indians were 53. Age distribution was between 23 to 94 years old (mean=66 + 18 years). Year by year, in 2006 RVA pacing was 7 and RVOT pacing was 3 (total 10 implants). For 2007 RVA pacing was 42 and RVOT pacing was 6 (total 48 implants). For 2008 RVA pacing was 22 and RVOT pacing was 18 (total 40 implants). For 2009 RVA pacing was 3 and RVOT pacing was 61 (total 64 implants). For 2010 RVA pacing was none and RVOT pacing was 58. No acute lead dislodgement and no acute deterioration of pacing parameters were recorded.</p> <p>Conclusion: There is a learning curve to place RV lead at alternative site but it is achievable. No acute lead dislodgement or acute deterioration of pacing parameters occurred in our study.</p>	<p>P6</p> <p>SAFETY AND EFFICACY OF MRI SAFE DEVICE IN OUR COHORT Noor Asyikin S, Zunida A, Tay GS, Surinder K, Hasri S, Azlan H, Razali O. <i>Electrophysiology Unit, Department of Cardiology, Institut Jantung Negara</i></p> <p>Background: Magnetic resonance imaging (MRI) has become an increasingly useful imaging modality in the field of cardiology. Unfortunately, MRI is contraindicated in patients with permanent pacemaker and implantable cardioverter defibrillator. An advance in device technology has led to the availability of implantable devices which is MRI compatible.</p> <p>Aim: To compare the lead pacing parameters stability at implant and short term follow up for MRI safe device. To show the safety and efficacy in device implanting of this new system.</p> <p>Method: Total 31 patients MRI compatible device and 535 standard device patients as a control group included in this study. The stability of pacing leads parameter, sensing, impedance and threshold are compared from implant up to 1 year follow up. The time duration at implant is compared between a standard and MRI compatible dual chamber device.</p> <p>Result: All pacing leads parameter including sensing, impedance and threshold were compared with MRI compatible devices shows no significant difference from implant to 1 year follow up. No significant difference seen in procedure time for both group of patient. Out of 31 only 6% had complication involving a lead dislodgement compared to 4% lead dislodgement in our historical control implant group. Two of the MRI compatible device patients had undergone MRI without any resetting of parameter.</p> <p>Conclusion: Pacing parameters are stable at implant and short term follow up. No difference in procedure time, hence no learning curve is needed for implanting this totally new MRI compatible leads and system. MRI compatible devices are safe to use.</p>
<p>P7</p> <p>DUAL-CHAMBER PACEMAKER LEAD IMPLANTATION VIA THE PERSISTENT LEFT SUPERIOR VENA CAVA Tieh Siaw Cheng* MD(UKM), MRCP(UK); Leong Weng San* MD(UKM), MRCP(UK), MMED(NUS); Lu Hou Tee* MD(USM), MRCP(UK); Paul Ling Kah Hing** B MED SCI(HON), MBBS(UK), MRCP(UK), AM(MAL), FNHAM, FRCP(EDIN); Liew Chee Khoon* MBBS(Melbourne), MRCP(UK), FNHAM. <i>*Hospital Sultanah Aminah Johor Bahru **Monash University, Johor Bahru</i></p> <p>Background: Persistent left superior vena cava (PLSVC) is a very rare and yet the most commonly described thoracic venous anomaly, with a prevalence of 0.3-0.5% in general population. Besides its association with congenital anomalies, it is also associated with disturbances of cardiac rhythm, impulse formation and conduction. PLSVC is often incidentally discovered during central venous line placement, intracardiac electrode/pacemaker placement or cardiopulmonary bypass, where it may cause technical difficulties and life-threatening complications. Here we present a case that highlights the practical implications of PLSVC.</p> <p>Case Presentation: A sixty-nine-year-old man presented with symptomatic Sick Sinus Syndrome. He was decided for dual-chamber rate-adaptive pacemaker implantation. PLSVC was incidentally discovered during transvenous placement of electrode via left subclavian approach when the lead took an unusual left-sided downward course. PLSVC was demonstrated by venogram which showed the drainage via the coronary sinus and into the right atrium. The challenge encountered was the length of the ventricle pacing lead, which was just of adequate length. The stylette also had to be curved in a way that the ventricular lead could be directed to the right ventricular apex. The atrium electrode was successfully placed at the right atrium appendage.</p> <p>Discussion: PLSVC is the commonest venous anomaly of the thorax and drains into the right atrium via the coronary sinus. It results when the left superior cardinal vein caudal to the innominate vein fails to regress. Transthoracic echocardiography may reveal a dilated coronary sinus in which the diagnosis can be confirmed with saline contrast echocardiography. A right-sided approach is recommended after a right superior vena cava draining into right atrium is confirmed, if one encounters poor handling through coronary sinus.</p> <p>Conclusion: Presence of PLSVC can complicate the positioning of left-sided pacemaker and cardioverter-defibrillator leads. Cardiologist and critical care physicians must be aware of PLSVC whenever a guide wire, a catheter or electrode inserted via left subclavian takes an abnormal course. The knowledge of this unusual thoracic venous anomaly may prove to be of value for other specialities.</p>	<p>P8</p> <p>PREVALENCE OF ATHEROSCLEROTIC DISEASE IN ASIAN SUBJECTS NOT ON LIPID LOWERING AGENTS, BUT WITH AT LEAST TWO CVD RISK FACTORS. Oh BH 1, Nijasri C, Suwanwei 2, Kaligis RWM 3, Lee TH 4, Nguyen LV 5, Sim KH 6, Punzalan FE 7, Wang Y 8. <i>1Department of Internal Medicine, Seoul National University College of Medicine, Seoul, Korea; 2Department of Medicine, Chulalongkorn University, Bangkok, Thailand; 3National Cardiovascular Center, Harapan Kita, Indonesia; 4Department of Neurology, Chang Gung Memorial Hospital, Linkou Medical Center, Taiwan; 5Vietnam National Heart Institute, Vietnam; 6Sarawak General Hospital, Malaysia; 7University of the Philippines, Philippines; 8Beijing Tiantan Hospital Affiliated to Capital Medical University, China.</i></p> <p>Background: Increased carotid intima media thickness (CIMT) is a marker of atherosclerosis and is associated with established cardiovascular disease (CVD). The primary objective of the study was to obtain the distribution of measurements of CIMT in Asian individuals with at least 2 or more CVD risk factors, but not on any lipid-lowering agents.</p> <p>Methods: A multi-centre, cross-sectional study was conducted in 8 Asian countries involving 2627 subjects of which 2529 (mean age (±SD): 55.1(±9.0) yrs, 57.8% male, 75.2% hypertensive, 39.6% smoker, 55.6% abdominal obesity and 8% diabetic) were included for analysis. The descriptive statistics of mean-max CIMT were presented by subgroups constructed based on demographic variables of categorical type, CVD risk factors, CVD risk equivalents and metabolic syndrome. Univariate and multivariate linear regressions were used to evaluate the effect of these variables on mean-max CIMT.</p> <p>Results: A statistical significant difference ($p < 0.0001$) in mean-max CIMT values was seen in different countries with Taiwan having maximum (0.926 mm) and Thailand (0.765 mm) having minimum value. Another factor that showed a difference more than 0.1 mm in mean-max CIMT was age group ($p < 0.0001$, < 40 yrs: 0.688 mm, 40-54 yrs: 0.815 mm and 55-70 yrs: 0.880 mm). Mean-max CIMT was found to be positively correlated with age ($r = 0.357$, $p < 0.0001$), sitting SBP (mmHg) ($r = 0.194$, $p < 0.0001$) and other variables, and negatively correlated with HDL-C (mg/dL) ($r = -0.087$, $p < 0.0001$).</p> <p>Conclusions: The mean-max CIMT values were found to be varying in different Asian countries and the values correlated with age and clinical measurements. Measurement of CIMT can be utilized as an initial risk assessment tool for atherosclerosis as a part of primary prevention.</p>

This article was accepted: 29 October 2011

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<p>P10</p> <p>REVEALING THE MORTALITY RATE BETWEEN DEVICE INTERVENTIONS AND OPTIMAL MEDICAL THERAPY – IJN REGISTRY Sheikh MN, Rosila R, Razali O, Tay GS, Intan S, David C.</p> <p>Background: Heart failure syndromes cause mortality annually in Malaysia. CRT is an established treatment for patients with advance heart failure. With IJN registry, it could help to identify the prognosis for mortality amongst heart failure patients either with medications or device interventions.</p> <p>Objective: To distinguish the mortality rate between Heart Failure patient on optimal medical therapy and device intervention (CRT)</p> <p>Methodology: This study enrolled 265 patients (42.6% with interventions device – CRT registry & 57.4% with optimal medical therapy – heart failure registry). The data is collected based on the following criteria: EF <35%, Ischemic group & QRS duration (<120 ms, >120ms), the mortality rates were compared by Kaplan Meier curve between the two groups with clinical follow-up until 20 months.</p> <p>Results: Among the optimal medication therapy group, 30 (19.7%) patients died while there were 10(8.8%) death among the CRT group.</p> <p>Ischemic and QRS duration among the optimal medical therapy group has poorer outcome with higher mortality (p = 0.002).</p> <p>On the other hand, in the CRT group, neither the Ischemic nor QRS duration demonstrated any significant difference in mortality. However, the Kaplan Meier curve shows a stable survival trend and longer life span.</p> <p>Conclusions: This registry over a 2 year period demonstrates that the Ischemic and QRS duration are factors that shows higher mortality rate among the optimal medical therapy group.</p>	<p>P11</p> <p>Tako-Tsubo Cardiomyopathy- A Great Mimick to Acute ST-Elevation Myocardial Infarction Leong Weng San* MD(UKM), MRCP(UK), MMED(NUS); Tieh SC* MD(UKM), MRCP(UK); Benjamin Leo CL *MBBCH(Ireland), MRCP(UK); Lu HT *MD(USM), MRCP(UK); Paul Ling KH **MBBS(UK), FRCP (Edinburgh), FNHAM; Liew Chee Khoo* MBBS (MELBOURNE), MRCP(UK), FNHAM; * Hospital Sultanah Aminah, Johor Bahru, Malaysia ** Monash University Johor Bahru, Malaysia</p> <p>We report an elderly lady with underlying diabetes and hypertension presented to us with acute onset of angina following an acute febrile illness.</p> <p>The patient initially presented to us for sudden onset of central chest pain after few days history of fever, chills, and dysuria. Initial ECG on presentation showed non specific T wave inversion over V2-V6, which resolved following initial management with antiangina therapy and anticoagulant. We had diagnosed her as having unstable angina.</p> <p>However, her angina never resolved. Subsequent ECG showed evolving ischemic changes with deepening of T wave inversion. On day 2 of admission, she developed another episode of angina, where ECG showed ST segment elevation over lead I, II, AVL, V2-V6.</p> <p>She was hypotensive requiring inotropic support but she was clinically not in heart failure. We proceed with coronary angiogram which surprisingly showed normal left and right coronary artery. There was no evidence of dissection or thrombus to explain the ECG changes.</p> <p>We proceed with left ventriculogram which showed apical wall hypokinesia (apical ballooning), with ejection fraction of 40%. Our impression at that point was stress cardiomyopathy (takotsubo cardiomyopathy), and we treated her medically with anticoagulant and dual antiplatelet. In view of persistent chest pain and hypotensive, we investigated for endocrinopathy, where we had excluded thyroid disease and Addison disease.</p> <p>Following few days of observation and treatment for her urinary tract infection, she gradually recovered and managed to wean off inotropic support. She was discharged well after 1 week. Follow up in cardiology clinic, she was asymptomatic with improvement of left ventricular function.</p> <p>This case illustrate tako-tsubo cardiomyopathy as a possible diagnosis to consider in patient with ECG criteria of acute ST segment elevation myocardial infarction but normal coronary artery. Echocardiogram and coronary angiogram is the key for diagnosis of this group of illness.</p>
<p>P12</p> <p>SERUM LEVELS AND GENETIC EXPRESSION OF THE PLATELET ACTIVATION BIOMARKER P-SELECTIN IN PATIENTS IN THE EARLY PHASE OF ACUTE CORONARY SYNDROME AND RELATIONSHIP WITH IN-HOSPITAL OUTCOMES Alan Fong Yean Yip^{1,3}, Tiong WN^{2,4}, Chan HC³, Nariman S³, Chia BY³, Ong TK¹, Chang BC¹, Wee CC², Nor Hanim MA¹, Chua SK¹, Tan SK¹, Cham YL¹, Khiew NZ¹, Tay SP⁶, Lau KB⁴, Sim UH⁵, Sim KH¹ ^{1. Department of Cardiology, Sarawak General Hospital 2. Clinical Research Centre, Sarawak General Hospital 3. Emergency and Trauma Department, Sarawak General Hospital 4. Department of Pathology, Sarawak General Hospital 5. Faculty of Resource Science and Technology, University Malaysia Sarawak 6. Faculty of Medicine and Health Sciences, University Malaysia Sarawak}</p> <p>Background: Platelet activation, a critical step in thrombogenesis, is evident during acute coronary syndrome (ACS). While P-selectin (PSEL) is a validated biomarker of platelet activation, its actual serum levels, and its genetic expression has not been conclusively established in a young, multi-ethnic Malaysian population with ACS.</p> <p>Objective: To establish serum PSEL levels (ser-PSEL) and PSEL gene expression (GE) levels in the early phase of ACS, and their relationship with in-hospital outcomes.</p> <p>Methodology: 22 consecutive patients admitted with ACS before being established on antithrombotic therapy had venous blood extracted within 30 minutes of admission. 28 patients, with documented non-occlusive coronary artery disease and did not have a prior ACS event, formed the control group. Only 14 patients in the ACS, and 9 patients in the control group had sufficient RNA quality for GE analysis. Ser-PSEL levels were obtained using ELISA and PSEL GE was determined using real-time quantitative PCR method.</p> <p>Results: The mean ages of patients in the ACS and control groups were 55.2±10.4 vs 53.5±8.4 years. Of the ACS group, 77.3% had STEMI, 18.2% NSTEMI and 4.5% Unstable angina. There was no significant difference in ser-PSEL levels between ACS and Control groups (85.2 ± 29.6 vs 71.3 ± 26.0 ng/ml, p = 0.083). There was no significant difference in PSEL GE levels between ACS and Control groups [493.8 (79.6-3139.4) vs 392.1 (147.4-1687.6) arbitrary value, p= 0.926]. There was no relationship between ser-PSEL levels with chest pain duration (r= -0.188, p= 0.519) nor serum CK-MB levels (r= -0.415, p= 0.140), and no relationship between PSEL GE expression levels with chest pain duration (r= 0.168, p= 0.565) nor serum CK-MB levels (r= -0.314, p= 0.274). There was no relationship between ser-PSEL and PSEL GE levels in both ACS and Control groups (r= 0.024, p= 0.935, r= -0.267, p= 0.488, respectively). There was no relationship of ser-PSEL and PSEL GE levels with in-hospital clinical outcomes.</p> <p>Conclusion: There were no significant differences between both platelet activation and GE of PSEL at the early phase in ACS patients. This could indicate that significant, systemic, platelet activation occurred later after index atherosclerotic plaque rupture causing ACS.</p>	<p>P13</p> <p>MICRO RNA IN THE MANIFESTATION OF LEFT VENTRICLE HYPERTROPHY IN HYPERTENSIVE PATIENTS. Soh Z.L. 1, Chee K.H.2, Wang C.W. 1, and Wong C.M.2 ^{1Department of Molecular Medicine, Faculty of Medicine, University of Malaya, 50603 Kuala Lumpur. 2Department of Medicine, Faculty of Medicine, University of Malaya, 50603 Kuala Lumpur.}</p> <p>Introduction: MicroRNAs (miRNAs) are tiny non-coding RNA molecules, measuring from 19 to 23 nucleotides. They control gene expression either by repressing mRNA translation or by activation of mRNA degradation. miR-133 and miR-155 have been shown to be down regulated whereas miR-195 up regulated during cardiac hypertrophy in animal studies.</p> <p>Objective: The aim of this study is to observe the relationship of the levels of circulating miR-133, miR-155 and miR-195, with the phenotype of cardiac hypertrophy among human.</p> <p>Methods: Hypertensive patients were recruited from hypertensive clinic while healthy volunteers were recruited from advertisement. After consent obtained, echocardiography were performed. Subsequently, venous blood was obtained. Total RNA was extracted from each of the blood samples to generate cDNA through reverse transcription. The cDNAs synthesized were subsequently used as templates in real time quantitative PCR of miR-133, miR-155, and miR-195 with 18S rRNA as the endogenous control. Taqman probes of the micro RNA and 18s were used in the real time reaction. The delta CT (cycle threshold) of the samples is subjected to statistical analysis to compare the difference of miRNA expressions between the controls and patients.</p> <p>Results: A total of 19 hypertensive patients and 11 healthy individuals were recruited for this study. The mean age of the hypertensive group was 57.6 years old (std. dev. 15.9102, range 23-82 years old). The mean age of the control group was of 23.2 years old (std. dev. 0.40452, range 23-24 years old). On echocardiography, the mean left ventricular mass was 165.8 g/m² among hypertensive patients and 104.7 g/m² for control (p=0.0001). The expression levels of miR-133, miR-155 and miR-195 were compared between the patient group and control group. For the control, the delta CT means of miR-133, miR-155 and miR-195 are 16.715, 12.439, and 7.3131 respectively. The delta CT means of miR-133, miR-155, and miR-195 of the hypertensive patients are 15.979, 11.54, and 6.7564 respectively. The expression levels of miR-195 (p=0.036) and miR-155 (p=0.01) are found to be significantly upregulated in patients.</p> <p>Conclusion: miR-195 and miR-155 are significantly upregulated in patients with left ventricular hypertrophy secondary to hypertension.</p>

This article was accepted: 29 October 2011

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<p>P14</p> <p>INCOMPLETE METABOLIC STABILIZATION AND ELECTROMECHANICAL FUNCTION OF INFARCTED</p> <p>Lucy Youngmin Eun^{1,2,3}, Heesang Song³, Tae Geol Lee^{4,5}, Dae Won Moon^{4,5}, Daehee Hwang⁶, Ki-Chul Hwang^{8,9}</p> <p><i>1Yonsei University Graduate School of Medicine, 2Division of Pediatric Cardiology, Myongji Hospital Cardiovascular Center, Kwandong University Health System 3Research Institute of Science of Aging, Yonsei University, Seoul, Republic of Korea 4Center for Nanobio Convergence Research, Korea Research Institute of Standards and Science, Daejeon 305-600, Korea 5Department of Nano Surface Science, University of Science and Technology, Daejeon 305-600, Korea, 6School of Interdisciplinary Bioscience and Bioengineering and Department of Chemical Engineering, POSTECH, Pohang 790-784, Korea 8Cardiovascular Research Institute, Brain Korea 21 Project for Medical Science, 9Severance Biomedical Science Institute, Yonsei University College of Medicine, Seoul 120-752, Republic of Korea</i></p> <p>Mesenchymal stem cells (MSCs) emerge as a greatly promising cell resource for clinical treatment of ischemic heart and many clinical approaches using MSCs have been performed. However, the therapeutic effects of mesenchymal stem cells (MSCs)-based therapy for myocardial infarction (MI) were reported inconsistent and the preventive effects, particularly, on arrhythmic sudden deaths and metabolic disorder after infarction remain controversial, even though most results including clinical trials and animal studies have shown modest improvement of left ventricular function and proved their feasibility. Here we show that the quantified the benefits for reverse remodeling by mesenchymal stem cells in infarcted myocardium were limited, leading to a failure in achieving complete regeneration of infarcted myocardium. Indeed, the histological analysis showed that infarct size and interstitial fibrosis induced by myocardial infarction were recovered significantly, but slightly, meaning most damages were still remaining. In addition, we observed also slight anti-apoptotic effects and antiinflammatory response in MSCs-implanted region and insignificant alteration of cardiac functions, suggesting that naive MSCs might not be the right cell type in clinical settings for myocardial infarction. Furthermore, the profile of small ions using TOF-SIMS showed that metabolic stabilization by the implantation of MSCs are not significant compared to sham control. Therefore, these results indicate that pretreatment of MSCs is needed for enhancing the benefits of MSCs, particularly, on arrhythmogenicity and metabolic stabilization in infarcted myocardium. Keywords: cardiac remodeling, mesenchymal stem cells, myocardial infarction, TOF-SIMS</p>	<p>P15</p> <p>SERUM NSE AND S100β AND EVALUATION OF COGNITIVE FUNCTION IN POST-CABG PATIENTS RECEIVING DEXMEDITOMIDINE SEDATION: A PILOT STUDY.</p> <p>Introduction: Neuron specific enolase (NSE) and S100β have proved to be promising candidates of biomarkers for predicting neurological outcome. Assessing these biomarkers may give a clear picture on the effect of dexmedetomidine used as sedation for coronary artery bypass graft (CABG) towards brain function. This study is a pilot study in Malaysia to determine the level of serum biomarkers and the immediate post-surgical neuro-cognitive outcome of patients receiving dexmedetomidine (dex).</p> <p>Objectives: The specific objective of our study was to determine the serum level of NSE and S100β in patients and evaluate cognitive functions using different battery in patients receiving dex and control group.</p> <p>Methodology: The study was randomized controlled double blinded comparing dex sedation to institutional's standard sedation. The study was approved by National Heart Institute's ethics committee. Patient were randomized in a 1:1 fashion into two study arms, group A (n:12) received infusion of dex and B (n:8) placebo. Screening of patient's neurocognitive function prior selection is done using mini-mental-state-examination (MMSE). After selection of patients, the patients were assessed via three different batteries ; digit span analysis, letter number sequencing, and Rey auditory verbal learning test (RAVLT) presurgically and postsurgically (within 24 hours). Samples for serum biomarkers analyses were also taken presurgically and postsurgically. Analyses of serum biomarkers were done using ELISA method. Due to the limitation of number of samples, all statistical analyses were done using nonparametric test (Wilcoxon test).</p> <p>Results: Showed that there was no significant difference between level of both serum biomarkers in the dex group ($p>0.001$) ; however there were significant differences between the biomarkers level in the placebo group ($p<0.001$). Median values and interquartile range between both groups were also determined and the dex group revealed a lower median value for NSE and S100β than the control group [NSE dex group (median: 19.65, IQR: 12.85); NSE control group (median: 25.47, IQR: 17.8) & S100β dex group (median: 157.73, IQR: 137.7); s100β control group (median:249.45, IQR: 199.95)]. All three batteries analyses scoring scored pre-surgically and post-surgically in dex group results were not significant ($p>0.001$); whereas there was significant difference between the scoring score for RAVLT and letter number sequencing analyses in control group ($p<0.001$).</p> <p>Conclusion: NSE and S100β were biomarkers which strongly correlated with brain injury. Lower level and low increment of these biomarkers with symphony of the neuro-cognitive assessment using three different batteries in the dex group may suggest that dex promise a better outcome in preserving neurocognitive function for patients undergone cabg. However, since this study is a pilot study, further investigation is needed to conclude on this hypothesis.</p>
<p>P16</p> <p>YOUNGER PATIENTS WITH STABLE CORONARY ARTERY DISEASE HAVE LOWER SERUM EPA/AA RATIO</p> <p>Kashiwase Kazunori, Akio Hirata, Mayu Nishio, Mitsutoshi Asai, Koushi Matsuo, Yasunori Ueda, Kazuhisa Kodama</p> <p><i>Osaka Police Hospital, Japan</i></p> <p>Background: It has been reported that serum EPA/AA ratio might be associated with cardiovascular events, and the administration of EPA (omega-3 polyunsaturated fatty acids) lowers the risk. We need to identify a group of patients who have low EPA/AA ratio and would be most effectively treated by EPA administration.</p> <p>Objectives: To identify a group of patients who have low EPA / AA ratio. METHODOLOGY: Consecutive patients (n=309) who received scheduled coronary angiography were enrolled from April 2009 to December 2009. We examined the association between serum EPA/AA ratio and age, gender, body mass index, triglyceride, HDL-cholesterol, LDL-cholesterol, fasting blood glucose, hs-C reactive protein, and systolic/diastolic blood pressure.</p> <p>Results: Study patients were male in 222 (71%) patients; were 66 years old in average; and had mean body mass index of 24.4, mean triglyceride of 150mg/dl, mean HDL-cholesterol of 49mg/dl, mean LDL-cholesterol of 101mg/dl, mean fasting blood glucose of 128mg/dl, and mean hs-C reactive protein of 0.25mg/dl. The EPA/AA ratio was significantly and positively associated with age ($p<0.01$) but with no other parameters examined.</p> <p>Conclusion: The younger patients with stable coronary artery disease had the lower EPA/AA ratio. Younger patients would be more effectively treated with EPA.</p>	<p>P17</p> <p>RELATIONSHIP BETWEEN WHITE BLOOD CELL COUNT AND IN-HOSPITAL OUTCOMES IN ACUTE CORONARY SYNDROME PATIENTS FROM THE MIDDLE EAST</p> <p>Kadhim Sulaiman, FRCPI, FESC1 Ibrahim Al-Zakwani, PhD2,3, Prashanth Panduranga, MRCP1, Jassim Al-Suwaidi, FACC4, Alawi A. Alsheikh-Ali, MD, MS5, Wael Al-Mahmeed, FRCPC6, Haltham Amin, FRCPC7, Ahmed Al-Mutarreb, PhD8, Khalid AlHabib, FRCPC9, Jawad Al-Lawati, MPH10, Mohammed Zubaid, FRCPC11</p> <p><i>1Department of Cardiology, Royal Hospital, Muscat, Oman 2Department of Pharmacology & Clinical Pharmacy, Sultan Qaboos University, Muscat, Oman 3Gulf Health Research, Muscat, Oman 4Hamad Medical Corporation, Doha, Qatar 5Institute of Cardiac Sciences, Sheikh Khalifa Medical City, Abu Dhabi, United Arab Emirates, and Institute for Clinical Research and Health Policy Studies, Tufts Medical Center and Tufts University School of Medicine, Boston, MA, USA 6Sheikh Khalifa Medical City, Abu Dhabi, United Arab Emirates 7Mohammed Bin Khalifa Cardiac Center, Manama, Bahrain 8Department of Medicine, Sana'a University, Sana'a, Yemen 9King Fahad Cardiac Centre, College of Medicine, King Saud University Riyadh, Kingdom of Saudi Arabia 10Department of Non-communicable Diseases Control, Ministry of Health, Muscat, Oman 11Department of Medicine, Kuwait University, Kuwait</i></p> <p>Background: White blood cell (WBC) count is an inexpensive and widely available test that has not been extensively utilized in clinical practice for its predictive ability, although studies have reported its prognostic value as a predictor of short and long term adverse events and mortality following ACS.</p> <p>Objective: To evaluate the relationship between admission WBC count and in-hospital outcomes in patients with acute coronary syndrome (ACS) from the Middle East.</p> <p>Methods: Data were analyzed from 7,806 consecutive patients admitted to 65 hospitals in six Middle-Eastern countries with the final diagnosis of ACS, as part of Gulf RACE (Registry of Acute Coronary Events). Patients were divided into four groups (G) according to their level of WBC count ($\times 10^9/L$) (G1: <6.00; G2: $6.00-9.99$; G3: $10.00-11.99$; G4: ≥ 12.00). Analyses were conducted using univariate and multivariate statistical techniques.</p> <p>Results: The overall mean age of the cohort was 56 ± 12 years with the majority being males (76%). After significant co-variate adjustment, higher WBC count was associated with in-hospital cardiogenic shock and mortality in ACS patients. Those in G4 were 68% more likely to have cardiogenic shock than those in G1 (95% CI: 1.05-2.68; $p=0.030$) and G2 (odds ratio (OR), 2.02, 95% CI: 1.51-2.71; $p<0.001$). With regards to mortality, those in G4 were 2.02 times (95% CI: 1.11-3.67; $p=0.021$) more likely to die in hospital than those in G1. Furthermore, those in G4 were also 65% (95% CI: 1.17-2.32; $p=0.004$) more likely to die in hospital than those in G2.</p> <p>Conclusion: Admission WBC count is an independent risk factor of in-hospital cardiogenic shock and mortality, in Middle Eastern ACS patients. Admission WBC counts need to be utilized more frequently in ACS risk stratification. There may be a need for novel therapeutic agents targeting WBC's in ACS patients to prevent worse outcomes.</p>

This article was accepted: 29 October 2011

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<p>P18</p> <p>GAMMA DELTA TOCOTRIENOLS REDUCE HEPATIC TRIGLYCERIDE SYNTHESIS AND VLDL SECRETION Vanessa Lacuesta^{1*}, WN Yap¹, Abelina Chen¹, SH Lee¹, YL Yap¹ ¹Davos Life Science, Cardiovascular Research Laboratory, 16 Tuas South Street 5, Singapore 637795</p> <p>Background: Dyslipidemia remains a primary constituent of metabolic syndrome. Achieving optimal lipid parameters (cholesterol, triglycerides and lipoproteins) in dyslipidemic patients remain challenging despite lifestyle modifications and lipid-lowering drugs. Recently, the mechanism of action for tocotrienols (T3) to lower serum cholesterol was reported. However, it was unclear how T3 interferes with the synthesis and lipoprotein-dependent transport of serum triglycerides.</p> <p>Objectives: Present work investigated the triglyceride-lowering effects of T3 using liver cells, hypercholesterolemic mice and human subjects.</p> <p>Methodology: In vitro, HepG2 liver cells were used and the protein expressions were investigated by Western Blottings. In vivo, Ldlr-/- mice was used and the lipid parameters were assayed using ELISA kits. Clinical Trial: A double-blind, placebo-controlled study was conducted in hypercholesterolemic patients from Takara Clinic (Japan). From the 40 initially recruited subjects, the top 50% (20 subjects) with regards to sd-LDL were enrolled. The T3 group was given 120 mg T3 in 270 mg olive oil per day while the placebo group received 4 caps of 300 mg olive oil per day. Supplementation was given for 8 weeks in both groups. Total cholesterol, LDL, HDL, triglyceride and lipoprotein fractions were assayed at the start and end of the 8-week trial.</p> <p>Results: In-vitro results demonstrated two modes of action. First, T3 suppress the upstream regulators of lipid homeostasis genes (DGAT2, APOB100, SREBP1/2 and HMGCR) leading to the suppression of triglycerides, cholesterol, VLDL and chylomicron biosyntheses. Second, T3 enhance LDL efflux through induction of LDLr expression. Results from treatment of LDLr-deficient mice fed with 1mg/day T3 for one-month show 28%, 19% reduction in cholesterol and triglyceride levels respectively, whereas HDL-cholesterol level was unaltered. In our human clinical trial, serum triglycerides were significantly lowered by 28% (p<0.006) followed by concomitant reduction in the triglyceride-rich VLDL and chylomicrons. In contrast, HDL-cholesterol increased marginally in treated group when compared to placebo.</p> <p>Conclusion: Our data suggested that T3 possesses anti-metabolic effects in humans through its triglyceride-lowering capability.</p>	<p>P20</p> <p>OVERVIEW OF POST ST ELEVATION MYOCARDIAL INFARCTION CARE IN SERDANG HOSPITAL FOR THE YEAR 2010 Navaratnam R, Mahadevan G, Jalani R, Chong YS, Abdul Ghapar AK, Yusoff MR.</p> <p>Background: This is a retrospective study of the patients who presented to Hospital Serdang from 1 January 2010 to 31 December 2010 with acute myocardial infarction (STEMI). This also included patients who presented via the emergency department of Hospital Serdang and patients who were transferred in from other centres. Our focus was on the post ST elevation myocardial infarction care and management.</p> <p>Objective: To observe the effectiveness of thrombolytic agent, appropriateness of follow up angiography, optimization of medical therapy on discharge and number of days spent in the hospital for patients who presented with ST elevation myocardial infarction.</p> <p>Methodology: All patients who presented to CCU Hospital Serdang from 1 January 2010 to 31 December 2010 with ST elevation myocardial infarction were included in this study. In retrospect data was extracted and analysed using excel 2010.</p> <p>Results: A total of 292 patients were included in the study however data was only available for 277 patients, out of which 223 patients received Streptokinase as a choice of reperfusion. ST resolution of more than 50% was attained in 87.9%(189) of patients. The remaining 54 patients received either TNK TPA (12) or underwent primary PCI (42).</p> <p>30.8% (90) of patients underwent inpatient COROS/PCI. 50.7% (148) of patients were given outpatient COROS/PCI dates. 39.9%(59) were given COROS/PCI dates within 4 weeks after discharge. 55.4% (82) were given COROS/PCI within 8 weeks after discharge and 4.7% (7) were given COROS/ PCI dates after 8 weeks from discharge.</p> <p>Most patients received aspirin (96.9%), clopidogrel (99.3%), statin (98.3%), B blocker (86%) and ACEI/ ARB (77.4%). As for other medications, 45.8% received nitrates, 49.7% received trimetazidine, 55.5% received diuretics, 20.5% received oral hypoglycaemic agents and 14.4% received insulin.</p> <p>On average, patients spent 3.3 days in CCU and the total days stayed during the hospitalization was 5.6. 91.8% of patients were discharged alive and 8.2% succumbed.</p> <p>Conclusion: Most patients were successfully thrombolysed with streptokinase. Most patients were given an outpatient COROS/PCI appointment date and only a third underwent an in patient COROS/PCI. Overall, patients were found to be well optimized medically during the discharge and average number of days in CCU and total hospital stay was acceptable.</p>
<p>P21</p> <p>THE ASSOCIATION BETWEEN SOCIO-ECONOMIC STATUS AND CARDIOVASCULAR RISK FACTORS: EARLY IMPRESSIONS FROM LIFECARE Wong Kung Yee², Fong AYY^{1,2}, Tan MLS³, Wee HL⁴, Tai ES³, Sim KH^{1,2} ¹ Department of Cardiology, Sarawak General Hospital, Malaysia ² Clinical Research Centre, Sarawak General Hospital, Malaysia ³ Department of Medicine, National University Health System, Singapore ⁴ Department of Pharmacy, National University of Singapore, Singapore</p> <p>Background: Socio-economic status (SES) has been shown to be associated with cardiovascular disease (CVD) in developed countries, with a paucity of data from developing countries. The prevalence of cardiovascular risk factors (CVRF) in developing countries is high, and the incidence of cardiovascular disease is projected to rise for the next two decades.</p> <p>Objective: To determine the association between SES and CVRF in the Malaysian cohort from the LIFECARE study (LIFECARE-M)</p> <p>Methodology: This was a cross sectional study that represented the first 800 subjects from the LIFECARE-M study. Subjects were recruited from an urban setting in Sarawak, Malaysia. Socio-demographic variables, lifestyle factors, medical history (hypertension, diabetes, stroke and coronary heart disease (CHD)) were obtained using a questionnaire. We also measured clinical variables (body mass index, waist-hip ratio, systolic blood pressure, diastolic blood pressure, high-density lipoprotein, low-density lipoprotein (LDL), triglycerides and fasting plasma glucose). SES was derived from a principal component analysis (PCA), utilising Education and Household income. Regression analysis was used to ascertain the associations between established CVRF with SES. 10 year risk of fatal or non-fatal myocardial infarction was estimated using the Framingham risk score that incorporated LDL-cholesterol concentration.</p> <p>Results: The 800 subjects had a mean age of 36 years old. 68.3% were female and 63.8% married. Ages 30-39 were significantly associated with higher SES compared to the younger age group. Older compared to younger age groups were also associated with higher SES, but not significant. Females tended to have lower SES compared to males (p=0.046). Individuals who were married but who were separated or if lost a partner (-0.6, p=0.041 & -0.63, p=0.007 respectively) had lower SES than those single or married. Higher SES was associated with lower WHR (after adjustment for age), more smoking and more alcohol intake. Individuals who suffered from CHD also tended to have higher SES.</p> <p>Conclusion: Although heart disease is associated with higher SES, there is evidence that some risk factors (e.g. central obesity) are becoming more common in those with lower SES. This could result in an increase in CHD amongst individuals with lower SES as Malaysia undergoes an economic transition.</p>	<p>P22</p> <p>ARE STILL MONTHLY PENICILLIN PROPHYLAXIS IS REASONABLE IN ACUTE RHEUMATIC FEVER? Mohammadbagher Owlia, Rheumatologist, Associate Professor, Shahid Sadoughi University of Medical Sciences, Yazd, Iran, Islamic Republic Of, Mahnaz Momeni, Rheumatologist, Assistant Professor, The George Washington Medical Center, Washington DC, United States</p> <p>Background: Acute rheumatic fever (ARF) is a systemic immunologic response to group A streptococci (GAS) with clinical manifestation of fever, arthritis, carditis, erythema marginatum (EM), subcutaneous nodules and chorea. Fever and arthritis are more common in our practice which infectious and rheumatologic conditions are among the most common differential diagnoses. Traditional descriptions of classic features of ARF were established in pre-modern rheumatology era when the armamentarium of laboratory test was poor and wide classification of diverse rheumatologic conditions was not taken in to consideration. Anti-inflammatory actions of penicillin (PCN) derivatives are discovered by Thompson, et al several years after establishing monthly PCN as antibiotic prophylaxis for ARF.</p> <p>Objectives: The aim of this study is to clarify the realities behind routine diagnosis and PCN prophylaxis in ARF.</p> <p>Methods: Searching the frequency of ARF and ARF mimickers among 25,000 records of new cases with rheumatologic complaints that referred to a general rheumatology clinic during 2003-2010 in Yazd, central Iran, during eight years</p> <p>Results: Our results showed that 800 patients were diagnosed for ARF by non-rheumatologist physicians but only 4 patients fulfilled the Jones's criteria for acute rheumatic fever. Interestingly, almost all patients who were receiving monthly penicillin showed some clinical improvement in their arthritis regardless of specific diagnoses. About 10% of patients who were diagnosed initially for ARF found to have classic picture of some other rheumatic disorders such as rheumatoid arthritis, systemic lupus erythematosus or adult-onset Still's disease. Remaining 90% had undifferentiated chronic connective tissue disease. Main features against the diagnosis of ARF were chronic joint involvement, persistent elevated acute phase reactants, anemia of chronic disease, laboratory or radiologic findings suggestive of specific rheumatic disorder</p> <p>Conclusions: Almost all cases with diagnosis of ARF by non-rheumatologist doctors in our big registry were misdiagnosed. Considering anti-inflammatory effect of PCN, clinical efficacy of PCN could not be simply attributed to its antibiotic effects. Further studies might prove that ARF also would be simply managed as other chronic rheumatic diseases after per-case eradication of GAS infections.</p>

This article was accepted: 29 October 2011

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<p>P23</p> <p>PHARMACOLOGICAL INTERVENTIONS BENEFICIAL IN IMPROVING VASCULAR FUNCTION AND CARDIOVASCULAR RISK IN OBESE PATIENTS (VASCULAR STUDY) – EFFECT ON MICROVASCULAR ENDOTHELIAL FUNCTION</p> <p>Aida Hanum G Rasool, Belqes AA, al-Safi Ismail AA, Tee GB, Siti Azima, Wan Rimeh, Halim AS, Zurkurnai Yusof, Farah D, AR Wong <i>Pharmacology Vascular Laboratory, School of Medical Sciences, Universiti Sains Malaysia Hospital, Universiti Sains Malaysia, Health Campus, Kota Bharu, Malaysia</i></p> <p>Background: We have previously shown that obese patients have impaired microvascular endothelial function that is associated with increased cardiovascular risk as demonstrated by increased blood pressure (BP), triglyceride, inflammatory markers and reduced adipopectin and HDL-C levels.</p> <p>Objective: This study reports the effect of 9 months pharmacological interventions for obesity with orlistat and sibutramine on microvascular endothelial function in obese patient.</p> <p>Methodology: This randomised, controlled clinical study involved 76 obese subjects, given orlistat 120 mg three times daily or sibutramine 10 mg daily for 9 months. Baseline weight, height, and microvascular endothelial function were recorded before starting treatment, and 3, 6 and 9 months after starting treatment. Microvascular endothelial function was assessed non-invasively using laser Doppler fluximetry (LDF) and the process of iontophoresis. LDF measures skin perfusion, while iontophoresis refers to transdermal transfer of drugs propelled by very small electrical current. Sodium nitroprusside (SNP) and acetylcholine (ACh) were used to measure endothelial independent and endothelial dependent vasodilatation. Maximum absolute change in skin perfusion due to iontophoresis with acetylcholine (AChmax) indicates microvascular endothelial function.</p> <p>Results: 48 subjects (24 each for orlistat and sibutramine groups) completed the 9 months study, their data was used for analysis. Mean age and body mass index (BMI) of subjects were 36.8±1.4 years and 34.1±0.8 kg/m² respectively. There were no significant differences between the 2 groups in their baseline age, BMI, BP, heart rate and skin perfusion. There was significant improvement in endothelial dependent vasodilatation in the orlistat treated group after 9 months intervention compared to baseline (60.64±44.79 vs. 37.30±31.60 AU, p=0.08 after and before treatment respectively). No significant change was observed in sibutramine treated group. Endothelial independent vasodilatation with SNP iontophoresis, as expected, did not change after 9 months treatment compared to baseline for both groups.</p> <p>Conclusion: We conclude that orlistat treatment for 9 months improved microvascular endothelial function in obese patients.</p>	<p>P24</p> <p>CORALAN EXPERIENCE IN MALAYSIA (CORE SURVEY)</p> <p>Gim-Hooi Choo*, Ahmad Nizar Jamaluddin*, David Quek**, Tan Beng Hong <i>* Sime Darby Medical Centre Subang Jaya ** Pantar Medical Centre Bangsar</i></p> <p>This non-randomised observational study primarily sought to evaluate the first experiences of Ivabradine in Malaysia for its efficacy in angina-related endpoints as well as highlighting safety issues, if any. This study also investigates the profile of patients with stable angina pectoris.</p> <p>Methodology: Patients with angina pectoris and baseline HR above 60 bpm were recruited. Ivabradine 5mg bd was added to baseline treatment, and further dose increment to 7.5mg bd after 1 month if the HR remains above 60 bpm. Follow-up assessments were made at 2 time-points after initial recruitment ie after 1 and 2 months. Haemodynamic effects on blood pressure and HR were measured. Angina related parameters were assessed via patient interview. Safety issues were also reported.</p> <p>Results: 304 patients were recruited. There is a high prevalence of underlying hypertension(85.1%) and diabetes mellitus(46.4%). More than half(53.3%) of the patients were already on baseline beta-blocker therapy. As expected, ivabradine use resulted in the significant reduction in HR from 81.7 ±13.8 bpm to 67.0 ±8.9 bpm without significant change in the BP measurements. All angina severity indicators eg. number of angina episodes, use of short-acting nitrates and angina class improved. Side-effects were uncommon. This treatment was well tolerated and accepted by most patients.</p> <p>Conclusion: Ivabradine as a pure HR-reduction agent is an efficacious strategy for angina improvement with minimal concerns of safety and side-effects. This early experience of Ivabradine use and its effects in Malaysia was in concordance with currently available clinical evidence.</p>
<p>P25</p> <p>EFFECTIVENESS OF EARLY CARDIAC REHABILITATION ON FUNCTIONAL CAPACITY IN POST-PTCA PATIENTS: A RANDOMIZED CONTROLLED TRIAL</p> <p>MH Haddadzadeh PhD, Dep. of Physiotherapy, Manipal University, Inida AG Malia PhD, Dep. of Physiotherapy, Manipal University, Inida R PadmaKumar DM, Dep. of Cardiology, Manipal University, Inida S Borkar MCH, Dep. of Cardiovascular & Thoracic Surgery, Manipal University, Inida G Kamath MCH, Dep. of Cardiovascular & Thoracic Surgery, Manipal University, Inida T Devasia DM, Dep. of Cardiology, Manipal University, Inida N Kansal DM, Dep. of Cardiology, Manipal University, Inida VG Raman DM, Dep. of Cardiology, Manipal University, Inida</p> <p>Background: Physical capacity is an important health outcome and commonly measured in terms of metabolic equivalents (METs) in routine clinical practice. However exercise training has been the cornerstone of cardiac rehabilitation programs to preserve patient's fitness and to optimize secondary prevention, there is controversy about its effects on functional capacity in PTCA patients.</p> <p>Objective: To investigate the effectiveness of individually tailored exercise-based Cardiac Rehabilitation on functional capacity in post PTCA patients.</p> <p>Materials & Methods: It was Single blinded, Randomized controlled trial and approved by the ethical committee of the Kasturba Hospital, Manipal. Post-PTCA patients (within one month of hospital discharge) with age group of 35 to 75 years were recruited. Exclusion criteria were high risk group (AACVPR-99) patients and contraindications to exercise testing and training. Recruited subjects were randomized either into Control or Cardiac Rehabilitation (CR) groups by concealed envelope method. CR group (n=20) underwent 12 weeks structured individually tailored CR program (ACSM-2005 guidelines) and control group (n=20) only received the usual cardiac care without any exercise training. Main outcome measure; functional capacity (MET level) was measured by Bruce protocol exercise test at baseline and after 12 weeks CR and compared with control group. Using intention to treat approach, between and within group analysis was done using General Linear Model, repeated measures by keeping level of significance at p<0.05.</p> <p>Results: A total of 40 patients with mean age of 54.8± 8.8 (30 male and 10 female) enrolled in the study having given written, informed consent. At baseline there was no significant difference between groups in respect of demographic, clinical and socioeconomic characteristics as well as the main outcome. There was a significant increase in MET value in CR (8.4± 2.3 to 11.3± 2.3) group compared to control (8.3± 1.9 to 8.4± 1.5) group (p<0.0001).</p> <p>Conclusion: A12 week early (within one month post-discharge) structured individually tailored cardiac rehabilitation program can significantly improve functional capacity in post-PTCA patients. Keywords: Cardiac Rehabilitation, PTCA, Functional Capacity, METs, Coronary Artery Disease (CAD), RCT</p> <p>Authors identified there was no conflict of interest.</p>	<p>P26</p> <p>IMPAIRED FLOW-MEDIATED DILATATION IN BRACHIAL ARTERY IS ASSOCIATED WITH CORONARY PLAQUE VULNERABILITY IN PATIENTS WITH CORONARY ARTERY DISEASE.</p> <p>Takuo Emoto M.D.?Takahiro Sawada M.D. Tajji Mizoguchi M.D. Takao Mizuguchi M.D. Yoshiaki Motoji M.D. Masamichi Iwasaki M.D. Kazuki Taira M.D. Hiroshi Okamoto M.D. Yusuke Matsuo M.D. Susuyuki Kim M.D. Akira Takarada M.D. Mitsuhiro Yokoyama M.D.</p> <p>Background: Impaired endothelial function predicts future cardiovascular events. Although flow-mediated dilatation (FMD) in brachial artery is a non-invasive parameter of endothelial dysfunction, the association between coronary plaque vulnerability and FMD is unknown.</p> <p>Objectives: To clarify the association between non-invasive parameter of FMD in brachial artery and coronary plaque vulnerability.</p> <p>Methods: Of the 61 patients with coronary artery disease, we measured flow-mediated %change in brachial artery diameter (%FMD). Further, the spectral analysis of intravascular ultrasound radiofrequency data of their culprit lesions was performed with Virtual Histology™ software. Plaque burdens were classified into fibrotic, fibro-fatty, dense calcium and necrotic core (NC) elements. We also defined thin cap fibroatheroma (TCFA) as focal NC rich (>10%) plaques being in contact with the lumen and %plaque volume of >40% by VH analysis. Then, we analyzed the association between %FMD and each plaque component, and also the presence of TCFA.</p> <p>Results: NC volume was inversely-correlated with %FMD (P<0.0001, r=0.49). The prevalence rates of TCFA for patients in lower (72.0%), middle (>2.0% and 75.0%), and upper (>5.0%) tertiles of %FMD were 73.0% (19/26), 33.3% (8/24) and 0.0% (0/11) (P<0.0001). ROC curve analysis identified %FMD of <1.8% (AUC=0.85, P<0.0001, sensitivity 70.3%, specificity 85.3%) as the optimal cut-off point for predicting the presence of TCFA.</p> <p>Conclusions: Impaired endothelial function in brachial artery is associated with coronary plaque vulnerability. This non-invasive parameter of FMD may have a potential to stratify risk category of future coronary events.</p>

This article was accepted: 29 October 2011

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<p>P27</p> <p>GOOD CONTROL OF BLOOD GLUCOSE DOES NOT HAVE AN EFFECT ON CLINICAL OUTCOMES OF DRUG-ELUTING STENT IN NON-INSULIN DEPENDENT DIABETIC PATIENTS Taizo Kondo, Naoki Kano, Yoshihiro Kamimura, Junya Funabiki, Akinori Sawamura, Kentaro Mukai, Hajime Imai, Yasuhiro Ogawa. <i>Department of Cardiology, Komaki City Hospital, Komaki, Japan</i></p> <p>Background: Although drug-eluting stents (DES) have shown favorable outcomes in diabetic patients, there are few data assessing the effect of blood glucose control on clinical outcomes of DES.</p> <p>Objective: The purpose of this study was to examine the impact of control of blood glucose on clinical outcomes of diabetic patients with coronary artery disease undergoing percutaneous coronary intervention using DES.</p> <p>Methods: We performed coronary stent implantation using DES in 221 non-insulin-dependent diabetes mellitus (NIDDM) patients with 292 lesions. Patients were divided into two groups according to glycosylated hemoglobin level at implantation of DES. Good control group (G group; HbA1c<6.5) consisted of 103 patients with 134 lesions and poor control group (P group; HbA1c≥6.5) consisted of 118 patients with 158 lesions. In-stent restenosis lesions and coronary bypass graft lesions were excluded in this study. We retrospectively evaluated in-stent late lumen loss, binary restenosis at the 9-month angiographic follow-up, and major adverse cardiac events (MACE) at the 1-year clinical follow-up.</p> <p>Results: There were more hypertensive patients in P group (74% vs. 61%, p<0.05). There were no significant differences in baseline patient characteristics except drug administration for DM. There were no significant differences in vessel diameter (2.52 ± 0.40 mm in G group vs. 2.60 ± 0.44 mm in P group), lesion length (16.2 ± 7.2 mm in G group vs. 16.6 ± 8.5 mm in P group) and procedural characteristics. There was no significant difference in late lumen loss between two groups (0.29 ± 0.44mm in G group vs. 0.32 ± 0.51mm in P group). Binary restenosis rate was similar in both groups (5.1% in G group vs. 7.8% in P group). Major adverse cardiac event rate at 1-year follow-up was similar in both groups (11.1% in G group vs. 12.4% in P group, p=ns).</p> <p>Conclusions: Blood glucose control did not have an effect on the long-term clinical outcomes after drug-eluting stent implantation in our NIDDM patients group.</p>	<p>P28</p> <p>ARTERIAL STIFFNESS ASSESSMENT IN ACUTE RHEUMATIC FEVER; A PILOT STUDY. Hayati J.¹, Abdul Rahim W.¹, Aida H Rasool.² <i>Paediatric Department, Hospital Universiti Sains Malaysia. ¹ Pharmacology Vascular Laboratory, Hospital Universiti Sains Malaysia.²</i></p> <p>Background: Acute rheumatic fever (ARF) and its sequelae rheumatic heart disease (RHD) is a significant health problem in developing countries. We postulated that ARF which is associated with endothelial inflammation may cause increased arterial stiffness in children. Arterial stiffness is an index of vascular health; increased arterial stiffness may lead to premature atherosclerosis.</p> <p>Objectives: To investigate the presence and pattern of arterial stiffness in rheumatic fever patients.</p> <p>Methodology: We conducted a prospective study to investigate arterial stiffness in patients with ARF with or without carditis and compared them to healthy controls. Arterial stiffness was assessed by measuring pulse wave velocity (PWV) and augmentation index (AI) derived from pulse wave analysis. All data were expressed as mean (SD); a p-value of <0.05 was considered statistically significant.</p> <p>Results: Thirty-eight patients between 10 - 16 years old were recruited; 17 were in RF with carditis group, 6 were RF without carditis, while 15 were controls without RF. There was no significant difference in PWV between the three groups. AI were higher in RF with carditis 10.05(14.12) and RF without carditis 13.98(10.78) compared to controls 3.83(6.86); however the differences did not reach statistical significance. PWV were significantly higher (which indicated increased aortic stiffness) in the acute stages of RF both in the carditis or without carditis patients compared to 6 months later. PWV in the acute stage of RF with carditis was 6.61(0.97) compared to 6.06(1.21) m/s (p-value of 0.028) at 6 months follow-up. PWV in acute stage of RF without carditis was 7.18(1.32) as compared to at 6 months follow-up was 6.14(0.56) with p-value of 0.04. This improvement in aortic stiffness was associated with resolution of inflammatory process as evidenced by reduction in the inflammatory marker erythrocyte sedimentation rate (ESR) from acute phase with means of 71.29(44.96) to 6 months follow-up with means of 17.86(22.86) with p-value of 0.02.</p> <p>Conclusion: This study suggests that patients with RF have increased arterial stiffness which occurs transiently regardless whether they have or not have carditis.</p>
<p>P29</p> <p>JOINT CARDIOLOGY AND OBSTETRIC CARE IN PREGNANT PATIENTS WITH MODERATE TO SEVERE MITRAL VALVE DISEASE Ismat Mohd Sulaiman, Wan Shaari WH, Abdul Ghapar AK, Yusoff MR</p> <p>Background: Few studies have documented the outcome of pregnancy and mode of delivery for pregnant patients with underlying valve disease. This cohort study was a single center experience of the outcome of pregnancy in patients with mitral valve disease from 2006-2009.</p> <p>Objective: This observational study was to look at the outcome of pregnancy in patients with mitral valve disease.</p> <p>Methodology: Joint Cardiology and maternity records were reviewed from our institution for the period 2006 - 2009. All patients with moderate to severe mitral valve disease were included.</p> <p>Results: There were 25 patients in the cohort. 21 (84%) had moderate to severe mitral regurgitation (MR) and 4 patients (16%) had moderate to severe mitral stenosis (MS). Mean age was 29 (range 21 - 42). 9 patients (36%) were primigravida and 16 (64) were multiparous mothers.</p> <p>Mean ejection fraction was 61% (SD +/- 8.6). 84% (n=21) were in NYHA class I at presentation. 1 patient (4%) was in NYHA class III of which had severe MR. 19 patients (76%) had no change in the NYHA status needing diuretic therapy for stabilization (5 as outpatient and 1 in-patient).</p> <p>18 patients had spontaneous vaginal delivery (15 MR, 3 MS) between 38 - 41 weeks of pregnancy. 3 patients had elective caesarean due to fetal distress. One (4%) of patient had a termination of pregnancy at 24 weeks. 100% (n=25) of patients were alive to the end of pregnancy. 96% (n=24) of babies were alive with 1 intrauterine death (4%) at 24 weeks. One third of life-births (n=8) had evidence of intra-uterine growth retardation (IUGR).</p> <p>Conclusion: Patients with moderate to severe mitral valve disease are safe to proceed with their pregnancy with low morbidity and mortality to the mother and the baby. Most patients can be allowed normal vaginal delivery, maternity intervention were mainly indicated for non-cardiac cause.</p>	<p>P30</p> <p>EARLY RESULT OF PATIENTS WITH SIGNIFICANT CAROTID ARTERY STENOSIS UNDERWENT PERCUTANEOUS CAROTID INTERVENTION IN A NEWLY ESTABLISHED HEART CENTRE Lim Chiao-Wen, Chong Yoon-Sin, Abd Kahar Abd Gaphar <i>Department of Cardiology, Serdang Hospital, MALAYSIA</i></p> <p>Background: Carotid artery disease is not uncommon in patient with coronary artery disease during diagnostic coronary angiography. Routine carotid angiography was performed during diagnostic coronary angiography for patient with severe coronary artery disease involving left main trunk. Those patients with significant carotid artery stenosis (>80%) was offered percutaneous carotid intervention.</p> <p>Objective: The aim of this study was to determine the immediate and short term safety and adverse event of patients with significant carotid artery stenosis underwent Percutaneous carotid intervention in a newly established heart center.</p> <p>Methodology: Retrospective study to all patients underwent elective PTA to carotid artery in our heart centre from January 2010 till December 2010. We assessed the demographic, lesion type, used of distal protection device, procedure success, complication, immediate and short term major adverse cardiac event.</p> <p>Results: 8 patients underwent PTA carotid, the mean age was 72 year-old, 62.5% are male, 50% has diabetes mellitus. All lesions involved internal carotid artery. Distal protection device was deployed in all cases. Carotid stent was all successfully deployed at lesion site. There is 100% procedure success rate with no immediate complication. There was no reported case of acute cerebral event, death and myocardial infarction during the clinical follow up.</p> <p>Conclusion: In our small study cohort, percutaneous carotid intervention of significant carotid artery disease demonstrate an excellence immediate and short term result in the treatment of significant carotid artery disease. However further long terms follow up with larger sample size is needed to determine its long term clinical benefit and outcome.</p>

This article was accepted: 29 October 2011

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<p>P31</p> <p>CLINICAL AND ANGIOGRAPHIC PROFILE OF CORONARY ECTASIA Md. Toufiqur Rahman¹, A.A.S Majumder¹, Kh.Qamrul Islam¹, Syed Azizul Haque², A Wadud Chowdhury³, Afzalur Rahman⁴, AKM Fazlur Rahman⁵, G M Faruque¹, Mahboob Ali¹,Abul Hossain Khan Chowdhury¹. ¹.National Institute of Cardiovascular Diseases (NICVD), ².Dinajpur Medical College ³.DMCH, ⁴. Sir Saimullah Medical College ⁵. BSMMU.</p> <p>Objectives: Coronary artery ectasia is not a so uncommon entity characterized by inappropriate dilatation of the coronary vasculature. The exact mechanism of its development is unknown, but evidence suggests a combination of genetic predisposition, common risk factors for coronary artery disease and abnormal vessel wall metabolism. It frequently coexists with aneurysms elsewhere, mostly involving the aorta. It can present clinically as chronic stable angina or acute coronary syndrome.</p> <p>Methods: Coronary angiogram of 1625 patients between May, 2009 to February, 2010 were retrospectively reviewed at National Institute of Cardiovascular Diseases (NICVD), Dhaka.</p> <p>Results: 54 (3.32%) patients were found to have coronary ectasia. Male were 45 and female were 9. Mean age of patients was 54 ±06 years. 41% patients had hypertension, 61 % patients had diabetes mellitus, 63% patients had dyslipidemia, 33% patients were smokers and 33 % patients had positive family history of IHD.83% patients had abnormal resting ECG and 30% has positive exercise test. Mean left ventricular ejection fraction was 45 ±04 %. Right coronary artery being most commonly affected vessel(65%), followed by left anterior descending artery(52%) , left circumflex artery(39%) and left main coronary artery involvement in 2 cases.</p> <p>Conclusion: Majority of the patients had obstructive coronary artery disease with traditional risk factors for atherosclerosis indicating that coronary ectasia is most commonly associated with atherosclerosis and is not benign. Correspondence to: Dr. Md. Toufiqur Rahman, FCPS (Medicine), MD (Cardiology), MBBS (DMC), Associate Prof. of Cardiology, Room no.334, Middle Block, NICVD, Dhaka.</p>	<p>P32</p> <p>E-LEARNING VERSUS TRADITIONAL LECTURING FOR THE TEACHING OF ADVANCED CARDIOVASCULAR LIFE SUPPORT Dr Khalid R Hamza¹, Dr Alexander Loch¹, 2, David S. K. Choon, Dr Idzwan Mohd Zakaria¹, Prof Dr Wan Azman Wan Ahmad². ¹Department of Emergency Medicine, University Malaya Medical Center ²Department of Cardiology, University Malaya Medical Center</p> <p>Introduction: Classroom face-to-face lecturing is currently the core component of undergraduate medical education worldwide. Current literature emphasizes the important role of e-learning, where students have better control over their own pace and way of learning. Advanced Cardiovascular Life Support (ACLS) lacks guidelines for how and when to use computers for teaching.</p> <p>Objectives: To compare the effectiveness of computer-based learning (CBL) to traditional classroom face-to-face lecturing (FFL) teaching ACLS with regards to knowledge gain and student satisfaction.</p> <p>Methodology: This is a quasi-randomized, unblinded, prospective study. Fourth year medical students were conveniently divided into groups. The first group (FFL) was subjected to a classroom lecture on ACLS algorithms and electrocardiograph (ECG) recognition. The second group (CBL) studied web-based lessons equivalent in contents to the face-to-face lecture. Pre-testing was carried out and scores reflect baseline knowledge, while knowledge gain was assessed by deducting pre-test from post-test scores. Psychometric analysis using a 7-point validated Likert scale questionnaire was used to evaluate students' satisfaction levels with various aspects of their learning experience. Data is presented as means (±standard deviation).</p> <p>Results: 126 students were recruited, 89 in FFL group and 37 in CBL group. Baseline knowledge was identical for FFL and CBL groups, with pre-test score means of 8.87 (±2.85) and 8.32 (±3.06) respectively (p=0.348). The overall knowledge gain score was significantly higher (p=0.002) for FFL with 5.71 (±2.15) compared with CBL 3.81 (± 3.44). ECG rhythm recognition knowledge gain score averaged 1.71 (±1.83) and 1.65 (±2.22) for FFL and CBL group respectively (p=0.419). Both groups demonstrated satisfaction levels ranging between "very good" and "excellent". However, the FFL group described their experience as more interactive, organized and practical, with more appropriate content, easier to remember and reusable as a standard lecture for other students, as compared to the CBL group (p<0.05).</p> <p>Conclusion: Students can learn ACLS effectively from both media of instruction. The overall knowledge gain was significantly higher in the FFL group. Students still prefer face-to-face teaching, although both types of teaching were rated positive. CBL proved to be as powerful as FFL in teaching ECG recognition. A blended environment of traditional lectures integrating well-designed electronic modules seems most appropriate.</p>
<p>P33</p> <p>CORRELATION BETWEEN COLLATERAL GRADE ON INVASIVE CORONARY ANGIOGRAPHY AND MYOCARDIAL VIABILITY BASED ON MAGNETIC RESONANCE LATE GADOLINIUM ENHANCEMENT IMAGING IN CHRONIC TOTAL OCCLUSION Chang Boon Cheng¹, Nor Hanim MA¹, Fong Yean Yip¹, Chua Seng Keong¹, Yew Kuan Leong¹, Khiew Ning Zan¹, Tan Sian Kong¹, Cham Yee Ling¹, Annur Rapae², Ang Choon Kiat¹, Ong Tiong Kiam¹, Sim Kui Hian¹ ¹Sarawak General Hospital Heart Centre, ²Serdang Hospital</p> <p>Background: Collaterals serve as alternative blood supply in coronary artery disease with chronic total occlusion (CTO) and help maintain myocardial perfusion and viability. Determination of myocardial viability is crucial in deciding the feasibility of coronary revascularization.</p> <p>Objective: We attempt to investigate the correlation between collateral grade and myocardial viability based on cardiac magnetic resonance imaging (CMR).</p> <p>Method: We retrospectively examined 104 coronary artery chronic total occlusions in 87 patients who had viability testing done with CMR between June 2007 and July 2010 in our center. All imaging was done within 9 months of coronary angiography and before any successful revascularization was done on the culprit artery.</p> <p>Collateral grading is based on visual assessment of coronary angiography and ranked using Rentrop's Scale. Myocardial viability is defined as scarring of less than 75% myocardial thickness on gadolinium late enhancement study. Myocardial segments were classified using American Heart Association (AHA) 17 segment model.</p> <p>Results: 83.9% (47/56) of CTOs with Rentrop Grade 3 collaterals was noted to have viable myocardium in the corresponding territories. In CTOs with Rentrop Grade 2 and Grade 1 collaterals, viability was demonstrated in 73% (27/37) and 54.5% (6/11) of cases respectively. The correlation between myocardial viability and collateral grade is not statistically significant based on Chi square analysis (p=0.142).</p> <p>Conclusion: Visual assessment of collateral grade based on Rentrop classification on invasive coronary angiogram is unreliable in predicting myocardial viability</p>	<p>P34</p> <p>DIASTOLIC DYSFUNCTION IN RHEUMATOID ARTHRITIS PATIENTS AND CORRELATION TO DISEASE SEVERITY AT UNIVERSITY KEBANGSAAN MALAYSIA MEDICAL CENTRE Abdul Muizz AM, Mohd Shahrir MS, Oteh Maskon, Shamsul AS and Heselynn H</p> <p>Aims: The prevalence of diastolic dysfunction among rheumatoid arthritis (RA) patients in Malaysia is not fully established. The aim of this study was to evaluate the left ventricular (LV) diastolic dysfunction in RA patients without clinically evident cardiovascular manifestations and to estimate whether there is correlation between RA disease severity and disability and LV diastolic dysfunction</p> <p>Methods: The study was cross-sectional study involving 53 patients (47 females and 6 males) with RA without clinically evident heart disease and 53 healthy subjects (47 females and 6 males) who served as a control group. Both groups were matched for age and sex. Echocardiographic and Doppler studies were conducted in all patients with RA and control subjects.</p> <p>Results: Atrial (A) wave velocity was significantly greater in RA patients than control group [0.71 (0.58-0.83) vs. 0.61 (0.51-0.71); p<0.05]. RA patients compared to control group have longer Interventricular Relaxation Time (IVRT) (73.08 ±9.92 vs. 70.74 ±9.02) and lower E/A ratio [1.27 (1.02-1.56) vs. 1.42 (1.20-1.68)]. There was no significant association (p<0.05) in prevalence of diastolic dysfunction according to Redfield Classification in RA patients compare to control group [25 (47.2%) vs. 27 (50.9%)]. There was no significant correlation between diastolic function values in RA patients and value of disease activity score 28 (DAS28) and value of Health Assessment Questionnaires Disability Index (HAQDI).</p> <p>Conclusion: Prevalence of diastolic dysfunction was 47.2% and control group was 50.9%. LV diastolic function has no statistical significant correlation with RA disease severity and duration of disease. Key words: Diastolic dysfunction, Malaysia, rheumatoid arthritis</p>

This article was accepted: 29 October 2011

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P35

PREVALENCE OF INCIDENTAL FINDINGS ON CARDIAC MR AT SINGLE CENTER IJN
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Background: Cardiac magnetic resonance imaging (CMR) is emerging as method to detect coronary artery disease and assess cardiac function and morphology. Non-cardiac structures are also amenable to assessment by this test. The CMR scan can therefore detect findings that are incidental to the initial indication. These findings may be clinically significant, requiring further work-up or treatment.

Objectives: of study To determine the prevalence of incidental findings on CMR, whether it is a good screening tool for noncardiac findings, if not we could reduce the screening time (by an average 10-15 min.), and to document our incidence of incidental findings on CMR.

Methods: This is a prospective study in which 100 subjects were recruited from CMR unit at National Heart Institute KL. All the subjects have had CMR with at least 7 sequences of the MRI protocol. All images have been retrospectively reviewed by our in house cardiologist as well as by our visiting consultant radiologist, specifically assessing for non-cardiac findings. Incidental findings were noted and categorized according to the significance which are defined as: 1) Significant findings: requiring further clinical or radiological work-up, 2) Intermediate significant findings are those that may affect patient care depending on medical history or symptoms, 3) Remaining findings which are considered clinically insignificant.

Results: Of the 100 participants, 14 (14%) had extra cardiac finding, out of these 14 patients 6(42.9%) having multiple findings. A total of 20 incidental findings were visualized, including 8 potentially sig. findings 5 findings of intermediate importance and 7 insignificant. The most common sig. finding was a breast mass found in 3 patients (21.43%) with the commonest intermediate findings being pleural effusion and atrophic kidney seen in 2 patients (14.3%) respectively. Most prevalent clinically insignificant finding was renal cyst seen in 3 patients (21.43%). Sig. Findings including: Breast mass found in 3 patients (21.4%), pulmonary nodule, solid renal mass or complex cyst, pleural nodule, parenchyma lung changes and mediastinal/axillary/para aortic nodes, found in 1 patient (7.1%) respectively. Intermediate sig. findings including: Pleural Effusion, atrophic kidney found in 2 patients (14.3%) respectively, retrosternal goiter found in 1 patient (7.1%). Insig. findings including, renal cyst found in 3 patients (21.4%), axillary node found in 2 patients (14.3%), liver hemangioma and paraspinous node found in 1 patient (7.1%) respectively. The overall prevalence of the sig. findings was 56.9%, followed by insignificant findings 50% and intermediate sig. findings 35.7%.

Conclusion: Based upon the findings of this study there were high prevalence of non-cardiac incidental findings on CMR, majority of these findings were clinically sig. which needs further workup and treatment, therefore we suggest that CMR is a good screening tool to look for the non-cardiac incidental findings as these may affect overall clinical picture and may help in better understanding of patient's underlying problem. And all 7 sequences of CMR need to be done to look for these findings.

P37

VIALE DYSFUNCTIONAL MYOCARDIUM AND ITS CORRELATION WITH THE LV REMODELLING IN PATIENTS WITH SUCCESSFULLY REPERFUSED STEMI

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Background: Discordant 123I-¹²⁵I-methyl-Iodophenyl pentadecanoic acid (BMIPP) and 99mTc-tetrofosmin (TF) uptake is designated as viable dysfunctional myocardium or myocardial stunning. But a little is known about its relation with the left ventricular (LV) volume change.

Objectives: This study was designed to unravel the impact of the degree of BMIPP-TF mismatch on upcoming LV remodelling following successfully reperfused ST-segment elevation myocardial infarction (STEMI).

Methodology: Thirty five patients (Age: 60±10 yrs) with recent STEMI were enrolled, and all of them underwent emergency successful percutaneous coronary intervention (PCI). BMIPP and TF cardiac scintigraphy was performed on 7±3 days of admission. On 17 segment model, a difference of BMIPP and TF defect score by 7.4 were considered as mismatched defect. Conventional echocardiography was performed within 24 hrs of admission, and at 3 months interval. Left ventricular end diastolic volume index (EDVI), and end systolic volume index (ESVI) were recorded accordingly.

Results: Out of 35 patients, 30 showed BMIPP-TF mismatched defect and rest 5 showed matched defect. Twenty patients (57%) showed reduction of left ventricular EDVI, and 15(43%) patients showed reduction of ESVI over 3 months. Mismatched defect score showed a significant correlation with the relative change of EDVI ($p=0.002$, $r=0.59$) and ESVI ($p=0.042$, $r=0.40$).

Conclusions: The degree of dysfunctional viable myocardium showed nice correlation with the favorable LV remodelling following successfully reperfused STEMI, and emergency PCI played a great role to prevent the upcoming ventricular remodelling.

P36

CHANGES OF HEART RATE AND ITS RELATION WITH SCAN AND LVEF OF CORONARY ARTERY DISEASE PATIENT DURING ADENOSINE STRESS SPECT-MPI

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Backgrounds: Adenosine is a coronary vasodilator. To see its effect on heart rate changes and relation with scan and LVEF of coronary artery disease patient during adenosine stress SPECT-MPI has not yet been tried in Bangladesh.

Objectives: To evaluate the changes of HR and its relation with scan and LV EF of coronary artery disease patient during adenosine stress SPECT-MPI.

Methods: Cross sectional study were done on 82 patients who underwent adenosine stress test (without exercise) and MPI using technetium-99m sestamibi radioisotope. Change in HR was calculated by subtracting HR at rest from peak HR. The percentage change in HR was calculated. All patients underwent stress and resting SPECT imaging. LV ejection fraction was calculated using gated SPECT.

Results: Mean age was 54 ± 11.7 years and 68 of the patients (72%) were men. 33 (40.2%) had OMI, 24 (29.3%) had stable angina, 9 (11%) had atypical chest pain, 6 (7.3%) had CABG, 6 (7.3%) had complaints of SOB and 4 (4.9%) had PTCA. We divided the patients in to 2 groups: Group 1 (21 patients, 25.6%) had normal scans, Group 2 (61 patients, 74.3%) had abnormal scans. Abnormal scans were defined as presence of either fixed defects (26 (31.7%), reversible defects (11 (13.4%), or both (24 (29.3%)). Average HR increased by 35 beats/min in the normal scan group compared with 23 beats/min in the abnormal scan group ($p=0.002$). 32 patients (39%) had reduced EF (? 45%). This group had an average HR and percentage HR increase of 23 beats/min (27%) compared with an increase of 35 beats/min (38%) in patients with normal EF (0.002 and $p=0.02$ respectively).

Conclusion: Thus, a diminished HR response had a significant relation with both an abnormal scan and reduced EF on adenosine stress SPECT-MPI.

P38

THE PREVALENCE OF AORTIC DILATATION, VALVE FUNCTION AND DIFFERENT PHENOTYPES IN PATIENTS WITH BICUSPID AORTIC VALVE IN VARIOUS ETHNIC GROUPS

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Background: Bicuspid aortic valve (BAV) is the most common form of adult congenital heart disease and is usually associated with dilations of the aortic root and ascending aorta, aortic stenosis and aortic regurgitation. We aim to study the prevalence of AR, AS, aortic dilatation and the different BAV phenotypes in different ethnic of our local population.

Methods: 200 patients (male/female: 133/67, mean age: 46.9±16.3 years) diagnosed with congenital BAV were retrospectively studied. All patients underwent full echocardiography examination. BAV was classified into three phenotypes: R-L, R-N and N-L (See Figure1). Patients were divided into four ethnic groups: Chinese, Indian, Malay and others.

Results: In our group, the percentage of Chinese was 81%, Indian was 10%, Malay was 6.5% and the others was 2.5%. R-L phenotype was the most common in these four groups (60%, 62%, 60% and 60%, respectively). The prevalence of AR was higher than AS both in Chinese and Malay groups (46% vs 27%, and 54% vs 42%, respectively), whereas the prevalence of AS was higher than AR in Indian group (65% vs 30%). In the Indian and Malay groups, isolated ascending aorta dilatation were most common, but in Chinese group, dilatation of both ascending aorta and aortic root was most common. The prevalence of aortic root dilatation was the lowest in Chinese, Malay and Indian groups.

Conclusions: The prevalence of AS, AR and aortic dilatation were different in different ethnic populations. There is no difference in BAV phenotypes among Chinese, Malay and Indian population.

Figure1. Three different phenotypes of BAV.

R-L R-N N-L

R-L: fusion of right-left coronary cusp; R-N: fusion of right-non-coronary cusp; N-L: fusion of non coronary-left coronary cusp; RCA: right coronary artery; LCA: left coronary artery.

Table 1. The prevalence of different phenotypes, AS, AR and aortic dilatation in different groups

Ethnic Groups	Chinese group (n=162)	Indian group (n=20)	Malay group (n=13)	Others (n=5)
BAV phenotypes	R-L-R-N N-L	60%23%17%	60%35%5%	62%23%15%
Sites of Aortic Dilatation	Dilatation of Asc Ao	Dilatation of aortic root	Dilatation of both Asc Ao and aortic root	No aortic dilatation
AS/AR	19%9%20%52%	35%0%25%40%	23%0%8%69%	0%40%20%40%
Valve function	AS/AR	27/67	65/305	42/54/40/40

R-L: right-left coronary cusp; R-N: right-non coronary cusp; L-N: left-non coronary cusp; Asc Ao: ascending aorta

This article was accepted: 29 October 2011

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National Heart Association of Malaysia

<p>P39</p> <p>LEFT VENTRICULAR LONGITUDINAL FUNCTION BY CARDIAC 320 AND 64 SLICES COMPUTED TOMOGRAPHY Nobuhiro Kodani (1), Masaki Wake (1), Taiji Okada (1), Taku Nakamura (1), Tomoko Adachi (1), Saki Ito (1), Takashi Sugamori (1), Masatake Sato (1), Nobuyuki Takahashi (1), Hidetoshi Sato (1), Hiroyuki Yoshitomi (2), Kazuaki Tanabe (1) <i>(1) 4th Department of Internal Medicine, Faculty of Medicine, Shimane University, Izumo, Japan. (2) Shimane University Hospital, Department of Clinical Laboratory, Izumo, Japan. a(1)</i></p> <p>Background: Detection of patients who will progress from left ventricular (LV) hypertrophy to diastolic heart failure (DHF) is important for the strategy of medical treatment. Recent studies demonstrated that LV longitudinal deformation in DHF is reduced despite preserved systolic function.</p> <p>Objectives: The aim of our study is to evaluate the LV longitudinal function by 320 and 64 slices CT.</p> <p>Methodology: 201 cases underwent cardiac 320 slices CT "Aquilion ONE" (TOSHIBA Co., Ltd. Japan.), and 22 cases underwent cardiac 64 slices CT "Brilliance CT 64" (PHILIPS Co., Ltd. Netherlands.) from April to October, 2010. We randomly selected 56 cases, and measured LV mass, LV ejection fraction, LV longitudinal shortening by cardiac analysis work station "SYNAPSE VINCENT" (Fuji Film Co., Ltd. Japan.). LV longitudinal shortening was measured the distance between mitral valve and LV apex at the end diastolic (R-R interval 0%) and at the end systolic (R-R interval 30% or 40%) phase in 2 different long axis image by cardiac function mode.</p> <p>Results: We found a strong negative correlation among LV longitudinal shortening and LV mass index ($R = -0.753$). But, there was a moderate positive correlation among LV longitudinal shortening and LV ejection fraction ($R = 0.405$).</p> <p>Conclusion: These results suggested that longitudinal function by cardiac CT is progressively depressed associated with LV hypertrophy.</p>	<p>P40</p> <p>AORTIC VALVE CALCIUM SCORING BY CARDIAC 320 AND 64 SLICES COMPUTED TOMOGRAPHY IS USEFUL FOR SCREENING OF AORTIC VALVE STENOSIS Nobuhiro Kodani (1), Masaki Wake (1), Taiji Okada (1), Taku Nakamura (1), Tomoko Adachi (1), Saki Ito (1), Takashi Sugamori (1), Masatake Sato (1), Nobuyuki Takahashi (1), Hidetoshi Sato (1), Hiroyuki Yoshitomi (2), Kazuaki Tanabe (1) <i>(1) 4th Department of Internal Medicine, Shimane University Faculty of Medicine (2) Shimane University Hospital, Department of Clinical Laboratory</i></p> <p>Background: Noninvasive coronary angiography with the use of multislice CT is feasible in identifying patients with coronary artery stenosis. In addition, the incidence of significant calcific aortic valve is expected to rise in the aging society.</p> <p>Objectives: The aim of our study is to assess the correlation among the severity of aortic valve calcification, aortic valve stenosis, and left ventricle hypertrophy by cardiac 320 and 64 slices CT.</p> <p>Methodology: 197 cases underwent cardiac 320 slices CT "Aquilion ONE" (TOSHIBA Co., Ltd. Japan.), and 21 cases underwent cardiac 64 slices CT "Brilliance CT 64" (PHILIPS Co., Ltd. Netherlands.) from April to October, 2010. We randomly selected 112 cases, and measured aortic valve calcium score (AVC score) and aortic valve area (AVA) by cardiac analysis work station "SYNAPSE VINCENT" (Fuji Film Co., Ltd. Japan.). AVC score was measured by calcium score mode, and AVA was measured by cardiac function mode.</p> <p>Results: We found a strong positive correlation ($R = 0.69$) among AVC score and 1/AVA, and a moderate positive correlation ($R = 0.55$) among AVC score and LVM. When classified as moderate-AS group ($1.5\text{cm}^2 > \text{AVA} \geq 1.0\text{cm}^2$, $N = 5$), mild-AS group ($2.0\text{cm}^2 > \text{AVA} \geq 1.5\text{cm}^2$, $N = 10$), and non-AS group ($\text{AVA} \geq 2.0\text{cm}^2$, $N = 97$), AVC score of Moderate-AS group was significantly higher than that of other groups (2630.2 ± 1467.0 VS 478.8 ± 492.0, 96.4 ± 153.0, $P < 0.001$).</p> <p>Conclusion: These results suggested that aortic valve calcium score assessed by cardiac CT is useful for screening of AS.</p>
<p>P42</p> <p>ASSESSMENT OF LEFT VENTRICULAR SYSTOLIC FUNCTION IN PATIENTS WITH HEART FAILURE BY GLOBAL TWO-DIMENSIONAL STRAIN Wang Qiu-shuang, Huang Dang-sheng, Luo Bei-jie, Zhang Li-Wei, Zhang Chun-hong, Zhang Mei-Qing, Ji Dong-dong <i>Department of Cardiology, First Affiliated Hospital of General Hospital of PLA, Beijing 100088</i></p> <p>Background: Although 2D strain based on speckle tracking has been proposed as a simple and reproducible tool to detect systolic dysfunction, the relationship of 2D global strain and heart failure has not clear.</p> <p>Objectives: We sought to study the characteristics of the 2D global strain in patients with different degrees of heart failure.</p> <p>Methodology: 28 cases of normal controls and 58 cases of myocardial infarction patients with heart failure were enrolled in the study. Patients with heart failure according to left ventricular ejection fraction (LVEF) were divided into mild group (22 cases), moderate group (21 cases), and severe group (15 cases). The systolic longitudinal strain (LS), radial strain (RS) and circumferential strain (CS) were measured in 18 segments of left ventricular using 2D strain software. The global longitudinal strain (GLS), the global radial strain (GRS) and the global circumference strain (GCS) were calculated as the average of left ventricular 18 segmental LS, RS and CS values respectively. LVEF and left ventricular end diastolic volume (LVEDV) were also measured by the conventional two-dimensional echocardiography.</p> <p>Results: There was significant difference in GLS, GRS, GCS between normal control group and mild, moderate, severe heart failure group ($P < 0.05$). GLS was significantly decreased with a reduced LVEF, GLS can be seen significant differences between mild, moderate and severe heart failure groups ($P < 0.01$); GCS in severe group was lower significantly than that in the mild and moderate group ($P < 0.05$). But there was no significant differences in GRS in the three heart failure groups ($P > 0.05$). GLS was closely correlated with LVEF ($r = -0.65$, $P < 0.01$), GCS also have a certain correlation with LVEF ($r = -0.55$, $P < 0.05$). There was on correlation between GRS and LVEF ($r = -0.32$, $P > 0.05$).</p> <p>Conclusions: GLS, GRS, GCS change differently in varying degrees of heart failure group. And both of GLS/GCS are closely correlated with the LVEF, GLS, GCS may reflect the varying degrees of myocardial injury, but GRS and LVEF may reflect different aspects of left ventricular systolic function.</p>	<p>P44</p> <p>IS TRANSOESOPHAGEAL ECHOCARDIOGRAPHY AN ESSENTIAL INVESTIGATION FOR INFECTIVE ENDOCARDITIS : 5 YEAR SINGLE CENTRE EXPERIENCE Dr. Vikram Sharma, Dr. Gordon Jackson <i>University Hospital Lewisham, London, UK</i></p> <p>Background: Echocardiography has a crucial role to play in the diagnosis of Infective Endocarditis (IE). Trans-Thoracic Echocardiography (TTE) is advised as a first line imaging modality for suspected IE in the current ESC Guidelines (Class 1 recommendation). The ESC guidelines also have a Class 2A recommendation for Trans-oesophageal Echocardiography (TOE) in patients with suspected IE, even in cases with a positive TTE because of higher sensitivity and specificity for the detection of abscesses as well as better accuracy in determination of the size of vegetations.</p> <p>Objectives: The purpose of the study was to look at the correlation between TTE and TOE to determine if TOE should be done in all cases with suspected/proven IE irrespective of TTE diagnosis.</p> <p>Methodology: Echocardiography reports for all patients with a diagnosis of IE over a 5 year period (2003-2007) at University Hospital Lewisham were reviewed retrospectively</p> <p>Results: In total there were 25 cases of IE over the 5 year period. 9 cases had TOE only and 5 cases had TTE only. In 11 cases both TOE and TTE were done. In 7 out of these 11 cases, the diagnosis was same in both modalities. In 4 out of 11 cases (more than 1/3rd of cases) where both TOE and TTE were done, the TOE diagnosis was different from the TTE diagnosis. In 1 case TOE picked up additional mycotic aortic aneurysm apart from aortic vegetation detected on TTE. In 1 case the diagnosis on TOE was completely different (normal) as compared to TTE which showed aortic root abscess. In 1 case TOE assessed the severity of mitral valve vegetation more accurately (Large vegetation on TOE vs moderate vegetation on TTE). In 1 case TOE picked up mitral valve vegetation in addition to mitral regurgitation reported by TTE.</p> <p>Conclusion: These findings suggest that TOE should be done in all cases of confirmed infective endocarditis even if TTE has been done because of the higher sensitivity, specificity and accuracy of TOE. The findings also support the ESC Class 2A recommendation that TOE should be considered in majority of cases with a suspected diagnosis of infective endocarditis irrespective of TTE findings.</p>

This article was accepted: 29 October 2011

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<p>P45</p> <p>ST-ELEVATION MYOCARDIAL INFARCTION IN YOUNG AND OLD PATIENTS: A COMPARISON OF RISK FACTOR PROFILE, CLINICAL PRESENTATION, CORONARY VESSEL INVOLVEMENT AND CLINICAL OUTCOME. A RETROSPECTIVE STUDY 1. Mahmood Zuhdi As, MBBCh BAO (UK), 2. Yaakob Zh, MBBS (TAS), M.Med (Mal), 3. Undok Aw, MBBS (MAL) M.Med (Mal), 4. Wan Ahmad Wa, MRCP (UK), FRCP (Glasg)</p> <p>Background: The emergence of an accelerated atherosclerotic process in young adults with myocardial infarction raises concerns of whether it is associated with a different disease pattern and adverse outcome in view of a more malignant disease process. This study analyses the acute clinical presentation, risk factor profile, coronary angiographic findings and clinical outcome in young adults with ST-elevation myocardial infarction (STEMI) and compares with that in older patients.</p> <p>Objectives: This study is to determine whether there is any difference between the young and old STEMI patients in terms of clinical presentation, risk factor profile, angiographic findings and clinical outcome. METHODS: This is a retrospective study. We examined 229 patients with STEMI from January 2009 to April 2010. They were divided into young (45 years or less) and old (46 years and older) groups. We studied their acute clinical presentation, risk factor profile, the extent of coronary vessel involvement, in-hospital mortality and major adverse cardiac events (MACE) within 6 months follow up.</p> <p>Results: We observed male preponderance in young STEMI group compared to the old group. We found low prevalence of Chinese patients in the young group with high proportion patients from Bangladesh and Pakistan. Young STEMI had significantly lower rate of diabetes and hypertension but they had worse lipid profile. Active smoking was noted to be the most associated risk factor in young STEMI. Although there is no significant difference in in-hospital mortality, young STEMI had a better 6-month outcome.</p> <p>Conclusion: We observed distinctive characteristics in our young STEMI patients compared to the old group in terms of their ethnicities, risk factor profile and clinical outcome.</p>	<p>P46</p> <p>CLINICAL PREDICTOR OF LEFT VENTRICULAR DIASTOLIC DYSFUNCTION Bernadette J. Santiago-Halasan, M.D., Chong Hua Hospital, Cebu City Philippines Alex T. Junia, M.D., Chong Hua Hospital, Cebu City Philippines</p> <p>Context: The impact of left ventricular diastolic dysfunction (LVDD) on cardiac morbidity and mortality, especially in congestive heart failure, has been greatly emphasized. Fifty to sixty per cent of patients admitted with CHF have LVDD without systolic dysfunction. It has not yet been fully reconciled though, whether clinical entities could be used as predictors of LVDD. In the presence of LVDD among asymptomatic individuals, there is a need for us to know the specific clinical entities that can exist independently as predictors of its development. In such a way, we may prevent or delay the progression to LVDD in clinical practice, decrease the all cause morbidity and mortality of CHF.</p> <p>Objective: To determine whether cardiovascular risk factors can predict the development of LV diastolic dysfunction among Executive Check Up patients of a tertiary hospital from January 2006-August 2007.</p> <p>Methods: Analytical retrospective design employing nonprobability convenience sampling of 342 Executive Check Up patients of Chong Hua Hospital, Cebu City under ECU Plans III, IV, Kidney and Diabetes Plans who had their echocardiograms taken during the period of study from January 2006 to August 2007. Statistical analysis using SPSS version 11 was used and logistic regression analysis was done to correlate the CV risk factors independently noted to predict LVDD.</p> <p>Main Outcome Measure Correlation of risk factors with LV diastolic dysfunction among asymptomatic individuals.</p> <p>Results: LVDD was noted in 62.6% of the population at a distribution of 53.5%, 8.8% and 0.3% grades 1, 2 and 3 of LVDD, respectively. Results showed that age, BMI, diabetes, hypertension and dyslipidemia were significantly correlated statistically with LVDD. Logistic regression analysis further showed that for every year increase from age 50 there is a corresponding 10.3% increase in LVDD. For every increase in BMI unit, there is a corresponding 13.1% increase in the LVDD. Diabetics, hypertensives and dyslipidemics were 5.5, 2.6 and 3.1 times, respectively, more likely to develop LVDD.</p> <p>Conclusion: Age, obesity, hypertension, diabetes mellitus, and dyslipidemia are significantly and independently correlated to predict the occurrence of diastolic dysfunction among asymptomatic individuals. Since this study significantly proves the correlation between cardiovascular risk factors and LVDD, it is highly recommended that preventive and control measures to arrest or delay the development and progression of obesity, diabetes, hypertension and dyslipidemia be given primary importance in the clinical setting. This study may be validated for further use in clinical practice. A further prospective study is recommended to verify if control or treatment of these risk factors may decrease the occurrence of LVDD.</p>
<p>P47</p> <p>CAUSES OF DELAYED OR MISSED THROMBOLYSIS IN A STATE HOSPITAL IN MALAYSIA *JL CHONG MRCP (UK), **HadiJaafar (MMed), **KH NG MRCP(UK) <i>*Department of Medicine, Hospital Tengku Ampuan Afzan, Kuantan (HTAA), Malaysia ** Department of Cardiology, Hospital Tengku Ampuan Afzan, Kuantan (HTAA), Malaysia Correspondence to: DR CHONG JEN LIM, MOPD, Hospital Tengku Ampuan Afzan, Jalan Tanah Putih, 25100 Kuantan, Pahang Darul Makmur, Malaysia.</i></p> <p>Background: Thrombolysis and primary percutaneous coronary intervention are established treatments for acute ST elevation myocardial infarction (STEMI) but both should be administered timely in order to achieve greatest benefit. Objectives: To determine duration of patients first presented with symptom of STEMI to arrival to the hospital, duration from arrival to the hospital to the administration of thrombolysis; and factors contributing to the delayed or missed thrombolysis.</p> <p>Methodology: This is a retrospective study from hospital registry of all patients who were diagnosed to have STEMI in Hospital Tengku Ampuan Afzan from November 2009 to October 2010. Patients treated with primary percutaneous coronary intervention and patients who received thrombolysis from other centers were excluded from this study.</p> <p>Results: A total of 141 patients' records with STEMI were reviewed. 67.7% were thrombolysed and all used streptokinase except 3 patients used tenecteplase. Only 44.3% of the patients presented to hospital within 2 hours from the symptom. The median hospital arrival to thrombolysis time (Door to Needle) was 30 minutes, IQR 20 minutes to 57minutes. Only 44.1% (N=41) of the patients achieved door to needle time of less than 30 minutes. There were a total 98 patients with delayed (>30 minutes from hospital arrival) or missed thrombolysis of which 75.5% were potential preventable [26 due to delayed in the system (wrong triage, delayed in ECG, slow in preparing medication and etc.), 18 due to delayed or missed diagnosis by emergency department doctors, 8 due to delayed or missed diagnosis by medical team doctors and 22 due to late presentation].</p> <p>Conclusions: There were substantial numbers of patients with STEMI presented late to hospital (> 2 hours from the symptom) as well as delayed in door to needle time more than 30 minutes. Measures need to be taken to increase the public awareness and to improve the hospital system in order to diagnose and treat STEMI early.</p> <p>Key Words: myocardial infarct, STEMI, thrombolysis, fibrinolysis</p>	<p>P48</p> <p>EVALUATION OF TARGETED CARDIOVASCULAR RISK FACTORS MANagements AMONG HIGH RISK PATIENTS (CORONARY ARTERY DISEASES) ATTENDING IJN CLINICS Dato, Dr.Azhari Rosman MD <i>Institut Jantung Negara</i></p> <p>Statement of Topic Cardiovascular disease is a leading cause for morbidity and mortality all over the world. It is important to study life style related, modifiable cardiovascular risk factors among patients, in order to devise preventive strategies. Risk factor modification remains the cornerstone of management of CAD. Many of the traditional risk factors for CAD—hypertension, diabetes mellitus, smoking, and so on—are common.</p> <p>Objective: To determine targeted cardiovascular risk factors control among coronary artery disease patients.</p> <p>Methods: An observational Across sectional study. Design was used in the data collection process. The study sample consists of 310 CAD outpatients who fit the inclusion criteria. All the patients were recruited from the outpatient clinics at National Heart Institute of Malaysia (IJN) located in the state of Kuala Lumpur, Malaysia.</p> <p>Results: A total of 310 coronary artery disease outpatients referred to IJN were evaluated (22.3% females and 77.7% males) with a mean age of 61 ± 9.8 years, 138(76.8%) had diabetes since diagnosis $6.19 \pm (6.8)$ years and mean HbA1c $7.63(4.6)$ Target HbA1c of 77% was observed in 138(52%) of patients. A history of hypertension was detected in 307(99.0%) of patients, of which 92(29.7%) had blood pressure values at the target level of $<130/80$ mmHg. Dyslipidaemia was found in almost all of patients, of which 31(16.8%) were at target dyslipidemia, while pulse target <70bpm was observed in 168 (54.2%). In Smoking target, majority 284 (91.6. %) were either ex-smoker or never smoked, According to waist circumference target a total of 37(11.9%) male patients were within target, Total of 58(18.7%) female patients did not achieved a target, BMI Target, 238(83.23 %) of patients had BMI greater than (more than 23 Kg/m²), 69(22.36 %) of patients had targeted physical activity. e.GFR target seen on 204 (65.8%).</p> <p>Conclusions: This study found that majority of Malaysian patients is not achieving recommended levels of glucose, blood pressure and lipid control. These findings also suggested that a wide gap exists between our knowledge of effective managements and their performance in practice. The present study recommends that more effort must be given for treatment of high risk patients to improve the quality of care in Malaysia.</p>

This article was accepted: 29 October 2011

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<p>P49</p> <p>MULTIDRUG ANTIHYPERTENSIVE REGIMENS THERAPY IN HIGH RISK PATIENTS ATTENDING TEACHING HOSPITAL IN MALAYSIA Dr. Ayman Selim I. Abougambou, MB, CHB, M.MED (Internal Medicine) USM Cardiology Clinical Specialist, National Heart Institute (IJN), KL Dr. Salwa S. Ibrahim, Bachelor Of Pharmacy, Master In Clinical Pharmacy (USM), (PHD In Clinical Pharmacy (USM))</p> <p>Introduction: Hypertension is extremely common disease found in patients with T2DM. Eighty to 90% of patients with type 2 diabetes mellitus will develop hypertension. The World Health Organization has estimated that high blood pressure causes one in every eight deaths, making hypertension the third leading killer in the world. Most hypertensive patients who are receiving treatment may not be optimally controlled. To achieve recommended blood pressure goals, it is often necessary to combine two or more antihypertensive agents.</p> <p>Objective: To assess the prevalence of hypertension, Evaluate antihypertensive medication regimens usage and Factors affecting the control of hypertension among diabetic patients. Study design: The study design is cross-sectional prospective descriptive study. The SPSS (Statistical Package of Social Science) version 12.0 was used for data entry and statistical analysis. Descriptive statistics, were used.</p> <p>Subjects and Methods: A cross-sectional prospective study design was used in the data collection process. The study sample consists of 466 Type 2 diabetes mellitus outpatients who fit the inclusion criteria. All the patients were recruited from the diabetic outpatient clinics from Hospital Universiti Sains Malaysia (HUSM) located in the state of Kelantan, Malaysia. Patients who fulfill criteria and consented were recruited in study, then blood pressure controls were measured, medications were reviewed.</p> <p>Results: The prevalence of hypertension (BP >130/80 or on medication for high blood pressure) was 436(93.56%) patients. In our study according to proportion of patients with target and non-target blood pressure reading based on various guidelines, majority of cases 356(76.39%) had not achieved target (7130/80mmHg) (according to ADA), 224(48.07%) did not achieved target (7140/85mmHg) (according to European Diabetes Policy Group), 219(47.00%) had poor blood pressure control (7140/90 mmHg), 132(28.33%) had Optimal (7130/80 mmHg), while 115(24.68%) had Fair blood pressure control (>130/80 mmHg-< 140/90 mmHg). The highest percentage of diabetes with hypertension 317(68%) treated with combination therapy drugs. The majority of diabetes patients 339 (72.7%) were on ACE/ARBs either alone or in combination with other anti-hypertensive medication. The logistic regression indicated that hypertension was positively associated with age (P=0.040), body mass index (P=0.027), Glycaemic control (P=0.046), and level of education (P=0.039).</p> <p>Conclusion: Hypertension is a common co-morbidity among diabetic patients. Dietary salt intake advice and salt restriction play very important role in addition to pharmacological therapy, in which diuretics must be 2nd or third agent in population which consumed high salt diet. Hypertension was not controlled to the recommended levels of blood pressure in about one-half (52.8%) of diabetes patients, which requires all healthcare professionals to be committed to policies of enhancing blood pressure control through reinforcing messages about the risk of hypertension, and the importance of managing and achieving goals for systolic and diastolic blood pressure.</p>	<p>P50</p> <p>ASSESSMENT OF LIPID PROFILE AMONG TYPE 2 DIABETES MELLITUS OUTPATIENTS AT HOSPITAL UNIVERSITI SAINS MALAYSIA (HUSM) Dr. Ayman S. Abougambou, MB, CHB, M.MED, Dr. Salwa Selim Ibrahim B. Pharma, M. Pharma, PhD</p> <p>Background: Dyslipidaemia is a major risk factor for macrovascular disease. The main objective of the present study to determine the frequency of desirable and high risk levels of lipid profile and to evaluate the prevalence of target levels of lipid profiles in a cohort of Malaysian Type 2 diabetic patients according to ADA.</p> <p>Methods: Prospective longitudinal the study was conducted with sample of 1077 Type 2 diabetes mellitus outpatient recruited whom attended the diabetes clinics at Hospital Universiti Sains Malaysia (from January till December 2008). Selection criteria include any gender aged more than 18 years. The study assessed the percentage of diabetic patients falling into desirable, borderline and high risk categories according to the criteria laid down by Adult ADA. (SPSS) software version 11.0 was used for data analysis.</p> <p>Results: The mean of lipid profile were 2.82 (±1.08) for LDL-C, mean for T.CH were 4.98 (±1.17), while mean for HDL-C were 1.40 (±0.54) and mean for TG were 1.74 (±0.85). While according to ADA, 681(63.2%) of patients had optimal cholesterol <5.2 mmol/l level, while 396(36.8%) had cholesterol (>5.20mmol/l) level. As for lipid control, most had satisfactory control with regards to LDL-C 493(45.8%) had optimal (LDL-C <2.6 mmol/l), while 285(26.5%) had (LDL-C 2.6-3.3 mmol/l), 186(17.3%) had (LDL-C 3.4-4.1 mmol/l), and only 113(10.5%) had (LDL-C >4.1 mmol/l). But most of our study population had unsatisfactory control with regards to HDL-C according to ADA guidelines. 384(35.7%) of male patients had optimal HDL-C >1.0 mmol/l, while 348(32.3%) of females had HDL-C >1.3mmol/l, 253 (23.5%) of females had HDL-C >1.3mmol/l and only 92(8.5%) of male had non target HDL-C >1.0 mmol/l control. By reviewing TG profile most of the patients had satisfactory control, with regards to TG, 625(58.0%) of patients had optimal TG <1.7 mmol/l, while 229(21.3%) had high TG (2.4-5.7mmol/l) and 223(20.7%) had borderline high TG control, (1.7-2.3mmol/l).</p> <p>Conclusions: The present study was an effort to provide an insight into some of the risk factors in DM. It was found that 36.8, 42.0, 54.3 and 32.0 percent of diabetic subjects had borderline to high risk levels of TC, TG, LDL-C and HDL-C respectively. Out of 1077 type 2 diabetic patients 1009(93.7%) were on lipid lowering therapy at the time of sample collection. Among these patients 939(87.2%) were on statins, the majority 477(44.3%) were on Atorvastatin, 264(24.5%) were on Pravastatin, while 221(20.5%) were on Simvastatin.</p>
<p>P51</p> <p>PREDICTORS OF CARDIOVASCULAR DISEASE IN HYPERTHYROID PATIENTS IN UNIVERSITY MALAYA MEDICAL CENTRE Ganiga Srinivasaiah Sridhar (MBBS) Faculty of Medicine, University of Malaya Kuala Lumpur, Malaysia Professor, Dr Wan Azman bin Wan Ahmad Faculty of Medicine, University of Malaya Kuala Lumpur, Malaysia</p> <p>Background: Thyroid dysfunction, even when mild, but significantly affects the cardiovascular system. It is well established that hyperthyroidism induces hyperdynamic cardiovascular state, which is associated with left ventricular dysfunction, and increased prevalence of supraventricular tachyarrhythmia. However this data is lacking in Malaysia.</p> <p>Objectives: a) Association of hyperthyroidism with: 1. Atrial fibrillation 2. Left ventricular dysfunction: systolic dysfunction and diastolic dysfunction 3. Left ventricular mass and left ventricular mass index 4. Left ventricular hypertrophy</p> <p>Methodology: The association of thyroid functional status with respect to atrial fibrillation, left ventricular dysfunction, left ventricular mass and left ventricular hypertrophy, was analysed in 202 subjects recruited from endocrine clinic and primary care clinic based on inclusion and exclusion criteria. A thyroid functional group was formed by dividing participants into three groups according to their serum TSH levels: Group I (serum TSH <0.01mIU/l), Group II (serum TSH 0.01-0.4 mIU/l), Euthyroid group (serum TSH 0.4-5mIU/l). Cardiovascular effects was examined in all the participating individuals with a 12 lead resting ECG, and an echocardiography.</p> <p>Results: The prevalence of AF in our study was 18.3%, logistic regression analysis revealed age >60yrs, male gender, and serum TSH<0.01 mIU/l are significant predictors for AF. The risk of AF for those above 60 years were 59.99 (95% CI = 6.36 - 565.76) P value<0.001, for males was 3.26 (95% CI = 1.12-9.50) P value 0.031 and in subjects with serum TSH<0.01 mIU/l were 7.82 (95% CI = 1.53, 40.09) P value 0.014. Subjects with TSH<0.01mIU/l and aged >60yrs were significantly associated with increased LVM and LVMI (P<0.001). LVH was observed in, two subjects (15.4%) in Group I, 10 (11.2%) subjects in Group II and in 8 (8%) subjects with euthyroidism; however there was no statistical significance (P value 0.600). Logistic regression analysis revealed age is an independent risk factor for LVH. Those above 60 years old are more likely to have LVH, (P value 0.022) odds ratio 8.27 (95% CI = 1.36-50.35).</p> <p>Conclusion: There is an association between thyroid functional status, age, gender, atrial fibrillation and cardiac mass. Those above 40yrs, male gender and with TSH<0.01mIU/l were at increased risk</p>	<p>P53</p> <p>LONG-TERM MANAGEMENT AND CLINICAL OUTCOMES OF POST ACUTE CORONARY SYNDROME PATIENT AFTER MODIFIED CARDIAC REHABILITATION PROGRAM 3 Lawrence Anchah, 1, 2 Professor Dr. Sim Kui Hian, 4 Professor Dr. Mohd. Izham Mohd Ibrahim, 1, 2 Dr. Alan Fong Yean Yip, 3 Yanti Nasyuhana Sani, 3 Tiong Lee Len, 3 Bibi Faridha Mohd Salleh, 4 Assoc Prof. Dr Mohd. Azmi Ahmad Hassali, 4 Professor Dr Yahaya Hassan, 5 Karen Tang Siew Lang, 1 Hii Ai Ching, 1 Sii Lik Ngoh <i>1 Dept of Cardiology, Heart Centre, Sarawak General Hospital, 2 Clinical Research Centre, Sarawak General Hospital, 3 Dept of Pharmacy, Heart Centre, Sarawak General Hospital, 4 School Pharmaceutical Science, Universiti Sains Malaysia, 5 Dept of Physiotherapy, Heart Centre, Sarawak General Hospital.</i></p> <p>Background: The interdisciplinary teamwork in cardiac rehabilitation program (CRP) in Malaysia might differ from the conventional model elsewhere. An early monitoring by clinical pharmacist in phase I of CRP that based on in-patient education program is evaluated with the existing conventional program.</p> <p>Objectives: To evaluate the early treatment of acute coronary syndrome (ACS) in using anticoagulant. To appraise the modified cardiac rehabilitation in term of long-term clinical outcomes.</p> <p>Methodology: We recruited post ACS participants with quasi-experimental design at Sarawak General Hospital. Hundred and twelve post ACS patients were divided to the modified CRP (MCRP), conventional CRP (CCRP) and the usual care. Data were analysed at baseline until 12-month follow-up.</p> <p>Results: A stable bleeding monitoring were observed after post intervention in the MCRP group at the mean PT 14.9 seconds (95% CI, 12.9-16.8 seconds). Patients in CCRP group were having high mean PT 18.2 seconds (95% CI, 13.4-23.1 seconds) compare to the control 14.3 seconds (95% CI, 13.5- 15.2 seconds) (p=0.058). An improvement of therapeutic INR was noted in MCRP group as mean INR 1.2 (95% CI, 1.0-1.4) which was lower than the CCRP group INR 1.5 (95% CI, 1.1-2.0) and the control group INR of 1.7 (95% CI, 0.7- 2.7) (p=0.793). Although a high numbers of smokers in MCRP, surprisingly after 12-month of follow-up the incidence of MACE rated in the modified CRP was much lower to the conventional CRP and usual care participants. The MACE in MCRP group was 11.1% (n=2) cases, which has low event rate compared to the CCRP 12.5% (n=3) cases and control participants 13.5% (n=5). Triglyceride level in the control participants did not show any improvement but rather had increased considerably to a median of 1.7 mmol/L (range, from 0.7- 3.7; p=0.541).</p> <p>Conclusion: In conclusion, throughout the one year follow-up with all the positive clinical outcomes and better cardiovascular events rates, demonstrated that the present practice of clinical pharmacist in acute management had brought major impact in health care systems. Thus, the MCRP is indeed one of the best options in improving mobility and mortality rates in ACS.</p>

This article was accepted: 29 October 2011

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<p>P54</p> <p>AUDIT OF STATIN THERAPY IN PATIENTS WITH ACUTE CORONARY SYNDROME IN IJN FROM JANUARY 2009 – JUNE 2009. Dr. Lim Eu Jin, Dr. Shaiful Azmi Yahaya <i>Institut Jantung Negara</i></p> <p>Background: Patients with ACS who are treated early with statins have been shown to have improved cardiac outcomes, especially with an intensive lipid-lowering regime, to a target LDL cholesterol level of less than 100mg/dl (2.6 mmol per liter).</p> <p>Objective: We sought to determine the attainment rate of target LDL-C level<2.6mmol/l and the prescription pattern of statins and among patients with acute coronary syndrome in IJN.</p> <p>Methodology: This was a retrospective cohort analysis involving patients with acute coronary syndrome who were admitted to IJN from January 2009 till June 2009. This population was analysed retrospectively for the target attainment rate of LDL-C levels during the subsequent 3 follow-up clinic visits with a mean follow-up duration of 17 months.</p> <p>Results: A total of 246 patients with ACS were analysed. The mean patient age was 59 years and mean baseline LDL-C level was 2.75mmol/L. The mean follow-up period was 17 months. A total of 140 patients (61%) achieved the target LDL-C level of < 2.6mmol/L, and 38 patients (16%) attained a level of < 1.8mmol/L. Out of the 140 patients, 55 patients had baseline LDL-C < 2.6mmol/L and the other 85 patients had LDL-C which exceeded the target level. Among the 85 patients, the majority (48 patients or 56%) with raised baseline LDL-C managed to attain the LDL-C target within the first follow-up clinic visit. The mean LDL-C level at the end of the follow-up period was 2.18mmol/L. There were 65 patients (29%) who did not achieve the LDL-C target, and only 17 of them had their statin regimen escalated. There were 6 different statins prescribed, of which atorvastatin 20mg and simvastatin 40mg were the most frequently prescribed to the patient at the end of the study period.</p> <p>Conclusion: The attainment rate of LDL-C levels < 2.6 mmol/l among ACS patients was satisfactory. Most patients were prescribed with moderately high potency statins.</p>	<p>P55</p> <p>THE UTILITY OF A COMBINATION POINT-OF-CARE BIOMARKER ANALYSIS AND HAND-HELD ECHOCARDIOGRAPHY IN ASSESSMENT OF PATIENTS WITH ACUTE CARDIAC SYMPTOMS AT THE EMERGENCY DEPARTMENT Nariman Singmamae^{2,4}, Fong AYY^{1,3}, Chia BY², Wong KG², Sim KH³, Chan HC² <i>1. Department of Cardiology, Sarawak General Hospital 2. Emergency and Trauma Department (ETD), Sarawak General Hospital 3. Clinical Research Centre, Sarawak General Hospital 4. Faculty of Medicine and Health Sciences, University Malaysia Sarawak (UNIMAS)</i></p> <p>Background: Point-of-care cardiac biomarkers (CB) and handheld echocardiography (HE) have individually demonstrated their effectiveness in management of patients with acute cardiac symptoms (ACaS). However, many hospitals in developing countries only have electrocardiography (ECG) and chest radiographs (CXR) as the mainstay of diagnostic workup. A combination strategy using both point-of-care technologies has not been evaluated in detail in the acute management of such patients.</p> <p>Objective: To evaluate a combination strategy of CB and HE in the management of patients with ACaS, including its accuracy to predict the discharge diagnosis.</p> <p>Methodology: 133 patients with ACaS were enrolled from a single Emergency and Trauma Department (ETD) during a 14 week period by senior clinicians. Venous blood for CB (Troponin I (TnI), proBNP(pBNP) and D-Dimer (DD); Stratus-CS) was drawn and bedside examination by HE (Acuson P10) conducted. Treatment was commenced when a working diagnosis was made. The patients' discharge diagnosis was subsequently obtained and compared with the working diagnosis.</p> <p>Results: 113 patients had complete data for CB and HE. Patients had a mean age of 62.5±14.0 years; 64.6% were male. 72.6% of patients presented with typical cardiac chest pain and/or dyspnoea. Mean duration of symptoms was 91.4±143.6 minutes. 95.6% of patients were fully alert at enrolment. Mean values of vital signs were: heart rate 91.8±23.6 /min; blood pressure systolic/diastolic 147.4±35.6/82.1±22.7 mmHg; Respiratory rate 24.4±8.3/min; temperature 36.4±0.9°C. ECG was reported "abnormal" in 63.7%, CXR reported "abnormal" in 71.7%, and 87.6% had either ECG or CXR reported "abnormal". TnI was abnormal in 30.1%, pBNP in 73.5%, DD in 63.7%; with 15% having no abnormal values. HE was reported abnormal in 43.4%. 4.4% died in ETD, 44.2% discharged home, 51.3% admitted to hospital wards. Duration of hospital admission to working diagnosis in ETD was 76.1±67.3 minutes; and the working diagnosis was similar to the discharge diagnosis in 76.1%.</p> <p>Conclusion: In a semi-selected group of patients presenting to an ETD with ACaS, a combination strategy using CB and HE in the diagnostic workup was useful, and demonstrated a fair degree of accuracy, in the management of these patients.</p>
<p>P56</p> <p>EXTRACORPOREAL SHOCK WAVE MYOCARDIAL REVASCULARIZATION (ESMR) AS A TREATMENT MODALITY IN PATIENTS WITH REFRACTORY ANGINA IN UNIVERSITY MALAYA MEDICAL CENTRE: 3 CASE SERIES. Zul Hilmi Y, Mohd Dzafir I, Abdul Wahab U, Ahmad Syadi MZ, W Himratul, Ahmad Khairuddin MY, Annuar R, Imran ZA, Wan Azman WA</p> <p>Introduction</p> <p>ESMR has been shown to benefit patients with refractory angina. It applies the principle of angiogenesis as well as increased nitric oxide secretion to improve microcirculation and thus patient's symptoms and exercise tolerance. Case 1</p> <p>Mr Lee, 75 years old Chinese gentleman, is an ex-smoker with underlying diabetes mellitus, hypertension, hyperlipidaemia and positive family history of coronary artery disease. He had CABG twice in 1986 and 2003. Multiple PTCA to the native artery and grafts were done but he remained symptomatic with CCS class III.</p> <p>His CCS class, EST (modified Bruce) and ECHO results were compared between pre-treatment and 1 month post treatment with ESMR. His CCS class improved from III to II. Duration of EST has increased from 6.18 to 9.37 minutes. Patient's LV systolic function (EF) has also improved from 24 to 46% (using Simpson's method).</p> <p>Case 2</p> <p>Mr Lim, 52 years old Chinese gentleman with triple vessel disease, diabetes mellitus, hypertension, hyperlipidaemia, ex-smoker and positive family history of coronary artery disease. After treatment with ESMR, he has achieved EST METS of 8.3 (post) compare to 6.5 (pre), even though the duration has decreased from 10.38 to 9.02 minutes. His ECHO parameters and CCS class do not show any significant changes.</p> <p>Case 3</p> <p>Mr Abdul Nasir, also with similar profile with Mr Lim (case 2) has undergone treatment with ESMR. His CCS class has improved from III to II and his EST duration has increased from 7.07 to 11.24 minutes, achieving METS of 4.0 and 7.0 consecutively. We had to stop his EST on the second test because of ST segment changes, however patient remained asymptomatic.</p> <p>Conclusion</p> <p>Preliminary results from ESMR treatment have showed promising results in term of improving symptoms and exercise tolerance. However, a larger and multicentre randomized controlled trials are needed to further evaluate this treatment.</p>	<p>P57</p> <p>EPIDEMIOLOGY OF ACUTE MI IN QUCHAN – IRAN <i>Islamic Azad University-Quchan Branch</i></p> <p>Introduction & Objectives: AMI is one the most causes of morbidity and mortality. In this study we assessed the epidemiology of AMI in? Quchan- Iran for two years.</p> <p>Methods: In this descriptive analytical, we assess all of the patients that hospitalized for ami for two years. We assess the age, sex, location of MI, Drug used, Duration of hospitalized, mortality and cardiac risk factor. That data enter to SPSS and analyzed.</p> <p>Result: From total 200 patient, 6/33 % was female and 4/66% was male. Mean age of male was 13 ±4/59 year And in female 3±64 r (P=0.04). Intra-hospital mortality was 10%. The mean and SD of Cholesterol, Triglyceride, HDL and LDL are 47±3/189, 124 ± 70, 43± 28 and 120 50± mg/dl. 39 % of the cases had a history of hypertension, 20 % suffered from diabetes, 20 % were smokers and 37 % had opium addiction. 38% of the Patients were shown to have plasma cholesterol levels of more than 200 mg/dl, among whom 14 % had cholesterol levels that exceeded 240mg/dl. In addition 16 % of the patients had LDL level of more than 160 mg/dl in their blood and in 28% of the cases plasma HDL levels were below 35mg/dl. Finally 10% were shown to have plasma Triglyceride levels of more than 200 mg/dl. In 42.7 % LDL to HDL ratio exceeded 3. The mean of LDL to HDL ratio was 2.9±1. Most Common type of MI are (28 %) inferior, (27 %) antroseptal and(% 26 anterior.</p> <p>Conclusion: Because of increase in AMI patients and cardiac risk factor we need to design interventional program for reduction in cardiac risk factors.</p>

This article was accepted: 29 October 2011

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<p>P58</p> <p>CLINICAL OUTCOME USING PACLITAXEL-COATED DRUG ELUTING BALLOON (DEB) ANGIOPLASTY IN BIFURCATION LESIONS Al Fazir Omar, Rosli Mohd Ali, David Chew, Aizan Azan, Amin Ariff, Shaiful Azmi, Robayah Zambahari <i>IJN DEB Registry INSTITUT JANTUNG NEGARA</i></p> <p>Background: Percutaneous coronary intervention (PCI) for coronary bifurcation remains challenging with strong predictor of restenosis even in this drug eluting stent (DES) era. There is not much data available in using drug eluting balloon for bifurcation lesions. The Debut Registry has demonstrated that the usage of drug-eluting balloon (DEB) from their twenty patients with bifurcation lesions was safe and effective.</p> <p>Objective: To assess the clinical outcome in patients receiving paclitaxel-coated drug eluting balloon angioplasty in bifurcation lesions</p> <p>Methods: A total of 38 patients receiving DEB for bifurcation lesions from March 2008 to April 2010 were enrolled into the registry. The primary end point of the study was major adverse cardiac events (MACE) including myocardial infarction (MI), cardiac death and target lesion revascularization (TLR) during procedural, in-hospital, 6 months and during the last follow-up. We aim to repeat the coronary angiogram in 6 to 9 months time to evaluate the late loss and binary restenosis rates.</p> <p>Results: The median follow-up for the patients in this registry was 196 days. The majority of patients was hypertensive and had dyslipidemia. Nineteen patients (50%) were diabetics. Twenty (57%) who underwent DEB angioplasty had de novo lesions and the remaining had ISR. The median size and length of DEB used were 2.5 + 0.5 mm and 20 + 5.0 mm, respectively. The median deployment pressure was 10 atmospheres. Majority of the lesions were type B2. In thirty six patients (95%), the DEB was used for side branches, in which six required coronary stentings. No major procedural complications occurred except non-flow limiting dissections in 5 patients. All patients were discharged safely with no in-hospital MACE. During the 6 months follow-up, MACE occurred in one patient (2.6%). Three patients (1.9%) had repeat coronary angiograms but did not require target lesion revascularization. In this small sample size, the presence of diabetes or small vessel size were not statistically significant in contributing to MACE ($p > 0.05$).</p> <p>Conclusion: In this small registry for bifurcation lesions, the short to medium term results of paclitaxel-coated drug eluting balloon in patients with bifurcation lesions appears to be safe and effective.</p>	<p>P59</p> <p>A 1 YEAR REVIEW OF PATIENTS WITH ACUTE MYOCARDIAL INFARCTION UNDERGOING PRIMARY ANGIOPLASTY YEAR 2010 AT HOSPITAL SERDANG Annamaral Muthu A/P Muthupalaniappan, MD Zamri A Rahaman, Wong Teck Wee, Mr Yusoff, Abd Kahar Abd Ghapar, Ys Chong. <i>Department Of Cardiology, Serdang Hospital, Malaysia</i></p> <p>Introduction: Serdang hospital is a government funded multispecialty hospital designated as the reference centre for cardiology and cardiothoracic providing affordable, quality treatment for heart patients from the lower income group. Serdang Hospital Cardiac Centre established the primary angioplasty service since 2009 for the treatment of AMI.</p> <p>Objectives: To assess the efficiency of our primary angioplasty service for the year 2010, DBT was an indicator for key performance index. Secondary objectives were to evaluate the outcome of the angioplasty including the TIMI score and the TMP grading. The review includes MACCE in hospital, 30 days and 3 months post angioplasty.</p> <p>Methods: Inclusion criteria were those of whom were having AMI symptoms more than 30 minutes and less than 12 hours. ST segment elevation more than 2 mm in more than 2 contiguous ECG leads. Patients presenting during office hours due to availability of the lab and patients presenting from January 2010 until December 2010.</p> <p>Results: The total number of patients was 42 patients for the year 2010 with the average of age being 48 years. 90% male gender, 58% having HPT, 65% having hyperlipidaemia, 70% smoking, 40% with positive family history, 30% Diabetes Mellitus and previous MI 22%. 32 patients had Killip 1, 8 patients had Killip 2, 2 patients with Killip 3. 53% had anterior MI, 41% inferior MI and 6% had posterior MI. 41.2% had SVD, 35.3% had DVD and 11.8% had TVD, 11.8% had no culprit vessels. 88.5% of the culprit vessels had thrombus in situ. Infarct related artery includes 47% LAD lesion, 41% RCA lesion and 12% having LCx lesion. Detailed final angiographic perfusion reveal 73% achieving TIMI 3 and 27% achieving TIMI 2. As for TMP 13% achieved TMP 1, 4% achieved TMP 2, 33% had TMP 3 and 13% had TMP 4. Median DBT was 48 min and the mean was 50.1min with SD \pm 19.7 min. As for the clinical follow-up in hospital 3 deaths were reported with no MACCE at 1 and 3 month follow-up.</p>
<p>P60</p> <p>CAN OCT ASSESS THE EFFECT OF ROTATIONAL ATHERECTOMY? PRELIMINARY DATA Lino Patricio MD, H.S. Marta, Lisboa, Portugal; Hiram Bezerra, PhD, University Hospitals, Cleveland USA; Hiroyuki Kyono MD, University Hospitals, Cleveland USA; Marco Costa, PhD, University Hospitals, Cleveland USA; Rui Ferreira M.D., H.S. Marta, Lisboa, Portugal</p> <p>Background: OCT is able to visualize calcified plaque.</p> <p>Objectives: The aim of this preliminary study is to evaluate whether OCT can assess calcified plaque modification after rotational atherectomy (RA).</p> <p>Methods: 23 Patients underwent RA were included OCT was performed Pre-RA, Post-RA and Post-STENT. TD-OCT system (M3, Lightlab) without proximal occlusion technique was used. Modification of calcified plaque was assessed in every frame. The relationship between calcium modification and burr/artery size in each frame was also evaluated.</p> <p>Results: Pre-RA Post-RA Post-Stent P value for Pre- and Post-RA P value for Overall Patient Number 6 6 6 NA NA Total Frames 620 549 441 NA NA Bifurcation Frames 89 93 34 NA NA Not analyzable Frames 0 39 36 NA NA Area Measurement Frames 531 417 103 NA NA Lumen area 3.18 \pm 0.71 3.32 \pm 0.40 6.16 \pm 0.95 0.7299 < 0.0001 Mean Diameter 1.96 \pm 0.22 2.02 \pm 0.12 2.77 \pm 0.22 0.5339 < 0.0001 Min. Diameter 1.73 \pm 0.24 1.78 \pm 0.15 2.52 \pm 0.21 0.6338 < 0.0001 Max. Diameter 2.21 \pm 0.20 2.29 \pm 0.12 3.05 \pm 0.29 0.4973 < 0.0001 Symmetry index 1.32 \pm 0.09 1.31 \pm 0.08 1.21 \pm 0.07 0.7083 0.0627 (Max.diameter/Min.diameter)</p> <p>Pre-RA Post-RA P Value Either Calc. w/o Cap or Channel 5.27 (28/531) 21.82 (91/417) 0.0241* Calc. w/o Cap 5.27 (28/531) 18.94 (79/417) 0.0778 Channel NA 2.88 (12/417) NA</p> <p>Bigger burr size was associated with higher chance for getting calc w/o cap. In contrast, chance of having channel was associated with smaller burr size. Channel formation may be mainly related with the lesion angulations.</p> <p>Conclusion: No significant MLD increase after Rotablation was evaluated by OCT. Two patterns were notice, calcium without cap and channels, related with burr size. This results provide preliminary data, further information will come from extended population.</p>	<p>P62</p> <p>PRENATAL DIAGNOSIS OF FETAL DYSRHYTHMIAS AND ITS POSTNATAL OUTCOME: TEN-YEAR EXPERIENCE IN SINGLE TERTIARY CENTRE *Hok-Keong Chang, Jieh-Neng Wang, Wen-Lan Yen, Jing-Ming Wu <i>*Madou Sin Lau Hospital, Tainan, Taiwan National Cheng Kung University Hospital, Pediatrics Department, Tainan, Taiwan</i></p> <p>Background: Cardiac dysrhythmia is a common phenomenon that found in obstetrics scan. Lethal dysrhythmia may need aggressive treatment and frequent follow up</p> <p>Objectives: To evaluate the incidence and characteristics of fetus dysrhythmia and its postnatal outcome</p> <p>Method: From September, 1999 to September 2009, total 441 cases were referred from obstetrics for further fetal cardiac scan. There was 47 cases were suspected fetal arrhythmia. 36 cases (76.59%) were study eligible. Fetal echocardiography was performed by two cardiologists. 18/36 (50%) patients was presented with gestational age of within 17-24 weeks. The rest of the patients were within 25 -38 weeks. We analyzed the cardiac rhythm which fetal tachyarrhythmia is the heart rate of more than 180 bpm. On the other hand, fetal bradycardia, defined as persistent fetal heart rate of less than 100 bpm.</p> <p>Results: Among cardiac dysrhythmias referred by obstetrics, 15/36(41.67%) was normal. The atrial premature complexes were the most common cardiac dysrhythmia (12), followed by complete atrioventricular block (3), sinus bradycardia (2), ventricular premature complexes (1), paroxysmal supraventricular tachycardia (1), atrial flutter (1), and ectopic atrial tachycardia (1) respectively.</p> <p>Conclusion: Fetal arrhythmias account for 10-20% of referrals to a fetal cardiologist. Most of them are due to ectopic beats, which are benign and do not require treatment. However, a small number of fetuses might have important and life-threatening conditions. Therapy for persistent dysrhythmias might be started promptly.</p>

This article was accepted: 29 October 2011

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<p>P64</p> <p>BALLOON SIZING FOR MEASURING PDA SIZE IN TRANSCATHETER CLOSURE USING AMPLATZER DUCT OCCLUDER IS SIMPLE AND ACCURATE. REPORT OF 3 CASES Chaerul Achmad*, Eko Antono*, TM Aprami*, Agustin Purnomowati*, Endah SR*, Fauzi Yachya*, Pintoko Tejukusumo*, and Muhammad Munawar** *Medical Faculty, Padjadjaran University/Hasan Sadikin Hospital, Bandung **Bina Waluya Cardiac Centre, Jakarta</p> <p>Transcatheter closure is the preferred method of treatment of patent ductus arteriosus (PDA). Angiographic measurement of PDA size is now widely used. But this technique needs more contrast and more importantly in some selected cases, the size of the PDA may not be seen clearly. Therefore, we report our series of using balloon sizing for measuring PDA size in PDA closure procedure. We hypothesize that there are some advantages of using this technique. It will reduce the contrast material, easier to delineating the PDA size, and more importantly it is more accurate sizing because of having a larger its reference (15 mm for balloon versus 2 mm for 6 F catheter size in angiographic technique). We report our 3 series of isolated PDA cases. All were female, and their age ranged 16 to 30 year-old. The PDA was easily measured using 24 mm sizing balloon (AGA Medical Inc, USA) by pulling back from the aorta to pulmonary artery. The sizes of each PDA were 8.4, 8.7 and 6.3 mm respectively. All could be accurately and successfully closed with 12/10, 12/10 and 10/8 mm of Amplatzer duct occluder (ADO). The contrast needed was only 30 cc for each individual for evaluating post-ADO outcome. Conclusion: Balloon sizing for measuring PDA size in transcatheter closure is simple and accurate and need less contrast.</p>	<p>P65</p> <p>THE CORRELATION OF CLINICAL AND ECHOCARDIOGRAPHIC SCORES WITH BLOOD "BRAIN NATRIURETIC PEPTIDE" IN PEDIATRIC PATIENTS WITH HEART FAILURE. Mutaz Jamaleddeen , Sulafa KM Ali Corresponding author: Dr.Sulafa KM Ali. University of Khartoum, Faculty of Medicine, Department of Paediatrics and Child Health, PO Box 102, Khartoum, Sudan.</p> <p>Background: Recently, brain natriuretic peptide (BNP) level has been introduced as a reliable screening test for congestive heart failure(CHF) in children. The current CHF assessment scores are not satisfactory as they use a large number of variables.</p> <p>Objectives: To evaluate two CHF scores: a modified clinical score and an echocardiographic (echo) score and compare them with BNP level</p> <p>Methodology: The study was prospective carried at 2 paediatric cardiac referral centres in Khartoum from April to July 2010. All patients 1 month to 18 years of age CHF were included. A clinical score was designed that consists of heart rate, respiratory rate, liver size and degree of growth failure in younger children (1 month - 2 years). For older children (2-18 years), growth failure was replaced with exercise intolerance. Echo scores were designed according to the type of cardiac disease. BNP level was measured in all patients.</p> <p>Results: Sixty seven patients were enrolled, 39 (58%) had congenital heart disease (CHD), 27 (32%) had rheumatic heart disease (RHD), and 7 (10%) had dilated cardiomyopathy (DCM). Twenty four younger children (88%) and 29 older children (85%) have a high clinical score (severe CHF). Twenty one out of 23 younger children with high echo score (91%) had a high clinical score as well (p value 0.001). In patients with RHD (all with a high clinical score), 81 % had a high echo score. (p value 0.001). All younger children with a high clinical score (n=24) had a high level of BNP (p value 0.00). In older children with a high clinical score 28 out of 29 (96%) had a high BNP level (p value 0.00). Of patients with RHD and a high echo score (21), 16 (76.2%) patients had high BNP level and 5 (23.8%) had low level of BNP. All patients with DCM had high echo score and all of them had high levels of BNP (100%).(p value 0.00).</p> <p>Conclusion: The proposed clinical and echo scores are valuable in evaluation of CHF in children. The scores correlated well with BNP level. We recommend the use of these scores as well as BNP level in clinical practice.</p>
<p>P66</p> <p>A COMPARISON BETWEEN STAGED AND NON-STAGED PALLIATION WITH FONTAN OPERATION IN PATIENTS WITH TRICUSPID ATRESIA Dr.Amin Md. Kamrul Alam, Dr.Sivakumar Sivalingam , Dr.Mohd Azhari Yakub , Dr.Mazeni Alwi Department of Cardio-thoracic Surgery, National Heart Institute, Kuala Lumpur , Malaysia</p> <p>Background: Fontan palliation has greatly improved long term morbidity and mortality in patients with Tricuspid Atresia (DD Mair et al, JACC 2001;37:933-939) Management of these group of patients is a major challenge in developing countries. (SG Rao, Ped. Cardiol 2007;28:144-148) Practice modification are need to afford the best procedure for palliation</p> <p>Objective: We analyze early and midterm outcome in patients underwent staged versus non-staged palliation with Fontan operation for tricuspid Atresia and compare the results.</p> <p>Materials & Methods: Between July 1993 and June 2009, 66 patients with Tricuspid Atresia underwent surgical palliation. Of these 38 patients underwent successful completion of Fontan operation. 16 of them underwent staged & 22 patients underwent non-staged Fontan.</p> <p>Result: The mean age at Fontan palliation was 6.6 ± 3.6 yrs. The haemodynamic parameter showed that trans-pulmonary gradient (TPG) was significantly higher in the non-staged group with mean 6.54±2.6 than staged group with mean 4.1±1.8 (p is < 0.05). The overall complication and mortality were not significantly different between two groups. Deaths 4 in staged & 3 in non-staged group and complications 14 in staged & 13 in non-staged group.</p> <p>Conclusion: Though patient who underwent non-staged Fontan operation had unfavorable pre-operative haemodynamic data, in the early & midterm period showed comparable outcomes to staged Fontan operation.</p>	

This article was accepted: 29 October 2011

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