Award Competition Abstracts

AHMAD ABDULRAHMAN ALMEMAN
The Impact of CYP2C19 polymorphism on Platelet Reactivity for Guiding Clopidogrel Treatment and Cost Analysis

AHMED IBRAHIM REZK
Multidetector CT angiography as a noninvasive tool to assess graft patency of surgically reconstructed diffusely diseased corona

AZZA MOHAMED AHMED
Plasminogen Activator Inhibitor-1 in Children with Central Obesity: Effect on Left Ventricular Function

AZZA MOHAMED AHMED
Echocardiographic Assessment of Epicardial Adipose Tissue in Obese Children and Its Relation to Clinical Parameters of Metabolic

DHAIFULLAH SALEH JAYED
prevalence of mitral valve prolapse and adverse sequelae in healthy adult yemenis

ESSAM SAAD BADAWY
THYROID STIMULATING HORMONE AS RISK FACTOR FOR CORONARY HEART DISEASE

HANY AHMAD MOHAMMAD ABDELWAHAB
THE RELATIONSHIP BETWEEN LACTATE PRODUCTION IN THE MYOCARDIUM AND THE DEVELOPMENT OF CHEST PAIN IN PATIENTS WITH CAD

KASHIF BIN NAEEM
ALSTROM SYNDROME: case report of a rare genetic disease with potentially lethal complications.

MAROUANE - BOUKHRIS
Successful pregnancy and delivery in a woman with a single ventricle and Eisenmenger syndrome

MICHAL DOMINIK TOMASZEWSKI
Diaphragm fibrillation diagnosed by transoesophageal echocardiography

MOHAMED FAHMY IBRAHIM
Surgical repair and outcome of large mycotic pseudo-aneurysm of the ascending aorta originating at saphenous vein graft take off

NOHA ABDELAZIZ NASSEF
Effect of Olive Oil Supplementation on PAI-1 Expression in Old Rats
RAGAB ABDELSALAM MAHFOUZ
Fractional Pulse Pressure as A simple index of impaired coronary flow reserve in Hypertensive patients.

RAJAA MOHAMMAS AL-RADDADI
Clustering of Cardiovascular Diseases Risk Factors, and Cardiovascular Risk Prediction, Primary Health Care Centers, Jeddah
# Oral and Poster Abstracts

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABAZAID MOHAMMAD AL-KANADI</td>
<td>Gunshot of the heart Elective removal of intracardial Bullet</td>
<td>17</td>
</tr>
<tr>
<td>ABDELFATAH A. ELASFAR</td>
<td>Clinical characteristics, management, and outcomes of patients with high risk chronic heart failure referred to a HFC in SA.</td>
<td>21</td>
</tr>
<tr>
<td>ABDELRAHMAN ABDELKHALIG JAMIEL</td>
<td>Paradoxical Embolism Resulted in Acute Myocardial Infarction in a Patient with Congenital Heart Disease</td>
<td>22</td>
</tr>
<tr>
<td>ABDU MOHAMMED NASR</td>
<td>Validity of Tissue Doppler Markers in the assessment of pulmonary hypertension</td>
<td>23</td>
</tr>
<tr>
<td>ABDULAZIZ UTHMAN JOURY</td>
<td>The Association between Certain Chronic Diseases and Health Status with Depression</td>
<td>24</td>
</tr>
<tr>
<td>ABDULHALIM JAMAL KINSARA</td>
<td>Characteristics and treatment pattern of Diabetic Patients with ACS: A Saudi perspective from the MIDAS registry</td>
<td>25</td>
</tr>
<tr>
<td>ABDULLAH SULAIMAN AL SALEH</td>
<td>Predictors and Impact of In-hospital Recurrent Myocardial Infarction in Acute Coronary Syndrome patients: Findings from Gulf RAC</td>
<td>26</td>
</tr>
<tr>
<td>ABDULMOHSEN FADEL AL FADLEY</td>
<td>Cardiac Resynchronization Therapy in Children with Dilated Cardiomyopathy: A Case Series</td>
<td>27</td>
</tr>
<tr>
<td>ABDULRAHMAN MASHAAN AL-MOGHAIRI</td>
<td>Significance of Lactic Acid accumulation after Exposure to iodinated Contrast media in Diabetic Patients Receiving Metformin</td>
<td>28</td>
</tr>
<tr>
<td>ABDULRAHMAN MASHAAN AL-MOGHAIRI</td>
<td>Use of Combination of Mitral clip and cGMP-specific phosphodiesterase type 5 inhibitor as bridge for cardiac transplantation</td>
<td>29</td>
</tr>
<tr>
<td>ADEL RAGHEB ABD EL SALAM</td>
<td>Management of multiple ventricular septal defects; evolution of surgical technique.</td>
<td>30</td>
</tr>
<tr>
<td>AHLAM ABDULLAH ALZENAID</td>
<td>Quality of Medical Management in Coronary Artery Disease</td>
<td>31</td>
</tr>
<tr>
<td>AHMED AL OMRANI</td>
<td>Placement of Balloon-Expandable Stents in Coarctation of The Aorta: Initial results and Short –Term Follow up .</td>
<td>32</td>
</tr>
<tr>
<td>AHMED LUTF AL-MUTARREB</td>
<td>Clinical Presentation, Management and Outcome of Acute Coronary Syndrome in Yemen Data from Gulf RACE-2 Registry</td>
<td>33</td>
</tr>
<tr>
<td>Author</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>AHMED MOHAMED AL-KAMALI</td>
<td>Long QT Syndrome type 3 Associated with Cardiomyopathy and the Importance of Genetic Diagnosis</td>
<td>34</td>
</tr>
<tr>
<td>AHMED A. ALSAILEEK</td>
<td>Feasibility to Assess Coronary Artery Disease on Coronary Computed Tomography Angiography in Patients Undergoing Trans-catheter</td>
<td>35</td>
</tr>
<tr>
<td>AHMED A. ARIFI</td>
<td>Variations in the PCI to CABG Ratio: Single Centre Experience in Saudi Arabia &amp; International Comparison</td>
<td>37</td>
</tr>
<tr>
<td>AHMED A. ARIFI</td>
<td>Comparison of the Suturless (Perceval S) &amp; the Trans-Aortic (Core valve) Implantation (TAVI): Echocardiographic Valve Haemodynamic</td>
<td>38</td>
</tr>
<tr>
<td>AHMED ABDALLA EL AREFI</td>
<td>Cardiac Tumors: Ten-Years Single Centre Surgical Experience</td>
<td>39</td>
</tr>
<tr>
<td>AHMED ABDELRAHMAN ADEL MOHAMED HASSOUNA</td>
<td>Oral anticoagulation throughout pregnancy in patients with mechanical heart valve prosthesis: safe alternatives.</td>
<td>40</td>
</tr>
<tr>
<td>AHMED BADR ELWY</td>
<td>The aortic translocation (Nikaidoh) procedure: initial experience</td>
<td>41</td>
</tr>
<tr>
<td>AHMED IBRAHIM REZK</td>
<td>Short-term outcome of coronary artery bypass graft surgery in End Stage Renal Failure dialysis-dependent patients.</td>
<td>42</td>
</tr>
<tr>
<td>AHMED MOHAMMED NAGUIB ABOUL-AZM</td>
<td>A simple technique added to minimally invasive mitral and tricuspid valve surgeries</td>
<td>43</td>
</tr>
<tr>
<td>AHMED SAAD AL-ADHAMI</td>
<td>Safe introduction of ventricular assist devices into national clinical practice</td>
<td>44</td>
</tr>
<tr>
<td>AHMED SAGHIR ABKAR AL QUDAIMI</td>
<td>OUTCOMES OF ACUTE MYOCARDIAL INFARCTION IN TYPE 2 DIABETIC YEMENI PATIENTS USING DIFFERENT METHODS OF TREATMENT</td>
<td>45</td>
</tr>
<tr>
<td>AHMED SHAWKY ELSERAYF</td>
<td>Prevalence of internal pudendal artery disease in diabetic patients with erectile dysfunction and angiographically documented mu</td>
<td>47</td>
</tr>
<tr>
<td>AKHTER M MEHMOOD</td>
<td>Post – Operative ICU Course of Infant below 2.2 Kg Undergoing Cardiac Surgery</td>
<td>48</td>
</tr>
<tr>
<td>ALAA ABDEL MONEIM MOHAMED</td>
<td>Assessment of mitral valve area by 3D echocardiography in rheumatic mitral stenosis; validation of offline 3D planimetry measure</td>
<td>49</td>
</tr>
</tbody>
</table>
ALI AKHFASH

Kawasaki Disease, Delayed Referral as a Cause of Coronary Artery Affection

ALI AL MASOOD

Survival outcome of 100 patients who underwent trans-catheter aortic valve implantation (TAVI)

ALI ALI AL AKHFASH

Chest pain in paediatric patients referred to Paediatric cardiology clinic at PSCC Qassim

ALI MOHAMMED ALGHAMDI

Improvement in door to balloon time at king abdulaziz Cardiac center: are we achieving the goal?

ALI S ALMASOOD

Incidence of in-stent re-stenosis with CATANIA coronary stent

ALY MAKRAM HABIB

Recombinant Activated Factor VII (rFVIIa) For Uncontrolled Bleeding Post Cardiac Surgery.

ANDRZEJ JERZY TOMASZEWSKI

Analysis of different echocardiographic presentations of PM/ICD leads right heart wall perforations

ANDRZEJ JERZY TOMASZEWSKI

Transvenous extraction 5-year-old leads mistakingly implanted into left atrium and left ventricle in patient with recurrent stro

ANDRZEJ JERZY TOMASZEWSKI

Acute, life threatening, lead dependent endocarditis – case report

ARIF ISHTIAQ HUSSAIN

Mid-Term Outcome of Extracardiac Fontan Operation using Contegra Conduit

ARWA MOHAMMAD OTHMAN

Human leukocyte antigen class II genetic variants are highly associated with rheumatic heart disease in Yemeni patients

ASHFAQ AHMAD ABDUL HAMID PATEL

GENDER DIFFERENCES IN PATIENTS WITH OUT OF HOSPITAL CARDIAC ARREST – A MIDDLE EASTERN PERSPECTIVE

ASHRAF MOHAMMED ANWAR

Biventricular Apical Hypertrophic Cardiomyopathy: Multi-imaging Modalities

AYMAN MAHMOUD MORSI

Diabetes, Coronary Artery Disease and Erectile Dysfunction Doppler study

AZZA MOHAMED ABDEL MONEM ABUL-FADL

Cytokines as a predictor of progression to valvular disease in children with rheumatic fever
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DINA SABRY SABRY</td>
<td>66</td>
</tr>
<tr>
<td>EPCs regenerate infacted myocardium with neovascularisation development</td>
<td></td>
</tr>
<tr>
<td>DOAA MOHAMED ABDEL-AZIZ</td>
<td>67</td>
</tr>
<tr>
<td>Hospital Acquired Infections In Postoperative Pediatric Cardiac Surgical ICU</td>
<td></td>
</tr>
<tr>
<td>ESAM SALAH KAMEL</td>
<td>68</td>
</tr>
<tr>
<td>Cardiotoxicity induced by Clozapine in Adult Male albino Rats and Possible Protection by Selenium: A Histological Study</td>
<td></td>
</tr>
<tr>
<td>EYAD MOHAMMAD ALHELIH</td>
<td>69</td>
</tr>
<tr>
<td>Health-Related Quality of Life Trajectories and Postoperative Cardiac Surgery Outcomes</td>
<td></td>
</tr>
<tr>
<td>EYAD MOHAMMAD ALHELIH</td>
<td>70</td>
</tr>
<tr>
<td>Randomized, Placebo-controlled, Double-blind clinical trial of the effects of a Continuous Local Anesthetic Infusion at the Ster</td>
<td></td>
</tr>
<tr>
<td>FAHAD ALKINDI</td>
<td>71</td>
</tr>
<tr>
<td>Prevalence, Clinical Profile, Cause of Hospitalization and Outcomes in Patients with Left Bundle Branch Block in The State of Q</td>
<td></td>
</tr>
<tr>
<td>FAHAD ABDULRAHMAN AL-MUQBIL</td>
<td>72</td>
</tr>
<tr>
<td>Long Term Follow up of Permanent Pacing in Children</td>
<td></td>
</tr>
<tr>
<td>FERAS HASSAN KHALIEL</td>
<td>73</td>
</tr>
<tr>
<td>The use of ROTAFLOW PLS® Centrifugal Pump as a Midterm Left Ventricular Assist Device Support for Bridge to Transplantation</td>
<td></td>
</tr>
<tr>
<td>FERAS HASSAN KHALIEL</td>
<td>74</td>
</tr>
<tr>
<td>Transcatheter Aortic Valve Implantation: Single Center Experience With Mid-Term Follow-Up</td>
<td></td>
</tr>
<tr>
<td>GHADA SHIEKH ELDIN ABDULLAH</td>
<td>75</td>
</tr>
<tr>
<td>Downs syndrome and cardiac surgery, a dilemma, should we operate or not?</td>
<td></td>
</tr>
<tr>
<td>GUNNAR K ENGSTRÖM</td>
<td>76</td>
</tr>
<tr>
<td>UTILIZATION OF PROPHYLACTIC DRUG THERAPY AFTER ACUTE MYOCARDIAL INFARCTION IN ABU DHABI AND SWEDEN</td>
<td></td>
</tr>
<tr>
<td>HALA SAMIR EL-MOHAMADY</td>
<td>77</td>
</tr>
<tr>
<td>Systemic Lupus Erythrematosus; its implication in cardiac surgery: Institutional case Report</td>
<td></td>
</tr>
<tr>
<td>HASAN SAMI BUSHNAQ</td>
<td>80</td>
</tr>
<tr>
<td>Direct aortic transcatheter aortic valve implantation, a promising new approach.</td>
<td></td>
</tr>
<tr>
<td>HASAN SAMI BUSHNAQ</td>
<td>81</td>
</tr>
<tr>
<td>ECMO in Change - From ultima ratio to first line therapy an interdisciplinary approach</td>
<td></td>
</tr>
<tr>
<td>Author</td>
<td>Page</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>HASEN HASHEM ALGHAMDI</td>
<td>82</td>
</tr>
<tr>
<td>Older Children At Time Of Norwood Operation Have Ongoing Mortality Vulnerability That Continues After The Cavopulmonary Connecti</td>
<td></td>
</tr>
</tbody>
</table>

| HASSAN ALI ALSHAHRANI                        | 83   |
| The impact of patients’ gender and cultural factors in prehospital delay in patients presenting with myocardial infarction in Ki |

| HASSAN HAMED KHALAF                         | 84   |
| The value of High On-Treatment Platelet Reactivity and Real time PCR test for CYP2C19 variants for Saudi Patients with Acute Cor |

| HASSAN HAMED KHALAF                         | 85   |
| The value of coronary CT Angiography to assess graftability of left anterior descending artery before Coronary Artery Bypass Su |

| HASSAN HAMED KHALAF                         | 86   |
| Validity of Automatic Function Imaging to measure peak systolic strain for detection of myocardial viability as compared with Th |

| HATIM MOHAMMAD OSMAN KHEIRALLAH             | 87   |

| HEBA FAROUK SALEH                           | 88   |
| Value of transthoracic Doppler Echocardiography in the assessment of the left anterior descending artery flow in patients follow |

| HOWIDA OBIED ALQATHAMY                      | 89   |
| Long term results of surgical management of anomalous origin of the left coronary artery from pulmonary artery (ALCAPA) and ho |

| HOWIDA OBIED ALQATHAMY                      | 90   |
| Total anomalous pulmonary venous connection repair; risk factors and outcome. |

| IBRAHIM MOHAMMED HASSAN                     | 91   |
| Impact of Clinical Factors on Response to Clopidogrel Therapy in Patients with Acute Coronary Syndrome |

| INAS ABDELSATTAR SAAD                      | 92   |
| Obesity in Egyptian children: Effect on cardiac function and dimensions |

| ISMAIL ABDULLAH AL ABRI                    | 93   |
| THE FATE OF THE NEOAORTIC VALVE AND ROOT FOLLOWING THE MODIFIED ROSS-KONNO |

<p>| IYAD AHMED FARAH                           | 94   |
| Impact of Optimal Medical Therapy (OMT), Versus Optimal Medical Therapy plus Revascularizations (OMTR) on All-cause Mortality, i |</p>
<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAMSHID ALI MULLAH</td>
<td>IV Paracetamol as a sole agent for postoperative pain relief in adult cardiac surgical patients after median sternotomy.</td>
</tr>
<tr>
<td>KADHIM JAFFER SULAIMAN</td>
<td>Clinical and Prognostic Comparison between Middle-East and Indian Subcontinent Patients Following Acute Coronary Syndrome</td>
</tr>
<tr>
<td>KAHKASHAN SANAKHAN MUGHAL</td>
<td>Nurses’ Satisfaction Dimensions and Intention to Stay in Prince Sultan Cardiac Canter Qassim</td>
</tr>
<tr>
<td>KASHIF BIN NAEEM</td>
<td>Efficacy of renal sympathetic denervation in patients with resistant hypertension: a single tertiary centre initial experience.</td>
</tr>
<tr>
<td>KASHIF BIN NAEEM</td>
<td>Clinical outcomes of PCI versus CABG for unprotected left main disease.</td>
</tr>
<tr>
<td>KHALED ELSAYED ELARABI DARAHI</td>
<td>Assessment of myocardial viability using early systolic mitral annular motion velocities responses to dobutamine infusion in pat</td>
</tr>
<tr>
<td>KHALED ELSAYED ELARABI DARAHI</td>
<td>Intracoronary adenosine as an adjunct to primary coronary intervention in acute myocardial infarction</td>
</tr>
<tr>
<td>KHALED REFAAT ABD EL MEGUID</td>
<td>Clinical and angiographic outcomes of drug eluting stents in native ostal coronary lesions</td>
</tr>
<tr>
<td>KHALED REFAAT ABD EL MEGUID</td>
<td>Life Saving Balloon</td>
</tr>
<tr>
<td>LAMIAA AHMED AHMED</td>
<td>Protective effects of magnesium supplementation on metabolic energy derangements in lipopolysaccharide induced cardiotoxicity in</td>
</tr>
<tr>
<td>M CHADI MOWAFAK ALRAIES</td>
<td>Cardiac MRI Decreases Recurrence of Acute Pericarditis</td>
</tr>
<tr>
<td>M CHADI MOWAFAK ALRAIES</td>
<td>Cardiac Magnetic Resonance is a Marker of Active Inflammation in Constrictive Pericarditis</td>
</tr>
<tr>
<td>M CHADI MOWAFFAK ALRAIES</td>
<td>A Case of Pneumopericardium</td>
</tr>
<tr>
<td>MAGDA MOHAMED BAYOUMI</td>
<td>Different aspects of quality of life in Saudi hemodialysis is patients.</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>MAGDA MOHAMED BAYOUMI</td>
<td>The correlation between quality of life for patients on peritoneal dialysis and subjective burden on caregiver</td>
</tr>
<tr>
<td>MAHA EL SEBAIE ATTIA</td>
<td>Predictive Value of D-dimer Levels and Tissue Doppler Mitral Annular Systolic Velocity for Detection of Left Atrial Appendage Th</td>
</tr>
<tr>
<td>MAHA EL SEBAIE ATTIA</td>
<td>The Validity of a Global Tissue Doppler Index in Estimating Left Ventricular End-Diastolic Pressure in Patients with Coronary Ar</td>
</tr>
<tr>
<td>MAHMOUD MOHAMED ABDOU YOSSOUF</td>
<td>Genetic thrombophilia in patients with ischemic heart</td>
</tr>
<tr>
<td>MAROUANE BOUKHRIS</td>
<td>Intrauterine first-line therapy and outcome of fetal heterotopic tachycardia.</td>
</tr>
<tr>
<td>MASHAIL ABDULAZIZ ALOBAIDAN</td>
<td>Successful Transcatheter closure of Perimembranous ventricular septal defect with inlet extension using ADO I</td>
</tr>
<tr>
<td>MASSIMO ANGELO MARIA PORQUEDDU</td>
<td>EARLY EXPERIENCE ON AORTIC ARCH SURGERY AT KING FAHD ARMED FORCED HOSPITAL (KFAFH), JEDDAH</td>
</tr>
<tr>
<td>MATEJ MATEJ SAMOS</td>
<td>Monitoring of antiaggregation therapy effectivity in patients with acute STEMI: is it really necessary in clinical practice?</td>
</tr>
<tr>
<td>MD. ABU SALIM</td>
<td>Effectiveness of Intraarterial Nitrate for Transradial Coronary Angiography</td>
</tr>
<tr>
<td>MEHBOOB ALI DAR</td>
<td>ST ELEVATION MYOCARDIAL INFARCTION IN YOUNG ADULTS: PREVALENCE, DEMOGRAPHICS, RISK FACTOR PROFILE AND EARLY OUTCOME AFTER PRIMAR</td>
</tr>
<tr>
<td>MICHAL DOMINIK TOMASZEWSKI</td>
<td>Spontaneous implantation of a left atrial myxoma into the left ventricle</td>
</tr>
<tr>
<td>MILAD SALEH EL-SEGAIER</td>
<td>Tailored Management Approach for Critically Sick Children and Late Presenters with Congenital Heart Disease</td>
</tr>
<tr>
<td>MIR JAMAL UDDIN</td>
<td>ABSTRACT ON PERCUTANEOUS CORONARY INTERVENTION IN DIFFERENT ANOMALOUS CORONARY ARTERIES-AN OBSERVATIONAL STUDY</td>
</tr>
<tr>
<td>Name</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>MOHAMAD ABDULWAHAB ALASSAL</td>
<td>124</td>
</tr>
<tr>
<td>Comparison of clinical outcomes among patients undergoing CABG with or without prior PCI</td>
<td></td>
</tr>
<tr>
<td>MOHAMED AHMED ELAWADY</td>
<td>125</td>
</tr>
<tr>
<td>Outcome of Coronary Artery bypass in Patients with Child-Pugh Class A Liver Cirrhosis</td>
<td></td>
</tr>
<tr>
<td>MOHAMED QUDAIH</td>
<td>126</td>
</tr>
<tr>
<td>Right Atrial Mass Post Atrial Septal Defect Surgical Closure: A diagnostic challenge</td>
<td></td>
</tr>
<tr>
<td>MOHAMED AHMED ELAWADY</td>
<td>127</td>
</tr>
<tr>
<td>The Use of Vacuum Assisted Closure system (VAC) in the Treatment of Postoperative Mediastinitis, a Single Center Experience. Int</td>
<td></td>
</tr>
<tr>
<td>MOHAMED HAMDY ZAHRAHAN</td>
<td>128</td>
</tr>
<tr>
<td>Cardiac magnetic resonance imaging in assessment of left ventricular function and myocardial viability in patients with chronic</td>
<td></td>
</tr>
<tr>
<td>MOHAMED HAMDY ZAHRAHAN</td>
<td>129</td>
</tr>
<tr>
<td>Intramural Dissecting Hemorrhage of the Myocardium</td>
<td></td>
</tr>
<tr>
<td>MOHAMED SALEM NASRALLA</td>
<td>130</td>
</tr>
<tr>
<td>Assessment of self-reported practice patterns regarding treatment of dyslipidemia among physicians under training in family medi</td>
<td></td>
</tr>
<tr>
<td>MOHAMMAD ABDALLA EL TAHLAWI</td>
<td>131</td>
</tr>
<tr>
<td>management of pulmonary embolism with cutting balloons angioplasty and endovascular stenting through transhepatic access</td>
<td></td>
</tr>
<tr>
<td>MOHAMMAD ABDALLA EL TAHLAWI</td>
<td>132</td>
</tr>
<tr>
<td>Should we close hypoxaemic patent foramen ovale and interatrial shunts on a systematic basis?</td>
<td></td>
</tr>
<tr>
<td>MOHAMMAD GHORMALLAH ALGHAMDI</td>
<td>133</td>
</tr>
<tr>
<td>Clinical outcome of Familial Hypercholesterolemia (FH) at King Abdulaziz Medical City, Riyadh- a 20 Year Experience</td>
<td></td>
</tr>
<tr>
<td>MOHAMMED ABDULRAHMAN AL-SHAMI</td>
<td>134</td>
</tr>
<tr>
<td>Association of Khat Chewing with Significant Coronary Artery Disease in Patients Presenting with Heart Failure</td>
<td></td>
</tr>
<tr>
<td>MONA MOSTAFA RAYAN</td>
<td>135</td>
</tr>
<tr>
<td>PEARLS OF ECHOCARDIOGRAPHY</td>
<td></td>
</tr>
<tr>
<td>MOTEA ELTAYEB ELHOURY</td>
<td>137</td>
</tr>
<tr>
<td>The expression of the gene seems to determine severity of cardiac involvement in geleophysic dysplasia</td>
<td></td>
</tr>
<tr>
<td>MOUAZ HUSAYN AL-MALLAH</td>
<td>139</td>
</tr>
<tr>
<td>The Reproducibility of Coronary Calcium Scoring on Multiple Software Platforms</td>
<td></td>
</tr>
<tr>
<td>Author</td>
<td>Title</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>MOUAZ HUSAYN AL-MALLAH</td>
<td>Incremental prognostic value of myocardial perfusion imaging in patients with renal dysfunction</td>
</tr>
<tr>
<td>MOUAZ HUSAYN AL-MALLAH</td>
<td>Correlation between Calcium score on Attenuation Correction CT and Gated Non-Contrast Computed Tomography</td>
</tr>
<tr>
<td>MOUAZ HUSAYN AL-MALLAH</td>
<td>Routine Low Radiation Coronary Computed Tomography Angiography in the Current Era</td>
</tr>
<tr>
<td>MOUAZ HUSAYN AL-MALLAH</td>
<td>Abstracts from Arab League Countries in the European Society of Cardiology Annual Meeting</td>
</tr>
<tr>
<td>MUHAMMAD ADIL SOOFI</td>
<td>Stenting for huge coronary artery aneurysm and stenosis in patient with Behçet’s disease presenting with non-ST segment elevatio</td>
</tr>
<tr>
<td>MUHAMMAD ARIF KHAN</td>
<td>CAN A SWALLOWED FOREIGN BODY CAUSE SEVERE MITRAL VALVE REGURGITATION?</td>
</tr>
<tr>
<td>MUHAMMAD ARIF KHAN</td>
<td>Difficulties in percutaneous closure of atrial septal defect associated with situs solitus and dextrocardia</td>
</tr>
<tr>
<td>MUHAMMAD ARIF KHAN</td>
<td>Electrocardiographic Changes in cases of Duchenne Muscular Dystrophy</td>
</tr>
<tr>
<td>MUHAMMAD ARIF KHAN</td>
<td>MATERNAL PREFERENCES REGARDING COUNSELING OF CONGENITAL HEART DISEASE IN THEIR CHILDREN AT A TERTIARY CARE HOSPITAL</td>
</tr>
<tr>
<td>MUNA ISMAIL AHMED ISMAIL</td>
<td>Do We Need More Than Echocardiography Before Cardiac Surgery For Children With Congenital Heart Defects</td>
</tr>
<tr>
<td>NABILA FAIEK AMEEN</td>
<td>P wave Dispersion as a predictor of Atrial Fibrillation.</td>
</tr>
<tr>
<td>NAWAR ALI ALWATHER</td>
<td>Very Early Complication Of Rheumatic Heart Disease (valvuloplasty for severe mitral valve stenosis for 6 year old male patient)</td>
</tr>
<tr>
<td>NAWAR ALI AL-WATHER</td>
<td>Pattern of congenital heart disease in the cardiac center of Al-Thawra General Teaching hospital</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Page</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>NOURADDEN NOMAN ALJABER</td>
<td>157</td>
</tr>
<tr>
<td>Assessment of left ventricular function pre &amp; post cardiac surgery in althawra moderen general hospital</td>
<td></td>
</tr>
<tr>
<td>NUHA ALI AL-HEFDHI</td>
<td>159</td>
</tr>
<tr>
<td>Long-term of Outcome of Cardiac Pacing in Neonates</td>
<td></td>
</tr>
<tr>
<td>OMNEYA IBRAHIM YOUSSEF</td>
<td>160</td>
</tr>
<tr>
<td>Therapeutic role of mobilized bone marrow cells children with non ischemic dilated cardiomyopathy</td>
<td></td>
</tr>
<tr>
<td>OMNEYA IBRAHIM YOUSSEF</td>
<td>161</td>
</tr>
<tr>
<td>S-100 B protein and perioperative brain injury in infants and children undergoing open heart surgery using cardiopulmonary bypass</td>
<td></td>
</tr>
<tr>
<td>OMNEYA IBRAHIM YOUSSEF</td>
<td>162</td>
</tr>
<tr>
<td>Corrected QT Interval in Normal Egyptian Neonates : Comparison to Corrected QT Interval of other Ethnic Groups</td>
<td></td>
</tr>
<tr>
<td>OSAMA MOHAMED TAYEH</td>
<td>163</td>
</tr>
<tr>
<td>Coronary Angiography Safety between Radial and Femoral Access</td>
<td></td>
</tr>
<tr>
<td>OSAMA MOHAMED TAYEH</td>
<td>164</td>
</tr>
<tr>
<td>Door-to-Balloon Time in Radial versus Femoral Approach for Primary Angioplasty in Patients with ST-Segment Elevation Myocardial</td>
<td></td>
</tr>
<tr>
<td>OWAYED MOHAMMAD AL SHAMMERI</td>
<td>165</td>
</tr>
<tr>
<td>Thrombolysis in the age of Primary Percutaneous Coronary Intervention: Review and Meta-analysis of Early PCI</td>
<td></td>
</tr>
<tr>
<td>OWAYED MOHAMMAD AL SHAMMERI</td>
<td>166</td>
</tr>
<tr>
<td>Chronic Venous Insufficiency: Prevalence and Effect of compression stockings</td>
<td></td>
</tr>
<tr>
<td>OWAYED MOHAMMAD AL SHAMMERI</td>
<td>167</td>
</tr>
<tr>
<td>STEMI: Thrombus characteristics and “no reflow phenomenon”</td>
<td></td>
</tr>
<tr>
<td>RAED ABDELHALLIM SWEIDAN</td>
<td>168</td>
</tr>
<tr>
<td>DEMOGRAPHIC, CLINICAL AND DEVICE PROFILES OF 5580 PATIENTS IMPLANTED WITH IPG IN A GEOGRAPHICALLY DIVERSE POPULATION</td>
<td></td>
</tr>
<tr>
<td>RAED AMRULLAH ALSATLI</td>
<td>169</td>
</tr>
<tr>
<td>Assessment of the hemodynamic changes following fluid preloading in cardiac surgery</td>
<td></td>
</tr>
<tr>
<td>RAGAB ABDELSALAM MAHFOUZ</td>
<td>170</td>
</tr>
<tr>
<td>Impact of Atrioventricular Compliance on Clinical Outcome of patients Undergoing Successful Percutaneous Balloon Mitral Valvulop</td>
<td></td>
</tr>
<tr>
<td>RAID TAHA RABAI</td>
<td>171</td>
</tr>
<tr>
<td>Prevalence of Recurrent Cardiac Events among Patients Attending a Secondary Prevention Clinic</td>
<td></td>
</tr>
<tr>
<td>Author</td>
<td>Page</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>RIDA MUSTAFA NOURALLAH</td>
<td>172</td>
</tr>
<tr>
<td>Drug-eluting Balloon for De-Novo, ISR and Bifurcation lesions CAD: Short and Intermediate Results, Prospective Registry</td>
<td></td>
</tr>
<tr>
<td>SALWA BAHAA EL-DEEN EL-SOBKEY</td>
<td>174</td>
</tr>
<tr>
<td>Influence of Physical Activity Level on Saudi Reference Values of 6-Minutes Walk Test.</td>
<td></td>
</tr>
<tr>
<td>SAMEERA MOHAMMAD AL. RAJWI</td>
<td>176</td>
</tr>
<tr>
<td>High Prevalence of Tricuspid Valve Disease Among Rheumatic Heart Disease Patients in Yemen</td>
<td></td>
</tr>
<tr>
<td>SAMIR ABDALLAH KESHK</td>
<td>177</td>
</tr>
<tr>
<td>Adjusted De Vega Tricuspid Annuloplasty Guided by Intraoperative Transesophageal Echocardiogram.</td>
<td></td>
</tr>
<tr>
<td>SAMIR M RAFLA</td>
<td>178</td>
</tr>
<tr>
<td>Robotic ablation of paroxysmal atrial fibrillation saves time and irradiation dose</td>
<td></td>
</tr>
<tr>
<td>SAMIR M. RAFLA</td>
<td>180</td>
</tr>
<tr>
<td>Comparison of effect of rate control versus rhythm control on LV function in patients with AF and ischemic heart failure</td>
<td></td>
</tr>
<tr>
<td>SHUMAILA FURNAZ</td>
<td>181</td>
</tr>
<tr>
<td>Six years of cardiac database management: the impact on clinical practice</td>
<td></td>
</tr>
<tr>
<td>SYED SHAHID HABIB</td>
<td>183</td>
</tr>
<tr>
<td>Hemostatic markers and their relationship with severity of Coronary Artery Disease in Saudi Adults</td>
<td></td>
</tr>
<tr>
<td>TAARIQ HUSSEIN NUCKCHADY</td>
<td>184</td>
</tr>
<tr>
<td>The outcome of Body Mass index in patients undergoing percutaneous Coronary angiography.</td>
<td></td>
</tr>
<tr>
<td>TAREK MOHAMMED KASSEM ALAMEDDINE</td>
<td>186</td>
</tr>
<tr>
<td>AORTIC VALVE REPLACEMENT IN OCTOGENARIANS: IMPACT OF LESS INVASIVITY ON POSTOPERATIVE OUTCOME</td>
<td></td>
</tr>
<tr>
<td>TAREK SEIFAW KASHOUR</td>
<td>187</td>
</tr>
<tr>
<td>Clinical Correlates and Outcomes among Patients with LBBB and Acute Coronary Syndrome: A Substudy of the Gulf RACE-2 registry</td>
<td></td>
</tr>
<tr>
<td>TAYEB ALI BAFADHL</td>
<td>188</td>
</tr>
<tr>
<td>Prognostic Significance of High Sensitivity C-reactive protein in Patients with Angina Pectoris underwent Percutaneous Coronary</td>
<td></td>
</tr>
<tr>
<td>TURKI B. ALBACKER</td>
<td>189</td>
</tr>
<tr>
<td>Bentall Procedure for adult patient with Supravalvular Aortic Stenosis and Coronary aneurysms</td>
<td></td>
</tr>
</tbody>
</table>
WALEED YASIN KADRO

Total Occlusion, Basic Equipments for Lesion Interrogation, Evaluation, Visualization and Endoluminal Reopening Study

WALEED YASIN KADRO

Statin and Ezetimibe in Silent Ambulatory Myocardial Ischemia (SESAMI Trial)

WALID ABDULKARIM ABDUKHUDAIR

TROTONIN LEVEL BEFORE CORONARY ARTERY BYPASS GRAFT SURGERY IS ASSOCIATED WITH INCREASED MORTALITY RATE

WALID ABDULKARIM ABDUKHUDAIR

CUSTOMIZE PAIN KILLER POST CARDIAC SURGERY EFFECTIVELY REDUCE PAIN

WALID ABDULKARIM ABDUKHUDAIR

GLYCOSYLATED HEMOGLOBIN (HBA1C) IS A RISK FACTOR FOR INFECTION POST CORONARY ARTERY BYPASS SURGERY

WALID ABDULKARIM ABDUKHUDAIR

PROPER METHOD FOR PREOPERATIVE CHEST PREPERATION OF PATIENTS LISTED FOR CARDIAC SURGERY

WHEED AREESH RAEDI

CURRENT OUTCOMES OF THE GLENN BIDIRECTIONAL CAVOPULMONARY CONNECTION FOR SINGLE VENTRICLE PALLIATION

YAHIA MOHAMAD ELRAKSHY

ROLE OF BIOMARKERS TO IDENTIFY INDIVIDUALS WITH SILENT CARDIAC DISEASE TO HELP IMPROVE PRIMARY PREVENTION

YAHIA MOHAMAD ELRAKSHY

EFFECT OF CIRCADIAN RHYTHM OF BLOOD PRESSURE ON ARTERIAL WALL STIFFNESS AND ON LEFT VENTRICULAR DIASTOLIC DYSFUNCTION

ZAKARIYA HUSSAIN ALBINMOUSA

Feasibility of using ivabridine in adult congenital heart disease patient

ZUHAIR NASSER AL-HASSNAN

Identification of a novel homozygous NEXN mutation in recessively inherited dilated cardiomyopathy
Award Competition Abstracts
THE IMPACT OF CYP2C19 POLYMORPHISM ON PLATELET REACTIVITY FOR GUIDING CLOPIDOGREL TREATMENT AND COST ANALYSIS

AHMAD ABDULRAHMAN ALMEMAN
ALMEMAN AHMAD, KHALAF HASSAN, RASOOL SEMAAB, MOATAZ DOWAIDAR, AL ORAINY MOHAMMAD
Al Meman A PhD*, Khalaf H MD, Al Orainy M PhD*, MD.Rasool S MBBS, Intervention group at Prince Sultan Cardiac Center, Qassim & Genetic laboratory at Qassim university *

Background:
There has been a weak recommendation for routine genetic and Platelet function testing by the American college of cardiologists (ACC) for patients receiving clopidogrel.

Aim:
To investigate the variability in PFT response to CYP2C19 polymorphism and conduct a cost analysis.

Methodology:
Eighty six Saudi patients who were stable on 75 mg clopidogrel at least for one month for various cardiac indications were enrolled. Genotyping by real-time polymerase chain reaction (PCR) and PFT was carried out (Verify Now P2Y12) for all the patients.

Results:
Fifty three patients presented with the wild variant 1/1, 13 patients with 1/2, and 20 patients with 2/2. We couldn’t detect allele 3 probably as our sample was small. There is a significant association between different genotyping and the percentage of inhibition (P = 0.0002). 1/1 patients tend to be moderate-to-extensive metabolizers, whereas the majority of the rest are slow metabolizers. Forty eight patients presented with no symptoms suggestive for atherothrombotic events, and the rest complained of non-specific symptoms. Interestingly, proton-pump inhibitors, mainly Omeprazole, did not affect the overall rate of inhibition (P = 0.60). The cost of doing the PFT is 250 SR/ patient and 200 SR/patient (real-time PCR) for kits and materials excluding equipments and labors. Equipments may change considerably according to the purchased technology.

Conclusion:
The PFT varied significantly according to the polymorphism. The cost of PFT and or genotyping is reasonable if the equipments are accessible.
MULTIDETECTOR CT ANGIOGRAPHY AS A NONINVASIVE TOOL TO ASSESS GRAFT PATENCY OF SURGICALLY RECONSTRUCTED DIFFUSELY DISEASED CORONA

AHMED IBRAHIM REZK
AHMED REZK, MOHAMED BAZID, ZIZI SAAD

Background:
Long reconstruction of the diffusely diseased vessel may be useful surgical option for patients with diffuse coronary artery disease. Close and careful follow up of such subgroup of patients is mandatory. Invasive graft angiography serves as the diagnostic standard for follow up of graft patency for such extensive procedure; however, because of the risks, discomfort, and costs of a hospital stay, a noninvasive diagnostic tool is desirable .MDCT angiography is a noninvasive and safe alternative to assess graft patency in patients after CABG with reconstructed diffusely diseased vessels.

Methods:
25 patients with the diffusely diseased LAD underwent long-segmental reconstruction procedure with a LITA graft. The diffusely diseased LAD was extensively incised, additional endarterectomy was performed if necessary, and then the LAD was reconstructed with an ITA graft in a long on-lay fashion. Postoperative MDCT angiography as a non-invasive single tool was performed in 25 asymptomatic patients to assess graft patency.

Results:
The cohort consisted of 23 men (92%) and 2 women (8%). The mean age was 58.5 ± 9.2 years. The mean length of the arteriotomy incision was 3.5 ± 1.2 cm. Endarterectomy was performed in 3 patients (12%). Perioperative MI was recorded among 1 patient (4%). While all arterial grafts 27 (100%) were classified as patent, 51 venous grafts (89%) were considered as patent where 11% of venous grafts were considered as non patent. All the significant stenosis were found in the body of venous graft.

Conclusion:
Extensive reconstruction of the diffusely diseased LAD using an ITA graft could be performed safely with very encouraging results. MDCT angiography is an excellent non invasive tool not only to evaluate graft patency in the reconstructed LAD but also to detect other findings in asymptomatic patients with diffuse coronary artery disease for better and more close follow up. To our knowledge, this may be the first study to examine surgically reconstructed diffusely diseased LAD with MDCT.
PLASMINOGEN ACTIVATOR INHIBITOR-1 IN CHILDREN WITH CENTRAL OBESITY: EFFECT ON LEFT VENTRICULAR FUNCTION

AZZA MOHAMED AHMED
AZZA M. AHMED, NAGWA ABDALLA ISMAIL, SHDIA HASSAN RAGAB, NEHAL S.HASAN, NEVINE E.SAAD, AMANY A A .FATOH

The aim of the study was to investigate the Plasminogen activator inhibitor-1 (PAI-1) expression in obese children and to clarify its role with respect to left ventricular (LV) function.

Patients and methods:
This study included 69 obese children and adolescents, 40 lean healthy controls. Children were considered obese according to body mass index (BMI) percentile for age and sex curves of growth for our population. Each subject's fat distribution was assessed by measuring waist hip ratio (WHR). Obese children with peripheral fat distribution were excluded. Exclusion criteria included hypertension, endocrine, cardiovascular, renal, insulin dependent or independent diabetes mellitus and smoking habits. Laboratory investigations included measurement of plasma PAI-1 antigen. Determination of total serum cholesterol, low density lipoprotein, high density lipoprotein, triglycerides, blood glucose and fasting serum insulin. Echocardiography study was obtained by two dimensionally guided M mode.

Results:
BMI and WHR were significantly higher in obese compared to lean children (P<0.001). In addition fasting blood glucose, fasting insulin, HOMA and Triglyceride were significantly higher in obese than in lean children. Left ventricular mass (LVM) and LVM/H were significantly higher in obese compared to controls (P<0.001) while left ventricular systolic (EF%, FS %) and diastolic function (E/A ratio, deceleration time) did not differ between the two groups (P>0.05). Plasma PAI-1 were significantly higher in obese compared to controls (P=0.03). A significant direct correlation was revealed between PAI-1 in comparison to WHR, fasting insulin and LVM/H. Plasma PAI-1 and WHR were independent predictors of LVM/H.

Conclusions:
Obese children with central fat distribution showed an increase in plasma PAI-1 antigen. Also PAI-1 contributes directly to the complication of obesity including type 2 diabetes and cardiovascular disease.

Key words: Childhood obesity-plasminogen activator inhibitor- Cardiovascular disease.
ECHOCARDIOGRAPHIC ASSESSMENT OF EPICARDIAL ADIPOSE TISSUE IN OBESE CHILDREN AND ITS RELATION TO CLINICAL PARAMETERS OF METABOLIC SYNDROME

AZZA MOHAMED AHMED
AZZA M. AHMED, SHADIA HASSAN RAGAB, NAGWA ABDALLA ISMAIL, MONA ABDELKADER AWAD, MANAL E.KANDIL

The aim of the study: was to evaluate cardiac function and epicardial adipose tissue (EAT) of obese children with echocardiography and to study the relationship of EAT to other echocardiographic findings and to clinical parameters of metabolic syndrome (MS) in children.

Patients and methods:
this study included 74 obese children and adolescents from the patients attending the obesity clinic of National Research Centre. Metabolic syndrome was determined according to International Obesity Task Force (IOTF) 2007 criteria. Forty lean children were included in the study as a control group. All children were subjected to: clinical assessment including standing height, body weight, body mass index (BMI), waist circumference (WC), hip circumference (HC), systolic blood pressure (SBP) and diastolic blood pressure (DBP). Echocardiography examination with measurement of EAT thickness and Biochemical parameters (fasting glucose, insulin, HOMA index, total cholesterol, triglyceride, HDL-C and LDL-C).

Results:
BMI, SDS BMI, WC, HC and HOMA index were significantly higher in obese compared to lean children P=0.001. Left atrial (LA) diameter, septal, posterior wall thickness, relative wall thickness and left ventricular mass (LVM) were increased in obese compared to non-obese group while LV systolic and diastolic functions did not differ in obese versus lean children P>0.05. The patients had significantly thicker EAT compared to control P=0.01. There was a significant correlation between EAT thickness in comparison to BMI, WC, HC, LA diameter, LVM, HOMA, Triglyceride and LDL-C No significant difference in EAT thickness between obese patients with or without metabolic syndrome.

Conclusion:
assessment of EAT thickness in routine echocardiographic examinations might be a feasible and reliable method for the evaluation of obesity and its related cardiovascular risks during childhood. There is no significant association between EAT thickness and metabolic syndrome in obese children.

Keywords: Childhood obesity – epicardial adipose tissue- metabolic syndrome
PREVALENCE OF MITRAL VALVE PROLAPSE AND ADVERSE SEQUELAE IN HEALTHY ADULT YEMENIS

DHAIFULLAH SALEH JAYED
D.S.JAYED, M.YAZIDI
PREVALENCE OF MITRAL VALVE PROLAPSE AND ITS ADVERSE SEQUELAE IN HEALTHY ADULT YEMENIS
Dr: Dhaifullah Jayed
Department of internal medicine, faculty of medicine, Thamar university.
DR: MOHAMED YAZIDI
Backgrounds: mitral valve prolapse is a common cardiac disease with frequent complications.

Objectives:
To study the prevalence of mitral valve prolapse in healthy Yemenis with prevalence of its adverse sequelae.

Methods:
We performed echocardiography for 1164 healthy Yemeni individuals 615 women and 549 men (mean age ± SD 45.7 ± 10 years), classical mitral valve prolapse was defined as a superior displacement of mitral valve leaflets at least 2 mm, and as a maximal leaflets thickness of at least 5 mm during diastasis, and nonclassic prolapse was defined as displacement of more than 2 mm, with a maximal thickness of less than 5 mm.

Result:
74 subjects (6.3 percent) had mitral valve prolapse, 40 (3.4 percent) had classic prolapse and 34 (2.9 percent) had non classic prolapse. none of the subjects with prolapse had history of heart failure, nor any had atrial fibrillation and but one (1.3 percent) had cerebrovascular disease, and two (2.7 percent) had syncope, as compared with unadjusted prevalence of these findings in the subject without prolapse of 0.0, 0.0, 0.0, 1.3 percent, respectively chest pain, dyspnea and electrocardiographic changes frequency were similar among two groups.

Conclusion:
The prevalence of mitral valve prolapse in adult Yemenis was 6.4 percent which is similar to other studies in different countries but with low prevalence of adverse sequelae in compare to other studies.
THYROID STIMULATING HORMONE AS RISK FACTOR FOR CORONARY HEART DISEASE

ESSAM SAAD BADAWY
ESSAM S. BADAWY, SAYED M. ABDEL-RAHMAN, SALWA M. GHONIUM

Background:
Subclinical hypothyroidism has been associated with hypercholesterolemia and atherosclerosis, so screening and treatment have been advocated to prevent cardiovascular disease.

Objectives:
clarification of cardiovascular risk of subclinical hypothyroidism.

Patients and Methods:
300 patients were admitted with coronary heart disease and data collected for demographic characteristics, baseline TSH and T4 levels, baseline cardiovascular risk factors such as diabetes, blood pressure, smoking, LDL and HDL-cholesterol serum levels, baseline used drug therapy. The 300 patients were divided into two groups; Gr.(1): 160 patients with coronary heart disease and subclinical hypothyroidism. Gr. (2) 140 patients with coronary heart disease and euthyroidism. Statistical correlation between coronary heart disease events and different TSH-serum levels was followed. Results: As regards to age, sex and FT4 serum levels, there were no statistical differences. Actually, we noticed that patients whatever with unstable angina (50%), revascularization (21.25%), or presented with acute myocardial infarction (15%), had TSH serum level 4.5 or greater and less than 20 mIU/L with normal serum levels of L-thyroxine, which undergo what is known as underactive thyroid or subclinical hypothyroidism.

Conclusion:
subclinical hypothyroidism is associated with an increased risk of coronary heart disease especially in those with higher TSH levels and significantly elevated in adults with TSH levels of 10 mIU/L or greater. The results of our present study may help in refining a TSH threshold at which larger clinical benefits of thyroxine replacement would be expected.
THE RELATIONSHIP BETWEEN LACTATE PRODUCTION IN THE MYOCARDIUM AND THE DEVELOPMENT OF CHEST PAIN IN PATIENTS WITH CAD

HANY AHMAD MOHAMMAD ABDELWAHAB

Background:
Silent myocardial ischemia (SMI) was recognized as early as the beginning of the 20th century. The consequences of silent ischemia can be grave because lack of symptoms and lack of symptom recognition. Early detection of SMI may prevent many episodes of sudden cardiac death annually. However, the role and behavior of the factors determining the occurrence of silent myocardial ischemia have not been fully established.

Aim of the work:
to detect if there is a relationship between the level of lactate production in the myocardium and the development of chest pain in patients with coronary artery disease (CAD).

Patient and methods:
This study was carried out in cardiology and biochemistry departments, Zagazig University on 46 patients (38 males) with coronary artery significant disease (> 70% stenosis) including left anterior descending artery disease. Cannulation of coronary sinus with Amplatz left catheter was done and a pigtail catheter was introduced into the mid LV cavity. Right atrial pacing was done and the heart rate was increased stepwise 10 bpm / 1 minute until a maximum of 150 bpm or chest pain occurs or significant S-T segment depression occurs. LV gram for assessment of systolic function and blood samples were withdrawn from the LV and coronary sinus before and after pacing induced ischemia and the patients were classified into 2 groups according to development of chest pain (angina group; 28 patients) during pacing induced tachycardia or not (silent group; 18 patients). 24 hours Holter ECG monitoring was done to all patients.

Results:
Myocardial lactate production was significantly very high in angina group than in silent ischemia group; 10 patients (35.7%) had lactate diminished extraction and 18 patients (64.3%) had lactate production in response to pacing induced tachycardia in group 1 (angina group). All 18 patients (100%) in group 2 (silent ischemia group) had lactate diminished extraction in response to pacing induced tachycardia (< 0.001). LV systolic function reduction in response to pacing induced ischemia was non significant between the 2 groups. Silent ischemic attacks represented > 80 % of total ischemic episodes during 24 hours Holter ECG study and it occurred at lower heart rate than angina attacks (P = 0.03). The magnitude of S-T segment depression was non significant between the 2 groups.
**Conclusions:**
In patients with coronary artery disease, myocardial lactate production is significantly higher in patients with angina than in patients with silent ischemia and as lactate is known (with other metabolic agents) to cause chest pain and this is considered an explanation (mechanism) for the occurrence of silent myocardial ischemia.

**Keywords:** silent ischemia, angina, myocardial lactate & coronary artery disease.
ALSTROM SYNDROME: CASE REPORT OF A RARE GENETIC DISEASE WITH POTENTIALLY LETHAL COMPLICATIONS.

KASHIF BIN NAEEM
KASHIF BIN NEEM, M RIZWAN KHALID

Alstrom syndrome (AS) is a rare autosomal recessive genetic disorder characterized by multiorgan dysfunction. We report a 20 year old obese Saudi male who presented with congestive heart failure. However, he also demonstrated cone-rod retinal dystrophy, type 2 diabetes mellitus, bilateral sensori-neural hearing loss and short stature, fulfilling the clinical criteria for AS. Subsequent genetic analysis revealed homozygous mutation in the ALMS1 gene responsible for AS. DCM manifests in approximately two-thirds of individuals with AS at some stage during their lives and is a major cause of morbidity and mortality.
SUCCESSFUL PREGNANCY AND DELIVERY IN A WOMAN WITH A SINGLE VENTRICLE AND EISENMENGER SYNDROME

MAROUANE - BOUKHRIS
MAROUANE BOUKHRIS, KAOUATHAR HAKIM, FATMA OUARDA, HELA M’SAAD, RAFIK BOUSSAADA

The single ventricle is a rare abnormality found in 1 % of patients with congenital heart disease, often discovered during the childhood. Without pulmonary stenosis, the disease can progress to a fixed pulmonary hypertension. Both pregnancy and delivery are risky events apt to increase the right to left shunt. The presence of pulmonary hypertension is considered to be the major maternal risk factor. Therefore, pregnancy is contraindicated.

We reported the case of a 27 year-old woman with a single ventricle without pulmonary protection and fixed pulmonary hypertension at 60 mmHg, discovered during a pregnancy. The management of the caesarean delivery was successfully done by a regional anesthesia and nitric oxide. The outcome was good under anticoagulation therapy and then under inhibitors of endothelin receptors.

Even if they were contraindicated, pregnancy and delivery were successfully achieved in this patient. The revaluation of ventricular function and pulmonary blood pressure would provide information about the long-term prognosis.
We present a case of diaphragmatic fibrillation (with a frequency of 600/min) in a patient at the early post-operative stages. In view of the decreased oxygen saturation and confusion, the patient was sedated and mechanically ventilated. His declining physical condition was partially associated with diaphragmatic fibrillation superimposed on heart failure and lung disease. The transthoracic echocardiography was technically difficult. Consequently, the transoesophageal echocardiography was undertaken. This is the first case report presenting diaphragmatic fibrillation as an incidental finding on transoesophageal echocardiography.
Mycotic pseudoaneurysm of the ascending aorta is a rare but potentially lifethreatening complication following cardiac surgery. We experienced a rare case of early post-operative pseudomonas mediastinitis with large pseudo-aneurysm of ascending aorta originating at the venous graft take off site following a recent coronary artery bypass grafting (CABG) operation. To the best of our knowledge, this is the first case report that describes mycotic pseudoaneurysm originating at aorto-saphenous anastomosis after CABG in a non-immunosuppressed patient.
EFFECT OF OLIVE OIL SUPPLEMENTATION ON PAI-1 EXPRESSION IN OLD RATS

NOHA ABDELAZIZ NASSEF
NOHA ABDELAZIZ HUSSEIN NASSEF, MAGDA HASSANEEN YOUSSEF,
MANAL LOUKA, HAYD HABIB,

Abstract:

Background:
Although Mediterranean diet has grown worldwide due to its link with lower cardiovascular disease rate and greater longevity, the effect of olive oil, which is the principal component of Mediterranean diet, on plasminogen activator inhibitor-1 (PAI-1) concentrations in aged rats is not clear. This study was performed on 28 aged male Wistar albino rats allocated into 2 groups (14 rats each): Olive oil-treated group and the Control group.

Results: Using Real Time-PCR, the expression of PAI-1 mRNA in the retroperitoneal adipose tissues was decreased significantly in the olive oil treated group versus the control group (p < 0.01). In parallel, the plasma concentrations of PAI-1 were also reduced significantly in the olive oil treated group versus the control group (p < 0.01). Olive oil produced significant decrease in mean serum cholesterol and triglycerides in aged rats in the treated group versus the control group (P<0.05, P< 0.01 respectively). No significant difference was seen in mean serum LDL-cholesterol or HDL-cholesterol levels between both groups. As regards the BMI, no change was observed after olive oil intake.

Conclusion:
Our results indicate that olive oil intake may reduce the cardiovascular risk in old age via decreasing PAI-1 at level of gene expression.

Key words: Aging, lipid profile, olive oil, PAI-1.
FRACTIONAL PULSE PRESSURE AS A SIMPLE INDEX OF IMPAIRED CORONARY FLOW RESERVE IN HYPERTENSIVE PATIENTS.

RAGAB ABDALSALEM MAHFOUZ
RAGAB A, MAHFOUZ, MD

Fractional pulse pressure (PPf), is thought to be more directly reflect arterial stiffness than pulse pressure. Our aim was to evaluate the relationship between coronary flow reserve (CFR) and PPf in hypertensive patients with normal coronary arteries

Subjects and methods:
One-hundred and six consecutive hypertensive patients (aged 52.8±9.4 years), with indications of myocardial ischaemia with exercise electrocardiogram (EECG) and normal coronary arteries in coronary angiography. CFR was calculated noninvasively using transthoracic echo-Doppler assessment with hyperemia induced by infusion of dipyridamole at a rate of 0.56 mg/kg over 4 min. PPf was calculated as pulse pressure divided by mean arterial pressure (SBP-DBP/MAP), while diastolic function was evaluated by means of transmitral flow and tissue Doppler imaging. Hypertensive patients with low CFR (n=54) compared with those with normal CFR (n=52) exhibited significantly increased PPf (75.2±11.4 vs 64.5±6.7 P<0.001). In hypertensives with low CFR, CFR was negatively correlated with PPf (r=-0.651, P<0.0001). After applying multivariate linear regression analysis, age, left ventricular mass index, Em/Am, and PPf turned out to be independent predictors of CFR.

Conclusion:
Estimation of PPf by using simple sphygmomanometer blood pressure measurement is simple non-invasive index for assessment of coronary microcirculation in essential hypertensive patients with indications of myocardial ischaemia and normal coronary arteries.

Keywords:
pulse pressure fraction; coronary flow reserve; hypertension
CLUSTERING OF CARDIOVASCULAR DISEASES RISK FACTORS, AND CARDIOVASCULAR RISK PREDICTION, PRIMARY HEALTH CARE CENTERS, JEDDAH

RAJAA MOHAMMAS AL-RADDADI
RAJAA MOHAMMAD AL-RADDADI, MAJED MOHAMMAD AL-GHAMDI, FARHAN AL-SHAALAN, ZEYAD MOHAMMAD AL-HARBI

Clustering of Cardiovascular Diseases Risk Factors, and Cardiovascular Risk Prediction, Primary Health Care Centers, Jeddah Rajaa Al-Raddadi 1, Majed M. Al-Ghamdi 2, Farhan Al-shaalan 3, Zeyad Al- Harbi 4

Introduction:
Cardiovascular disease is a major health problem in Saudi Arabia. Estimates on the prevalence of cardiovascular disease risk factors are important for monitoring their impact on the health. The objectives of this study are to estimate the prevalence of cardiovascular risk factors and to assess the 10 years cardiovascular risk.

Methods:
This was a cross sectional study. A proportionate to size random sample of the attendees to the primary health care center during 2012 was selected from 2 primary health care centers in Jeddah city. A sample of 400 participants aged ≥30 years was selected. Questionnaire was developed for this purpose.
After completion of a detailed demographic and medical questionnaire (gender, age, history of diabetes mellitus and hypertension, taking antihypertensive or hypoglycemic agents and history of smoking), all participants were subjected to anthropometric measurements include weigh, height,waist circumference and hip circumference. In addition to blood lipid profile, blood glucose during the years 2012. Tests were considered significant at a p-value ≤ 0.05. Statistical analysis was performed using SPSS version 20 software.

Results:
A total of 400 participants with mean (SD) age of 46.9 (11.1) and 52.5% were males. Ninety percent of the participants were physically inactive, 26% had high LDL cholesterol levels, 48.4% had high blood pressure, 51.7% had low HDL level, 18% smoked, 78.7% had abdominal obesity, 46.9% obese, 35.2% overweight and 33.7% diabetic. The estimated 10 years Cardiovascular risk prediction was > 10% in (37.4%) of the diabetic patients compared to (7.6%) among non diabetics. The predictors of cardiovascular risk were systolic and blood pressure and cholesterol but not with glycemic control parameter.

Key words:
Cardiovascular, Risk factors, cardiovascular Risk Prediction
Oral and Poster Abstracts
A 28-year-old man had a gunshot wound in the right paravertebral aspect of the chest. A chest radiograph showed the bullet in the region of the cardiac silhouette. The patient was hemodynamically stable and had no complaints of dyspnea or abdominal pain. Echocardiography and computed tomography identified the bullet in the wall of the right ventricle. The surgical management of the injury is discussed in detail.

**Introduction**

IN THE PAST, all penetrating cardiac injuries were considered uniformly fatal, and no attempt was made at repair. However, since the first successful repair of a cardiac injury in 1896, surgeons have gradually adopted a more aggressive approach with immediate exploration in all such cases. The dramatic improvement in overall survival among patients receiving aggressive management of penetrating injuries near the cardiac silhouette clearly justifies this change in strategy.1 However, those with a retained intramyocardial bullet potentially represent a subgroup of patients with penetrating mediastinal injury, which is often more appropriately treated nonoperatively2 or explored in an elective setting.3

**Case report**

A 28-year-old man had gunshot wounds in right paravertebral chest wall at the level of 3rd thoracic vertebra (Fig 1). The patient complained only of local wound discomfort. On examination, heart rate was 75/min, and blood pressure was 120/75 mm Hg. Neck veins were flat, and there were no signs of cardiac tamponade. Breath sounds were slightly decreased on the right. Findings on abdominal examination were within normal limits. The chest film showed a right-sided hemothorax and a bullet in the left hemithorax near the cardiac silhouette (Fig 2).

(Fig 1) The inlet of the bullet in the right paravertebral chest wall at the level of 3rd thoracic vertebra
(Fig 1) Chest radiograph shows right-sided hemothorax and bullet near cardiac silhouette.

A 32 F thoracostomy tube was inserted on the right to treat the hemothorax. Initially, the chest tube drained 150 mL of blood. Thereafter, the drainage was negligible. Since the patient was hemodynamically stable and asymptomatic, additional studies were done to determine the exact location of the bullet. Computed
Computed tomography of the chest suggested that the bullet was lodged in the pericardium attached to the diaphragm and heart. There was no pericardial effusion (Fig 3).

Computed tomography of chest shows bullet in wall of right ventricle and no pericardial effusion.

Echocardiogramy done for him in the typical police hospital all normal there is no pericardial effusion but there is minimal right pleural effusion.

The patient was admitted to the intensive care unit in typical police hospital in Sana'a and monitored closely. The general surgical service was consulted on the evening of admission. They discuss the case with cardiologist, radiologist, then they decided to remove the bullet from the pericardium. Under general anesthesia they make lower mediasternal and upper abdominal incision they opened the pericardium and abdominal cavity but they not found the bullet (Fig4).

(Fig. 4) In Typical Police Hospital they did upper abdominal & lower mediasternal incision to be search the bullet. Chest x-ray post operation with drains.

The cardiothoracic surgeons in Al-thawra hospital Sana'a was called to the operation theater of Typical Police Hospital. Because there is no facility to do open heart surgery in there the cardiac surgeons advice to put drains in the pericardium and abdominal and to closed the wounds after that referred the case to cardiac center in Althawra hospital to further investigation and management.

In the next day patient was admitted in cardiac center in Al thawra hospital.

Serial echocardiograms over the next 12 hours were unchanged only one cardiologist admitted ASD 9mm (fig 5).

(Fig 5) echocardiography there is ASD 9mm, Shadow attached to the apex. The cardiothoracic surgical service was consulted on the time of admission. Since the patient’s condition was stable, plans were made to electively extract the bullet via median sternotomy the following morning. At surgery, we search the bullet in the pericardium, both plural cavity but we not found it then we did fluoroscopy in the operation room we fount it in heart cavity (Fig 6).

(Fig. 6) Fluoroscopy during surgery (bullet moving with heart bite)

We found aneurysm in the anterior wall of the right ventricle (RV) delayed to rupture and hematoma in the posterior surface of RV (Fig.7).

(Fig. 7) Aneurysm in the anterior wall of the right ventricle (RV)

Under cardiopulmonary bypass and arrested heart with total bypass we opened the right atrium, we found the bullet in let to the heart though left atrium between the right superior and inferior pulmonary veins about 1,5cm (Fig 7), making big ASD more than 20mm (Fig. 8), the bullet interred to the right ventricle through tricuspid valve with rupture of the anterior leaflet and splitting of the anterior papillary muscles (Fig. 9). In anterior wall of right ventricle big endocardial and myocardial defect up
to epicardial wall without outside perforation. The bullet was impacted in the inferior wall of the right ventricle covered by fibrin and clots (Fig 10). The bullet removed cleaned the fibrin and clot repair of the tricuspid valve, closer the left atrium rupture and ASD, repair the aneurysm of the RV.

(Fig. 8) ASD due to bullet injury
(Fig. 7) The inlet to the heart from LA between SPV $ IPV
(Fig. 9) Anterior papillary muscles rupture
(Fig. 10) Bullet impacted in the inferior wall of right ventricle (RV)
The patient was discharged 6 days later after an uneventful postoperative course in good condition.

Discussion
The presence of a penetrating mediastinal gunshot wound with no thoracic exit raises the possibility of a bullet lodged in the myocardium. Gunshot wounds in the region of the cardiac silhouette are associated with cardiac injuries in 62% of cases. An aggressive policy of immediate transport of all hypotensive patients with suspected cardiac injuries to the operating suite for resuscitation and surgical intervention has dramatically improved survival in both the civilian1 and military5 populations. A routine chest radiograph is all that is necessary to establish the diagnosis of a cardiac injury in critically ill patients. Additional radiographic studies are of no benefit in the acute situation and may in fact delay definitive treatment. In contrast, with a hemodynamically stable patient, an effort should be made to locate the bullet’s exact position and to determine if there are any associated injuries, such as an esophageal or aortic perforation. The ability to precisely locate bullets in the wall of the heart with standard chest radiography or intraoperative palpation is limited. Therefore, a more deliberate preoperative diagnostic workup including thoracic aortogram, computed tomography, transesophageal echocardiography,6 fluoroscopy, and possibly thoracoscopy can help determine the location of the retained bullet and optimize the surgical approach. Identifying the position of the bullet preoperatively can eliminate the need for cardiopulmonary bypass3 and the morbidity caused by an unnecessary median sternotomy, having to extend an initial incision, or being forced to make an additional incision. Although all retained bullets in the myocardium may embolize, act as a nidus for infection, or cause cardiac necrosis,8 many right and left ventricular wall injuries have been successfully treated nonoperatively. The only indications for emergency surgical extraction of the bullet include hemodynamic instability, hemopericardium, potential
myocardial perforation or coronary artery erosion, and suspected membranous ventricular septal defect. Our patient remained hemodynamically stable and virtually asymptomatic with a bullet lodged in the right ventricle. The preoperative, systematic diagnostic evaluation excluded the presence of associated injuries, accurately identified the location of the bullet, and facilitated the surgical approach. Since the bullet could potentially erode through the thin-walled right ventricle, resulting in a lifethreatening cardiac tamponade or foreign body embolization, the patient elected to have the bullet surgically extracted.
Background:
Patients with heart failure (HF) have a poor prognosis. Heart failure clinic (HFC) with specialized multidisciplinary management programs have been proposed to improve prognosis.

Purpose:
We aimed to describe the clinical features, management, and outcomes of patients with high risk chronic HF referred to a HFC in a large tertiary care center in Saudi Arabia.

Methods:
This is a sub-study of a prospective registry, heart function assessment registry trial in Saudi Arabia (HEARTS) and included all consecutive patients followed in the HFC between September 2009 and December 2011. Only patients with HF who were at high risk for re-admission were enrolled in the clinic. We evaluated clinical outcomes including death and re-admission rates in a subset of HF patients followed in the HFC at 1 year.

Results:
436 patients were enrolled with mean age 56.14±15.4 years, 71.79% were men and 96.57% were Saudis. Risk factors included diabetes mellitus (51.4%), hypertension (68.8%), and current or ex-smoking (43%). Reasons for referral to the HFC included severe LV dysfunction (54.3%), two or more HF admissions over last one year (18.3%), and poor compliance with medical treatment (14.7%). The main etiologies of HF were ischemic heart disease (37.9%), non-ischemic dilated cardiomyopathy (42.7%), and hypertension (8.0%). Symptoms included NYHA class III/IV (63.3%), orthopnea/PND (28.4%), and generalized fatigue (47.5%). Median NT-proBNP was 2934.37 pg/ml (interquartile range 2512pg/ml), and severe LV dysfunction was present in 73.3%. The overall 1 year mortality rate in a subset of patients (347 patients) was 9 % and the 1 year re-admission rate 37% in the same subset. The prescription rate of evidence-based therapies before admission to HFC, at discharge from 1st visit and at 1 year follow up was 90%, 91% and 94% for beta-blockers, 79%, 80% and 86 % for ACEi/ARBs and 44 %, 45 % and 42 % for spironolactone respectively.

Conclusions: Our high-risk chronic heart failure patients were younger, have high rate of DM, and predominantly have LV systolic dysfunction compared with developed countries. The rate of evidence-based therapies use was reasonable, but the ICD/CRT implantation rate was low. Further improvements in management and potentially clinical outcomes, are yet to be shown with longterm follow-up at the HFC.
PARADOXICAL EMBOLISM RESULTED IN ACUTE MYOCARDIAL INFARCTION IN A PATIENT WITH CONGENITAL HEART DISEASE

ABDELRAHMAN ABDELKHALIG JAMIEL
ABDELRAHMAN JMAIEL, AHMED AL SAILEEK, AHMED OMRAN, KAMAL AYOUB

We present a case of a young male with severe pulmonary stenosis, hypoplastic right ventricle and atrial septal defect. Acute embolic myocardial infarction, followed by cardiac arrest occurred during hospitalization after Glenn operation. The therapeutic challenges are discussed. Insufficient anticoagulation therapy during the post-operative period was a possible contributing factor leading to embolic myocardial infarction.
VALIDITY OF TISSUE DOPPLER MARKERS IN THE ASSESSMENT OF PULMONARY HYPERTENSION

ABDO MOHAMMED NASR
ZEINAB ASHOUR MD, MOHAMED ABDEL GHANI MD,
HEBA FAROUK MD, ABDO NASR

Background:
The accuracy of tissue Doppler parameters of right ventricular function including Isovolumic relaxation time (IVRT) and Isovolumic contraction time (IVCT) have not been validated sufficiently in pulmonary hypertensive patients (pts).

Purpose:
To assess the ability of tissue Doppler imaging (TDI) - as a noninvasive method - to predict pulmonary artery pressure and to determine the possibility of assessment of severity of pulmonary hypertension.

Patients and methods: The study population comprised three parallel groups of consecutive pati structure and function) and group III (30 pts with pulmonary hypertension and dilated cardiomyopathy).

Results:
In group I the median age of the pts was 40.4 years, 68% of them were males, in group II the median age of the pts was 35.5 years, 76.7% of them were females while in group III the median age of the pts was 33.5 years, 80% of them were males. The estimation of PASP was derived from tricuspid regurgitation velocity according to the Bernoulli equation. The measurement of IVRT was calculated using pulsed tissue Doppler. In group II and in group I (P, 0.0001), the average IVRT was 81.00±6.3 ms [95% confidence interval (CI):65–96] and 32.3±7.05 ms (95% CI: 20–50), respectively. We found a strong correlation between IVRT and systolic pulmonary pressure in group II (r= 0.57, P, 0.0001) and a cut-off of 70ms showed a sensitivity and specificity of 96% and 97%, respectively, for the prediction of elevated PASP. In group II and in the group I (P, 0.0001), the average IVCT was 34.2±4.8 ms [95% confidence interval (CI):25–45] and 61.5±9.7 ms (95% CI: 45–75), respectively. We found a strong inverse correlation between IVCT and systolic pulmonary pressure in the PH group (r =-0.38, P, 0.0001) and a cut-off of 35.5ms showed a sensitivity and specificity of 60% and 64%, respectively, for the prediction of elevated PASP.

Conclusions:
The measurement of IVRT and IVCT by TDI is a simple and reproducible method that correlates well with PASP. It is, therefore, parameters to consider in the echocardiographic assessment of pts with PH, and may be particularly important when the tricuspid Doppler signal is poor.
THE ASSOCIATION BETWEEN CERTAIN CHRONIC DISEASES AND HEALTH STATUS WITH DEPRESSION

ABDULAZIZ UTHMAN JOURY
ABDULAZIZ U. JOURY, MOHAMMED ALSHARIF, NORAH A. ALBABTAINE, SARA A. ALBABTAINE, ABDULAZIZ A. ALATMI, ABDULLAH ALMOGBEL

Purpose:
Depression is more likely in patients with certain chronic diseases, and it is associated with increased rates of disability and mortality. The goal of this study was to determine the relationship between certain chronic diseases; hypertension, diabetes, asthma, low hemoglobin level and health status, with the presence of depression among general population.

Method:
Cross-sectional study was conducted from 787 subjects in different age groups, who had participated in a major campaign in Riyadh, Saudi Arabia during March 2012. Blood pressure (BP), random blood glucose (RBG), Serum hemoglobin (Hb), Beck Depression Inventory Scale (BDI) had been measured. Covariates included age, sex, and presence of hypertension, diabetes, or asthma.

Results:
Of the 787 subjects participated in the study, 50.5% were females, 12.7% of study subjects were less than 25 years and 4.2% were 55 or more years of age. Measuring the Hb level was surprising, (14%) were having Hb level below 11 gm./dl. BDI scale was used to screen for depression. The prevalence of depression among “medically free” population was (29.9%). The overall prevalence of chronic diseases among the study subjects including asthma, hypertension, and diabetes or combination of two diseases or more were 18.2%. Surprisingly, there was no significant relation between depression and chronic diseases with p-value 0.092.

Conclusions:
The presence of chronic diseases such as hypertension, diabetes, and low hemoglobin level are not risk factors for having depressive symptoms among general population. Poor self-rated health status appears to be more strongly associated with depression than the presence of chronic disease.
CHARACTERISTICS AND TREATMENT PATTERN OF DIABETIC PATIENTS WITH ACS: A SAUDI PERSPECTIVE FROM THE MIDAS REGISTRY

ABDULHALIM JAMAL KINSARA
ABDULHALIM KINSARA, ADEL M. HASANIN

Background:
Multicenter International Diabetes – Acute Coronary Syndromes (MIDAS) study aimed to monitor the adherence to evidence-based therapy among diabetic patients (DM) with unstable angina or non-ST-segment elevation myocardial infarction (ACS) and to describe the in-hospital outcomes of DM in the setting of ACS. We present the data of Kingdom of Saudi Arabia (KSA) based on the risk profile of the patients in comparison to the international registry.

Design:
Data of DM patients with ACS who presented at the time of admission to the emergency/coronary care units in 5 hospitals in KSA were extracted from the registry. A total of 3624 patients were enrolled in several countries in Europe and the Middle East and India. The following variables were extracted: ST deviation ≥ 0.5 mm, positive troponin and TIMI risk score. The Z test for two proportions was used to compare the KSA values with the international figures. Analysis was done using stata 10. Level of significance was set at 5%.

Results:
"Type II: type I DM ratio" in KSA was comparable to the international ratio (93.65 vs. 93.83). The high risk factors were significantly less prevalent in KSA in comparison to the international figures (17% showed significant ST deviation ≥ 0.5 mm vs 46%, (p=0.005), 40% showed positive troponin vs 70% (p<0.0001) and 32% showed TIMI risk score > 3 in comparison to 62% (p<0.0001). The utilization of GP IIb/IIIa was 18.3% in KSA vs. 37.4% internationally (p=0.046). On the contrary, the utilization of clopidogrel/Ticlopidine was 96.8% in KSA vs. 74.7% internationally (p<0.0001). The percentage of early coronary angiography was 38.9% in KSA vs. 46.1% internationally (p=0.292). Among patients who had early coronary angiography, 34.9% had revascularization (PCI and/or CABG) in KSA in comparison to 54.8% in the international figures (p=0.199).

Conclusions:
DM Saudi patients with ACS had similar demographic data to the international patients. There was a satisfactory use of evidence-based medicine in treatment in such group.
PREDICTORS AND IMPACT OF IN-HOSPITAL RECURRENT MYOCARDIAL INFARCTION IN ACUTE CORONARY SYNDROME PATIENTS: FINDINGS FROM GULF RAC

ABDULLAH SULAIMAN AL SALEH
AL-SALEH A, HERSI A, ALHABIB KF, ALSHEIKH-ALI AA,
SULAIMAN K, ALFALEH H

Introduction:
Little in the literature is known about the predictors and the adverse impact of recurrent ischemia and infarction in patients with acute coronary syndrome (ACS). Accordingly; our objectives were to determine the baseline characteristics, risk factors, and long term outcome of patients with recurrent ischemia.

Methods:
We evaluated ACS patients who were enrolled in the second Gulf Registry of Acute Coronary Events (Gulf RACE-2).

Results:
Out of 7930 ACS patients, 172 (2.2%) developed recurrent myocardial infarction (Re-MI) during their hospitalization. Patients with Re-MI were more likely to be older (mean age 59.12±13.5 vs. 56.8±12.4; P=0.016), had higher rates of hyperlipidemia (41.3% vs. 32.6%; P=0.027) and previous angina (47.7% vs. 37.9%; P=0.006), presented more with STEMI (72.1% vs. 43.9%; P<0.001), and had more Killip class 4 upon admission (8.1% vs. 3.2%; P<0.001) than patients without Re-MI. Management-wise, Re-MI patients received less aspirin (94.8% vs. 98.5%; P=0.002), beta-blockers (59.3% vs. 74.7%; P<0.001), and statin (87.2% vs. 94.9%; P<0.001), and were less frequently assessed by coronary angiogram (30.8% vs. 32.5%; P=0.036). These patients had more in-hospital complications including congestive heart failure (44.2% vs. 12.4%) and cardiogenic shock (25.6% vs. 5.3%) as well as higher mortality rates; both during hospitalization (23.8% vs. 4.1%) and after a discharge period of 30 days (27.3% vs. 6.8%) and 1 year (29.1% vs. 9.3%). P<0.001 for all comparisons.

Conclusion:
Patients with recurrent infarction have a bad prognosis in terms of in-hospital complications and high mortality rates. High risk patients need to be monitored and managed differently to prevent secondary attacks.
INTRODUCTION:
Dilated cardiomyopathy in children is a serious disease with significant burden and poor outcome. Ventricular desynchrony can lead to dysfunction and dilated cardiomyopathy (DCM). For such patients, cardiac resynchronization therapy (CRT) is a proven form of therapy however; the role of CRT in children is not well studied.

OBJECTIVE:
We aim to describe our experience with CRT in children with poor ventricular function.

METHODS:
We retrospectively reviewed all pediatric pts who underwent CRT in our institute. Data collected include: demographics, CRT indication, pre and post CRT ventricular assessment using echocardiogram, and follow up clinical evaluation.

RESULTS:
Between 09/05 and 12/08, 19 pediatric pts median age 4 years (8months to 16 years) underwent CRT for DCM. The etiology of DCM was chronic RV pacing with and without congenital heart disease (CHD) in 15 pts, myocarditis in 2, and post repair of CHD 2. The median duration of chronic RV pacing prior to CRT was 4yrs (1-11 yrs) and all developed DCM. One pt had transvenous approach while all other pts had epicardial leads for the left ventricular and atrium. All devices were CRT-P. After 22 months of median follow up (1-46 months), 13 pts improved clinically with or without associated LV remolding. Theremaining 6 pts did not respond to CRT.

CONCLUSION:
CRT is a promising mode of therapy for a subgroup of pediatric patients with poor ventricular function. More studies are needed to identify those who will benefit the most from this mode of therapy.
SIGNIFICANCE OF LACTIC ACID ACCUMULATION AFTER EXPOSURE TO IODINATED CONTRAST MEDIA IN DIABETIC PATIENTS RECEIVING METFORMIN

ABDULRAHMAN MASHAAN AL-MOGHAIRI
ABDULRAHMAN AL-MOGHAIRI, ALI ALMASOOD, RAHIM GUL, FADWA ALKHURAISI, HUSSEIN AL-AMRI

Background:
Metformin is a biguanide oral hypoglycemic agent with cardio protective effect. Lactic acidosis is a rare fatal adverse effect of metformin (0.01-0.15 per 1000 patients). Administration of intravenous iodinated contrast media during radiologic procedures may lead to acute decline in renal function (0.1-13%) and subsequent lactic acidosis in patients receiving metformin therapy. No clinical trials tested the extent of lactic acidosis in diabetic patients exposed to contrast media.

Objective:
This study aimed to investigate the correlation of lactic acid accumulation with clinical outcome in metformin treated diabetic patients exposed to contrast media.

Methods:
A single-center, prospective single arm clinical observational trial involved diabetic patients on metformin therapy undergoing cardiac catheterization. The study endpoints are drawn from laboratory and clinical outcomes. Patients with acute renal dysfunction or deterioration were excluded from the study. The patients were followed at baseline, and 72 hours for clinical and laboratory assessment. The primary end point was clinically significant lactic acidosis.

Results:
156 diabetic patients on metformin were enrolled in this study with mean age of 61.8±10.4, 84% were males. Lactic acid, bicarbonate, and PH levels, at baseline and 72h were; (1.7±1.2 & 2.1±1.8, p value =0.016), (24.4±2.0 & 24.6±3.2, p=0.7), and (7.37±0.05 &7.36±0.06, p=0.44) respectively. All patients were clinically stable at 3 days follow up, no reported death or significant adverse events during the study period.

Conclusion:
In contrast to the current recommendations, continuing use of metformin during contrast exposure in high risk population was found to be safe and not associated with clinically significant lactic acidosis.
USE OF COMBINATION OF MITRAL CLIP AND CGMP-SPECIFIC PHOSPHODIESTERASE TYPE 5 INHIBITOR AS BRIDGE FOR CARDIAC TRANSPLANTATION

ABDULRAHMAN MASHAAN AL-MOGHAIRI
ALI ALMASOOD, HATEM KHAIRALLAH, AIJAZ SHAH, MOHEEB ALABDALLAH, MOHAMED ALOTAIBI, ABDULRAHMAN ALMOGHAIRI

Introduction:
Severe Mitral regurgitation (MR) and severe pulmonary hypertension (PH) are common consequence of advanced end stage heart failure (HF). Cardiac transplantation is the only available treatment modality with reasonable long term outcome for end stage HF. Presence of severe resistant PH could preclude transplantation. We reported two cases with end stage heart failure and NYHA class III, who have been initially turned down from cardiac transplantation because of Severe PH, and we managed to bridge them with mitral clip and Sildenafil to be transplant eligible. Description of the cases

Case 1:
First patient is 50 years old gentleman, who is known to have ischemic cardiomyopathy, ejection fraction (EF) of 15%, and severe MR, with significant functional limitation (NYHA class III) despite of maximum medical therapy. His Pulmonary arterial systolic pressure (PASP) was 80mmHg, TPG=30mmHg, pulmonary capillary wedge pressure (PCWP) =33. After full evaluation he underwent successful deployment of mitral clip and started on sildenafil 25mg three times daily, hoping this will lower the PASP to an acceptable level, to allow listing for cardiac transplantation. Echocardiographic assessment after one month of treatment showed that estimated PASP of 40mmHg.

Case 2:
Second patient is 75y old, who is known to have ischemic cardiomyopathy, status post three vessels angioplasty, with EF of 25%, and severe MR. He was very symptomatic despite maximum medical therapy. He was deemed not suitable for cardiac transplantation, because of severe pulmonary hypertension; PASP = 85mmHg, mean PA = 59mmHg, PCWP= 38mmHg.He underwent successful deployment of mitral clip and started on sildenafil 25mg three times daily. At one month follow up PASP went down to 45mmHg.

Conclusion:
We report for first time a successful use of mitral clip and sildenafil treatment as a bridge to transplant eligibility, for those who have severe MR and PHTN secondary to advances heart failure. These patients may not be otherwise suitable transplant candidate.
This case report brings a new hope for selected high risk HF patients, with severe MR and severe PHTN.
MANAGEMENT OF MULTIPLE VENTRICULAR SEPTAL DEFECTS; EVOLUTION OF SURGICAL TECHNIQUE.

ADEL RAGHEB ABD EL SALAM
ADEL RAGHEB, MD, SEIFELDIN BASHIR, MRCPCH, AL OTAY
ABDULMAJEED, MD, YAHIA ALFARAIIDI, MD, HOWIDA ALQATHAMY, MD,
ROBERTO M DI DONATO, MD

Background:
Residual ventricular septal defects (VSDs), ventricular & septal
dysfunction and heart block are frequent complications in surgical management
of multiple VSDs (Swiss cheese heart). The technique with the lowest risk of
morbidity and mortality has still to be identified.

Methods: Between January 200 and September 2012, 45 patients with a median
age of 4.1 years (2months to 15 years) underwent surgical closure of multiple
VSDs. In 22 cases there were associated lesions. Two-stage repair, i.e. pulmonary
artery banding (PAB) followed by VSDs closure using different techniques, was
adopted in 29 cases (group A). Primary repair was performed in fifteen cases
(group B). Six out of these 15 cases were managed by the so-called sandwich
technique (group B1), whereas in the other 9 other techniques of closure were
used (group B2).

Results:
The overall mortality was 8.9% (4/45). Three of the 4 deaths occurred in
group A and one in group B2. Follow-up of group A showed that 26 patients had
residual VSDs (2 of whom needing early redo surgery), 2 patients had left
ventricular dysfunction and one patient developed heart block. In group B1, there
were 5 cases with residual VSDs. In group B2, there were 5 cases with residual
VSDs (only one needing redo surgery), one case with left ventricular dysfunction
and one case with heart block.

Conclusion:
Primary repair of multiple VSDs is associated with less morbidity and
mortality than staged repair. The sandwich technique has the lowest risk of
residual VSDs, septal dysfunction and heart block compared to the other
techniques. However, particular attention is needed in positioning the left-sided
patch to avoid septal bulging with consequent left ventricular outflow tract
obstruction and interference with mitral valve chordae with secondary mitral
regurgitation.
QUALITY OF MEDICAL MANAGEMENT IN CORONARY ARTERY DISEASE

AHLAM ABDULLAH ALZENAIDI
OWAYED AL SHAMMERI, AHLAM ALZENAIDI, RANDALL STAFFORD,
BUSHRA AL-HUTHALY, ALAA ABDULMONEM, MOHAMMAD ABDULZAHER

Background:
Patients with coronary artery disease are at high risk of recurrent CAD events. Such risk can be diminished through guideline-recommended optimal medical therapy (OMT), defined as adherence to dual antiplatelet therapy, statins, beta blockers and angiotensin converting enzyme inhibitors, blood pressure <140/90 mmHg (<130/80 mmHg in diabetics and renal disease patients), LDL < 2 mg/dl, smoking cessation and aerobic physical activity of 30 minutes a day for 3 days a week, and (in diabetics) Hemoglobin A1c <7%.

Aim:
To estimate the rate of achieving OMT in CAD patients in Qassim Province.

Methods:
This observational study enrolled 207 consecutive CAD patients seen in cardiology clinic in Prince Sultan Cardiac Center in Qassim between April 1, 2012 to May 30, 2012. Eligible participants were all documented CAD patients agreed to participate. We collected the demographic, medication, laboratory, and clinical data through in-person interviews, medical records, and an electronic patient database.

Results:
OMT was achieved in only 10.4% of CAD patients. The OMT rate was 25.5% when the physical activity requirement (achieved in only 30% of patients) was excluded. Diabetes was common (64% of all patients) and only 25% of these patients achieved the target hemoglobin A1c. The rate of achievement of target systolic blood pressure was 77%, target diastolic blood pressure 92%, target LDL 68%, adherence to medications 90.8% and 90% were non-smokers.

Conclusion:
Optimal medical therapy is poorly achieved in Coronary artery disease patients. This observation warrants investment in strategies to achieve OMT in these high-risk patients.
PLACEMENT OF BALLOON-EXPANDABLE STENTS IN COARCATION OF THE AORTA: INITIAL RESULTS AND SHORT-TERM FOLLOW UP.

AHMED AL OMARNI
ISMAIL ABRI, AHMED ALOMRANI, MANSOUR ALJOUFAN, FADEL ALFADLEY
King faisal specialist hospital and research centers
Riyadh Saudi Arabia
alomrani@kfshrc.edu.sa

Objectives:
we report preliminary result and short term follow up (up to 5 years) of Balloon-Expandable stents for the Coarctation of the aorta (COA).

Background: Using balloon-expandable stents gained acceptance over the past years, as a modality of treatment for COA. However, use of these stents may create disruption of the aortic wall or aneurysm at the stents end points.
Our experience using Palmaz stent in half of the patients mounted on a balloon dilatation catheter. The rest of the patients received Covered CP Stent. All patients had significant improvement without any complications.

Methods:
Twenty five patents with mean age eighteen years range from nine to forty five with COA underwent stent implantation. Nine patients were diagnosed with native COA and sixteen had previous surgical, balloon dilatation or both, to relieve their coarcation; but had residual/recurrent gradient.
A femoral vessels access performed for such procedure and angio-grams were obtained pre and post stent implantation. BP was continuously monitored during the procedure. All patients were maintained on aspirin for at least 6 months post procedure.

Results:
Immediately after stent implantaion the peak systolic gradient (mean (SD)) fell from 35mmHg (15.6) to 3.8 (4.3)(mm Hg). (p < 0.05). The diameter of the stenotic lesion increased from 6.5 (3.0) to 13.5 (3.0) mm (p < 0.05). There were no deaths or procedure related complications. Measured one day after stent placement, the descending aorta velocity dropped from (mean (SD)) 3.7 (0.58) meter per second to 2.3 (0.6) meter per second. (p < 0.05). At median follow up of 24 months, the clinical gradient dropped from (mean (SD)) 36 (18) mmHg pre intervention to 4 (9) p < 0.05) mmHg. Seven patient (28%) required re-dilatation at a later stage for re-stenosis. The average systolic and diastolic blood pressure at follow up was at the 5th percentile. Nine patients (28%) were still on antihypertensive medications compare to thirteen patients (52%) at the time of stent implantation.

Conclusion:
Stent implantation for the treatment of coarctation of the aorta appears to have very low morbidity and mortality, and reasonable intermediate term results. A long term follow up is needed.
CLINICAL PRESENTATION, MANAGEMENT AND OUTCOME OF ACUTE CORONARY SYNDROME IN YEMEN DATA FROM GULF RACE-2 REGISTRY

AHMED LUTF AL-MUTARREB
AHMED AL-MOTARREB, ABDULWAHAB AL-MATRY, HESHAM AL-FAKIH, NOORA AL-SAQEEER

Abstract:

Background:
Acute Coronary Syndrome (ACS) is increasing in Yemen in recent years. No available data on its course, short and long term outcome. We evaluated the clinical pictures, management, in-hospital, and long-term outcomes of the ACS patients in Yemen.

Design and Setting
A 9-month prospective, multicenter study conducted in 26 hospitals from 9 governorates that also included 30 day and 1-year mortality follow-up.

Patients and Methods:
1761 patients with ACS were collected prospectively during 9 months time. Patients with ST-elevation myocardial infarction (STEMI) and non-ST-elevation acute coronary syndrome (NSTEACS), including non-STEMI and unstable angina were included.

Results
Between October 2008 and June 2009, 1761 ACS patients were enrolled. There were 1230 (69.8%) STEMI and 531 (30.2%) NSTE ACS patients. The mean age of the overall population was 58±12 years 79.2% of them were men. The prevalence of CAD risk factors was high; 77.1% were Khat chewers and 72.1% were either current or ex-smokers, 34.6% were hypertensive patients, 23.2% had diabetes mellitus (DM) and 13.2% had hyperlipidemia. Upon presentation, only 1.8% arrived to the hospital in an ambulance, 81.4% had typical ischemic chest pain, 8.3% had clinical evidence of congestive heart failure (CHF), and 77.1% had positive serum troponin. There was no clinical evidence of reperfusion in 22.3%, and rescue PCI was done in 0.2% of these patients.

Reasons for not administering TT included: symptom onset more than 12 hours before hospital presentation in 82.8% of them, missed diagnosis in 4.3%, absolute contraindications in 2.7% of the patients and primary PCI in 1%. The overall inhospital mortality was 8.6%. Overall 30-day mortality was 14.9% and 1-year mortality was 17.4%.

Conclusions:
ACS patients in Yemen present at a relatively young age with high prevalence of Smoking, khat chewing and hypertension. STEMI patients present late, and their acute management is poor. In-hospital evidence-based medication rates are high, but coronary revascularization procedures were very low. In-hospital mortality was high and Long-term mortality rates increased twofolds compared with in-hospital mortality.
LONG QT SYNDROME TYPE 3 ASSOCIATED WITH CARDIOMYOPATHY AND THE IMPORTANCE OF GENETIC DIAGNOSIS

AHMED MOHAMED AL-KAMALI

AHMED AL-KAMALI, ZUAIR AL HASSAN, SAMEER SAJWANI, MAJID AL FAYYADH

Our patient (pt) presented as a neonate with asymptomatic bradycardia. The parents are consanguineous and have two normal children. The family history is not significant. Echo showed LV dysfunction (EF 46%), otherwise normal anatomy. Electrocardiogram showed sinus rhythm with incomplete RBBB. The pt was discharged home without medication. At 6 months he presented to us for the first time with bizarre wide QRS tachycardia that did not response to Adenosine or Amiodarone however, Esmolol restored sinus rhythm with RBBB and elevated ST segment in the anterior leads and prolongation of the QTc interval (0.54 seconds). The pt was discharged on Propranolol and was readmitted twice with febrile illnesses and recurrence of the tachycardia. ECG screening in the family was normal, however genetic analysis revealed the presence of Homozygous mutation in SCN5A gene IVS22+4A>G while both parents were heterozygous and siblings were normal. Implantable cardioverter defibrillator (ICD) and possibly sympathetic denervation were presented to the family but not done yet.

Our pt has a relatively rare combination of long QT syndrome due to sodium channelopathy associated with cardiomyopathy. Defect in the SCN5A gene can produce an overlap between LQTS, or Brugada syndrome – or a combination and rarely a cardiomyopathy. ICD implantation to prevent pause dependent tachycardia and treat any ventricular arrhythmia is indicated. Pre-implantation genetic diagnosis was introduced to the parents for future pregnancies.

This case shows the importance of the genetic analysis not only for clinical diagnosis but also to direct therapy and prevents future pregnancies with affected offspring’s.
FEASIBILITY TO ASSESS CORONARY ARTERY DISEASE ON CORONARY COMPUTED TOMOGRAPHY ANGIOGRAPHY IN PATIENTS UNDERGOING TRANS-CATHETER

AHMED A ALSAILEEK
AHMED AALSILEEK, MOUAZ AL-MALLAH, MOHSEN ALHARTH, ALI ALGHAMDI, MOHAMMED BALGAITH

Feasibility to Assess Coronary Artery Disease on Coronary Computed Tomography Angiography in Patients Undergoing Trans-catheter Aortic Valve Implantation
Ahmed Alsaileek, Mouaz Al-Mallah, Mohsen Alharthi, Ali Alghamdi, Mohammed Balgaith

Trans-catheter Aortic Valve Implantation (TAVI) is an alternative to surgical valve replacement in high risk patients with severe symptomatic aortic stenosis. Because of advanced age at presentation, these patients are at high risk of associated coronary artery disease (CAD). Cardiac Computed tomography angiography (CTA) is the most widely used imaging modality to assess the aortic root, aorta and the iliofemoral access. CTA has not been used as a sole test to assess coronary artery disease in this group of patients. The perceived technical challenges preclude CTA routine clinical use in these patients. Our aim is to review all the patients to whom CTA was performed prior to TAVI and to assess the feasibility to assess the entire coronary anatomy as compared to invasive coronary angiography (ICA).

Methods:
This was a retrospective analysis of our data concerning patients who were evaluated for TAVI. As per TAVI requirements, all the patients underwent CTA and ICA. The CTA was done on Siemens 128-slice Dual source. Prospectively ECGtriggered high-pitch spiral mode was applied in all patients. The range of scanning was from chin to mid-thigh as one run. The acquisition parameter was as follows: Kv of 100, mAs 370. All the exams were performed with no specific preparation to reduce heart rate nor mandate breath hold technique. CTA was divided into assessable (all coronary segments can be adequately visualized and assessed) and non-assessable (at least one coronary segment no assessable).

Results:
Thirty two patients were analyzed. The mean age was 74.7±5.9 years (22 [68.8%] were males). In 24 (75%) patients all coronary segments were adequately assessable. Of these, 16/24 (66.7%) had obstructive CAD, of at least 50% stenosis. The most severely affected vessel by motion was right coronary artery. Seven (21.9%) patients had previous coronary bypass surgery (CABG). Grafts were assessable in 100% of patients.
Conclusion:
In large proportion of patients evaluated for TAVI, CTA with no prior preparation was inadequate to assess all the coronary segments due to motion artifact. In contrast, CTA was very accurate to assess coronary grafts in patients with previous CABG
VARIATIONS IN THE PCI TO CABG RATIO: SINGLE CENTRE EXPERIENCE IN SAUDI ARABIA & INTERNATIONAL COMPARISON

AHMED A ARIFI
AHMED A-ARIFI, HANI K NAJM, MUNIR AHMAD, ALI AL GHAMDI,
RAWDENE VAN ONSELEN, MUAYED AL ZAIBAG

Objectives:
Over the past 20 years, the use of percutaneous coronary intervention (PCI), for myocardial revascularization has seen a dramatic turn, and increased compared to coronary artery bypass graft (CABG). However, although the evidence available is similar, there are a variation in the relative distribution of PCI to CABG among centers and regions. We sought to study the distribution and ratio of the PCI to CABG in our center and to compare it to the current international trend.

Methods and Results:
We carried a review of the prospectively collected data on the annual cardiac procedure reports at the King Abdulaziz Cardiac Centre, Riyadh from 2001 through 2011, to identify the trends in PCI and CABG variation over the study period, and to compare it to the current world wide trend. Over the studied period, the centre performed a total of 4313 and 2531 cases of PCI and CABG respectively. The isolated CABG volume were static with an average 230 cases/year. While the PCI volume shows a yearly almost 50% increase with an average volume of 392 cases/year. PCI/CABG ratio increased from 1.1 in 2001-2002 to 2.7 in 2011. In comparison to UK data, since 1998, the ratio of PCI/CABG has increased from 1.1 to 3.1. In contrast in New York, Manhattan programme, the PCI/CABG ratio increased from 1.19 in 1994 to 8.04 in 2008. However, the average ratio in the rest of the New York programme is 3.31.

Conclusion:
The current trend in our centre put us in the medium to high group (2.7-3.2) of PCI to CABG ratio and utilization. Further in-depth analysis of these disparities may facilitate the selection of the most appropriate, effective, and evidence based revascularization strategy. Hence, we recommend the implementation of the appropriate criteria for PCI as a quality monitoring in each centre.
COMPARISON OF THE SUTURLESS (PERCEVAL S) & THE TRANSAORTIC (CORE VALVE) IMPLANTATION (TAVI):ECHOCARDIOGRAPHIC VALVE HAEMODYNAMIC

AHMED A ARIFI
AHMED A-ARIFI, HANI K NAJM, AHMAD OMRAN, ALAA A. MOHAMED, MOHAMMED BALGAITH, ALI ALGAMDI, MUNIR AHMAD, RAWDENE VAN ONSELEN AND MUAYED AL ZAIBAG

Objectives:
The aim of this single centre study was to compare early and one year echocardiographic outcomes of patients undergoing trans-aortic aortic valve implantation (TAVI- Core Valve) versus patients undergoing sutureless aortic valve replacement (Perceval-AVR) for severe symptomatic aortic valve stenosis.

Methods and Results:
We reviewed the echocardiographic hemodynamics of 22 cases of TAVIs (group A) and 14 cases of Perceval-AVRs (group B), performed in our centre from April 2010 to June 2012. Preoperative characteristics of the 2 groups were comparable. Of the Perceval patients 50% had concomitant CABG. We performed a comparative analysis of the following echocardiographic variables as in table (1), assessed by two experienced echocardiographer. The comparative analysis were performed pre-discharge and up to one year follow up. The echocardiographic data showed that the incidence of paravalvular leak (at least mild) was greater in the TAVI group (31.7% vs 0 % P = .005). Valvular incompetence was mild in 5 patients (22%) in group A and 3 patients (21%) in group B. There were no differences in terms of average mean trans-prosthetic gradient (9 mm Hg vs 13 mm Hg, P = .59) for (group A) and (group B), respectively. Four patients (19%) in (group A), and one patient (7%) in (group B) shows a reduction in the Ejection Fraction (EF). However, the EF shows significant improvements in (group B) and no improvement in (group A). Furthermore, the septal wall thickness and posterior wall thickness reduction as a marker of left ventricular mass regression were consistent with the changes of the EF between the two groups.

Conclusion:
This preliminary results shows that the Perceval valve have an equivalent haemodynamic performance to the core valve. However, the perceiveval S valve have a lower incidence of valvular and paravalvular leak, and this have reflected on the improvements in the left ventricular function and left ventricular mass regression up to one year.
CARDIAC TUMORS: TEN-YEARS SINGLE CENTRE SURGICAL EXPERIENCE

AHMED ABDALLA EL AREFI
ASAD KHAN, MUSTAFAF, MUNIR AHMAD, HANI NAJM, RAWDENE VAN ONSELEN, AHMED EL AREFI.

Objectives:
To review all the patients referred for cardiac surgery with the diagnosis of cardiac tumours, from June 1999, till June 2012. The aim of the study was to assess the clinical manifestations, pathology and surgical outcomes.

Methods & Results:
we retrospectively studied all patients who were operated for cardiac tumours in our centre, from 1999 to 2012. We analysed preoperative presentations, surgical procedure and postoperative outcomes of these patients. During the study period, 16 patients underwent surgery for cardiac tumour. The Mean age of patients was 43.37 years. There were more female 62.5% (10) patients than male 37.5% (6). The main clinical presentations of our patients were shortness of breath, chest pain, heart block, and fever. Echocardiography were the main diagnostic tool, however, other diagnostic modalities (C-MRI and C-CT) were helpful in offering further diagnostic information and surgical planning. Of the 16 patients, 8 patients were operated on as an urgent or emergency. Among the 16 patients, 9 (56.25%) patients were operated for Myxoma excision. right ventricular sarcoma (1), metastactic leiomyosarcoma (2), metastatic sacral sarcoma (1), and metastatic renal cell carcinoma (2), and Bachets disease (1). There were no in-hospital mortality and all patient had symptomatic improvements.

Conclusion:
Cardiac tumours still represent a challenging condition. Our review shows that metastatic tumours represent almost 50% of all our cardiac tumours. Appropriate available diagnostic modalities is crucial, as currently prompt complete surgical removal is the only therapeutic & palliative option and offers best chances of survival.
ORAL ANTICOAGULATION THROUGHOUT PREGNANCY IN PATIENTS WITH MECHANICAL HEART VALVE PROSTHESIS: SAFE ALTERNATIVES.

AHMED ABDELRAHMAN ADEL MOHAMED HASSOUNA
AHMED HASSOUNA, AHMED TEIMA, AYMAN AMMAR, YASSER ELNAHAS, MOHAMED BADAWI.

Objectives:
Small dose of Warfarin (<=5 mg/day) was suggested as being safe in pregnant patients with mechanical heart valve prosthesis (MHVP) however; no other oral anticoagulant (OA) alternative has been proposed to cases failing to achieve their target INR. We aimed to suggest the alternative use/shift of those cases to our previously reported safe (OA) Phenindione (<=100 mg/day) and to compare both regimens.

Methods:
Eighty seven females with 106 bileaflet MHVP implanted in the aortic (10; 11.5%), mitral (58; 66.7%) or both positions (19; 21.8%) continued OA throughout pregnancy, with restriction of daily doses to 5 mg Warfarin or 100 mg Phenindione. Patients were allowed to cross over if failed to achieve their target INR: 2-3.5. Aspirin (100 mg/day) was supplemented, starting second trimester.

Results:
Out of 59 patients initially receiving Warfarin, 15 (25.4%) shifted to Phenindione, compared to none of 28 patients originally receiving Phenindione (P=0.002). Mean INR and daily OA dose for 44 patients remaining on Warfarin and 43 patients receiving Phenindione were: 2.39+/-0.34 versus 2.25+/-0.2 (P>0.05) and 3.9+/-1.07 mg versus 79.3+/-18.5 mg; respectively. Maternal complications were 6 cases of resolved vaginal bleeding (6.9%). There were no cases of embryopathy or prematurity. Fetal outcomes included 68 live births (78.2%), 7 abortions (8%), 2 fetal loss (2.3%); all insignificantly related to OA dose or INR level.

Conclusion:
Although <=5 mg Warfarin per day can be safe during pregnancy, yet it cannot always achieve the target INR and <=100 mg of Phenindione can be considered as a comparatively safe alternative.
THE AORTIC TRANSLOCATION (NIKAIDOH) PROCEDURE: INITIAL EXPERIENCE

AHMED BADR ELWY
ELWY A., AL SAEEDI A., RAGHIB A., ALNAJASHI K., KHOJA A., DI DONATO R.
aortic translocation (Nikaidoh) procedure: initial experience
Prince Sultan Cardiac Center, Riyadh, KSA.

Objective:
Midterm follow-up is analyzed after the aortic translocation (Nikaidoh) procedure, an alternative to the Rastelli procedure for ventriculoarterial discordance, ventricular septal defect, and pulmonary stenosis especially in cases with small or inlet VSD.

Methods:
Seven patients underwent a Nikaidoh procedure at a median age of 3.3 years (0.9-9.3 years). The native aortic valve was translocated from the right to the left ventricular outflow tract by mobilization of the aortic root. Four patients with coronary transfer as the right coronary artery reimplanted as a button while the other three patients had no coronary transfer. The conal septum was divided in all patients. The right ventricular outflow tract was reconstructed with valved conduit. The median follow-up was 18 months (0.3-4 years). Left ventricular outflow tract obstruction and aortic insufficiency were assessed by echocardiography.

Results:
There were no deaths. Right ventricular to Pulmonary artery conduit change were required in 2 patients (28.6%). No patient had any left ventricular outflow tract obstruction or aortic insufficiency more than mild. All patients are doing well at last follow up.

Conclusion:
The Nikaidoh is a valid alternative to Rastelli or REV operations. It appears particularly indicated in patients with TGA, VSD and LV outflow obstruction with small or inlet VSD.
SHORT-TERM OUTCOME OF CORONARY ARTERY BYPASS GRAFT SURGERY IN END STAGE RENAL FAILURE DIALYSIS-DEPENDENT PATIENTS.

AHMED IBRAHIM REZK

Background:
Patients with end-stage renal disease (ESRD) requiring dialysis who undergo coronary artery bypass graft surgery (CABG) are at significant risk for perioperative morbidity and mortality. We describe our own experience in such high risk subgroup of patients.

Methods:
Over four years period, a retrospective analysis of fifteen patients with dialysis-dependent renal failure who underwent coronary artery bypass grafting. Mean age was 55 ± 12 years. Except from one patient who was on peritoneal dialysis, all other patients were on regular hemodialysis. five patients were referred to cardiac surgery as their coronary artery disease was detected during routine coronary angiography before renal transplant.

Results:
There was one postoperative death (in-hospital mortality, 6.6%). The patient who died was suffering from morbid obesity with severe LV dysfunction and poor target coronary artery vessels. Three patients underwent renal transplantation after CABG operation and another one patient was recently operated and is waiting for transplant. One patient was complicated with significant perioperative MI after having LAD endartrectomy and surgical reconstruction with LIMA; this was complicated with heart failure and moderate to severe MR. This patient had lost his chance for future renal transplant. One patient had cerebral hemorrhage 2 months after surgery and he recovered.

Conclusions: Cardiac operations in patients with end-stage renal disease may be performed with a fairly low perioperative risk and the perspective of short-term functional improvement and acceptable survival. However, careful selection is mandatory for better outcome.
A SIMPLE TECHNIQUE ADDED TO MINIMALLY INVASIVE MITRAL AND TRICUSPID VALVE SURGERIES

AHMED MOHAMMED NAGUIB ABOUL-AZM
AHMED M.N. ABOUL-AZM

Abstract:
Minimally invasive cardiac surgery is likely to become more widely adopted, Due to restricted access with minimally invasive cardiac operations, there continues to be concern that inadequate deairing can cause a higher incidence of neurological events and how safe the limited access . Forty six patients with mitral valve surgery ± tricuspid repair had prospective randomized study done in governmental hospitals from Jan 2009 to June 2010 , by same surgeon (the author), and divided into 2 groups , group A ; 23 patients with full sternotomy via limited skin incision 7 to 8 cm , the inferior vena cava canula inserted through separate stab at the site of retrosternal drain , and group B; 23 patients through conventional incision, both groups studied as regard any difference in operation length , blood loss ,post operative pain ,permanent neurological insults, and hospital stay

Results:
There were no statistical difference as regard operative length, blood loss, post operative pain, hospital stay, permanent neurological insults or mortality rate.

Conclusion:
As traditional cardiac operations still enjoy proven long-term success and everdecreasing morbidity and mortality and remain our measure for comparison that’s what our study offers the conventional procedure in smaller incision without extra hazard.
SAFE INTRODUCTION OF VENTRICULAR ASSIST DEVICES INTO NATIONAL CLINICAL PRACTICE

AHMED SAAD AL-ADHAMI
AHMED AL-ADHAMI, JOHN PAYNE, ROY GARDNER, MIKE HIGGINS, MARK PETRIE, SALEEM HAJ-YAHIA

Introduction:
We report the first national Scottish experience with ventricular-assist devices (VADs) in a selected group of patients for whom short-term VADs (ST-VADs) were used as a salvage ‘bridge-to-decision’ (BTD) and long-term VADs (LT-VADs) as a ‘bridge-to-transplantation/recovery’ (BTT/BTR).
Method: From January 2010-July 2012, 13 (mean-age 42.4(16-62) years) INTERMACS I patients required emergency ST-VAD support as BTD and 9 (mean age 35.4(16-53) years) INTERMACS I-IV required LT-VADs as BTT/BTR.

Results:
Of BTD patients, 8(61.5%) received ST-BiVADs, 3(23.1%) ST-LVADs and 2(15.4%) peripheral CentriMag ECMO. Nine(69.2%) survived to last follow-up: 1(7.7%) is on ST-VAD support, 5(45.5%) bridged to myocardial-recovery and VAD-explantation, 1(9.1%) to transplantation and 2(9.1%) to LT-support. Mean durations of ST-support, renal-support and postoperative ICU-stay were 31.3(2-110), 6.6(0-31) and 35.5(1-119) days, respectively. Four(36.4%) early deaths and one after discharge. One(7.7%) stroke, 2(15.4%) acute-limb-ischemia and 6(46.2%) re-explored. No driveline-infections or device-failures. Cumulative survival was 57.1% at 4, 12 and 24 months postoperatively.
Of LT-LVAD patients, 6(66.7%) remain on LT-support, 1(11.1%) bridged to myocardial-recovery and VAD-explantation, and another to transplantation. Mean postoperative ICU-stay and LT-support were 19.9(6-56) and 251.3(21-751) days, respectively. One(1.1%) patient demised after 98 days of support, 2(22.2%) suffered LVAD-induced RV failure, 2(22.2%) required re-exploration for bleeding and only one(11.1%) minor superficial driveline-infection was encountered but no device/pump failure, infection or thrombosis. Cumulative survival was 85.7% at 4, 12 and 24 months of support.

Conclusion:
With undue vigilance, complex VAD-therapy can be integrated safely into a national program, treating the most deranged advanced-heart-failure patients, with low rates of complications and high rates of myocardial-recovery.
OUTCOMES OF ACUTE MYOCARDIAL INFARCTION IN TYPE 2 DIABETIC YEMENI PATIENTS USING DIFFERENT METHODS OF TREATMENT

AHMED SAGHIR ABKAR AL QUDAIMI

Diabetes (DM) mellitus is a chronic disease that requires continuing medical care and patient self-management education to prevent acute complications and to reduce the risk of long-term complications. Patient with type 2 DM have a two to four fold increase incidence of disease related to atheroma.

**Design and Methodology:**
Our study is a single-centre hospital based cohort prospective (interventional) study.

All of the studied patients were subjected to history, clinical evaluation, biochemical investigation. ECG and Echocardiography were done for them. Interventional procedures were done for all of the patients such as PCI or CABG. Statistical analysis was done by SPSS system. A total of 150 consecutive Yemeni patients were included in this study. One hundred (100) patients were diabetic and fifty (50) patients were control (non diabetic). The diabetic patients were treated by different methods of insulin treatment protocol, 50 patients were treated by insulin infusion therapy (IIT) and 50 patients were treated by sliding scale insulin (SSI) protocol. Anti-ischemic treatment (medications) was given to all the cases and control groups.

**Setting of the work:**
We recruited all patients admitted to the intensive care units (cardiac and noncardiac) at Al-Thawra Teaching Hospital in Sana’a over 12 months (Jan 2007-Dec 2010).

**Objectives of the study:**
Evaluation of the impact of IV continuous insulin infusion technique on the outcome of acute MI as compared to the sliding scale in diabetic patients. Post MI surveillance of patients was also conducted over the next

**Results:**
Male predominance was evident in this study. Mean (±SD) Waist circumference (WC) was significantly higher in diabetic patients (95.4±15.2 cm) than in the control (90±13.3 cm) (p= 0.032). Abdominal adiposity measured as, waist to height ratio (WHtR) was found to be more prevalent among diabetic patients (70%) compared to the control patients (44%), p= 0.0037. There was no significant difference between diabetic and non diabetic patients in regards to other cardiovascular risk factors.

The mean (±SD) admission blood glucose (ABG) level was significantly higher in the diabetic group (17.2±5.6 mmol/l) than in the control group, (6.9±1.3 mmol/l), p<0.0001. Also the mean (±SD) HbA1c% showed significantly higher value in the diabetic group (11.4±1.42 %) compared to the control group, (5.8±0.64 %),p=0.006.
Heart failure was noted to be more frequent among diabetics treated with (SSI), (34%) than in those treated with (IIT) (19.1%), p=0.01. Arrhythmia was less frequent among diabetics treated with IIT (12%), than those treated with SSI (20%), p=0.31. Recurrent chest pain found to be more frequent among diabetics treated with IIT (38%) than those treated with SSI (18%), p=0.04. In contrast, stroke was found to be more frequent among SSI patients (20%) than IIT patients (0%), p<0.0001. As for mortality, it was noted to be more among SSI treated patients (20%) than IIT treated patients (6%), p=0.04.

**Conclusion:**
Insulin infusion therapy in diabetic patients with AMI seems to have better outcomes regarding arrhythmia, stroke and cardiovascular mortality compared to sliding scale insulin therapy.
PREVALENCE OF INTERNAL PUDENDAL ARTERY DISEASE IN DIABETIC PATIENTS WITH ERECTILE DYSFUNCTION AND ANGIOGRAPHICALLY DOCUMENTED MU

AHMED SHAWKY ELSERAFY
TAREK ZAKI, M.D., WAEL NAMMAS, M.D., AHMED SHAWKY, M.D., AYMAN MORTADA, M.D., HOSSAM ZAKI, M.SC

Abstract:
Objectives: We set out to explore the prevalence of significant atherosclerotic disease of the internal pudendal arteries (IPA) in diabetic men with erectile dysfunction (ED) and angiographically documented multi-vessel coronary artery disease (CAD).

Background: ED shares common risk factors of CAD, and is increasingly recognized as a well established risk factor for future cardiovascular events.

Methods: We enrolled 30 consecutive diabetic patients with ED undergoing elective coronary catheterization. Erectile function was evaluated using the abbreviated 5-item questionnaire known as the Sexual Health Inventory for Men. Distal aortography was first performed, followed by selective internal iliac arteriography. Significant IPA disease was defined as 50% or more luminal obstruction seen in the projection that best delineates the takeoff of the artery.

Results: The mean age of the whole series was 59.6 ± 8.4 years. The mean duration of diabetes mellitus was 8.1 ± 7.1 years, and the mean duration of ED was 4.3 ± 3.2 years. Significant IPA disease (stenosis/occlusion) was found in 11 (36.7%) patients; unilateral in 6 (20%) patients, and bilateral in 5 (16.7%) ones. Significant internal iliac artery disease (stenosis/occlusion) was found in 6 (20%) patients; unilateral in 4 (13.3%) patients, and bilateral in 2 (6.7%) ones. Significant IPA disease correlated positively with age and negatively with estimated creatinine clearance (p <0.05 for both).

Conclusions: In diabetic male patients with ED who have angiographically documented multi-vessel CAD, significant IPA obstruction (stenosis/occlusion) is rather frequent, and it correlates positively with age, and negatively with the estimated creatinine clearance.
POST-OPERATIVE ICU COURSE OF INFANT BELOW 2.2KG UNDERGOING CARDIAC SURGERY

AKHTER M MEHMOOD
AKHTER MEHMOOD, MD, SAMEH R ISMAIL, MD, MOHAMED S KABBANI, MD, RIYADH M ABUSULIMAN, MD, HANI K NAJM, MD
Post – Operative ICU Course of Infant below 2.2 Kg Undergoing Cardiac Surgery
Akhter Mehmood, MD. Sameh R Ismail, MD. Mohamed S Kabbani, MD. Riyadh M Abusuliman, MD. Hani K Najm, MD.
King AbdulAziz Cardiac Center, King AbdulAziz Medical city. National Guard Health Affair, Riyadh, Saudi Arabia

Introduction:
Infants with low body weight (LBW) are major challenges for post cardiac surgery care. We conducted this study to compare post-operative course and outcome of infant weighing 2.2 Kg or less with matching group of infants with normal body weight who underwent similar cardiac surgery.

Methods:
We reviewed retrospectively all infants below 2.2 kg who underwent cardiac operation at our institution from January 2001 to March 2011. Cases with LBW (group A) were compared with matching group (Group B) of normal body weight infants who had similar cardiac surgery and matching surgical risk category. We compared demographic, ICU parameters, complications and short-term outcome of both groups.

Results:
Thirty seven patients were included in group A and 39 in group B. Except for Weight (2.13 ± 0.08 kg in Group A vs. 3.17 ± 0.2 kg in group B); there was no statistical difference in demographic data between both groups. Cardiac procedures included coarctation repair, Arterial switch, VSD repair, tetralogy of Fallot repair, systemic to pulmonary shunt and Norwood procedures. Patients in group A had statistically significant difference from group B in term of bypass time (p =0.01), duration of inotrops (p=0.01), duration of mechanical ventilation (p=0.004), number of re-intubations (p = 0.015), PCICU length of stay (p =0.007) and mortality (13.5% in group A vs. 0% in group B, p value 0.02).

Conclusion:
Patients with LBW below 2.2 Kg can go for cardiac surgery with overall satisfactory result but with increase risk of ICU morbidity and mortality.
ASSESSMENT OF MITRAL VALVE AREA BY 3D ECHOCARDIOGRAPHY IN RHEUMATIC MITRAL STENOSIS; VALIDATION OF OFFLINE 3D PLANIMETRY MEASURE

ALAA ABDEL MONEIM MOHAMED
ALAA A MOHAMED, AHMAD OMRAN, MA. HUSSEIN

Objectives:
The aim of this study is to validate the feasibility and accuracy of performing offline planimetric measurement of mitral valve area (MVA) using real-time 3-dimensional transesophageal echocardiography (3D TEE), and to compare it with methods used routinely in clinical practice: 2-dimensional (2D) planimetry and pressure half time (PHT).

Background:
Measurements of MVA by (2D) planimetry and Doppler (PHT) remain the mainstay methods used in routine clinical practice. 3D TEE provides more improved accuracy and reproducibility over 2D methods in the assessment of mitral valve morphology. Planimetry of the MVA by 3D echocardiography has only been done through multi-planar reconstruction of the mitral valve orifice. However, using offline 2D image calibration and measurement tools allows us to measure MVA by 3D planimetry.

Methods:
45 patients with moderate to severe rheumatic mitral stenosis were referred for transthoracic and transesophageal (TEE) echocardiography 2D and 3D. Offline planimetric measurement of MVA obtained from real-time 3D TEE zoom views of the mitral valve from both left atrial (MVA 3DPLA) and left ventricular side (MVA 3DPLV) were compared to MVA by 2D planimetry and PHT. MVA measurements (2D and 3D) were reported by 2 independent readers and interobserver variability was assessed. MV areas measured by these three methods were compared using Altman and Bland methods and Shukla’s correlation.

Results:
The Altman and bland analysis showed consistency among all three measurements methods. 3DTEE showed the least variability across different clinicians compared to 2DTEE and PHT, Mean difference 0.08, -0.15, and -.17 respectively.

Conclusion:
3DTEE planimetry appears to be a consistent technique for measuring MVA and provides the least variability in practical setting.
KWASAKI DISEASE, DELAYED REFERRAL AS A CAUSE OF CORONARY ARTERY AFFECTION

ALI AKHFASH
ALI A. AL-AKHFASH, MARWAN AL HAWBANI, ABDULRAHMAN A. ALMESNID

From the section of Paediatric cardiology, Prince Sultan cardiac center, Al-Qassim, Maternity and Children Hospital, Ministry of Health, Saudi Arabia

Kawasaki disease (KD), an acute febrile vasculitis, is the most common cause of acquired heart disease in infants and young children. However, the diagnosis of infantile KD can be difficult or delayed due to vague clinical manifestations. This current study aimed to review patients referred to pediatric cardiology at PSCC-Qassim with a diagnosis or suspicion of Kawasaki disease.

Method:
retrospectively review of the database as well as patients files.

Results: During the period from August till August 2012, twenty three patients were referred to PSCC-Q, with a mean F/U period of 32 months. The mean age of presentation +/- SD was 32 +/- 28 months (range 5 – 96 months). The timing of referral was ranging from 2 to 30 days from the onset of fever. 13 patients were having complete criteria for Kawasaki on presentation, 8 of them developed cardiac affection. Out of the 22 patients referred 12 had cardiac abnormality in the form of mitral insufficiency in 2, aortic root dilatation in one and coronary artery involvement in 6 patients. All patients except one received IgG at a mean time from onset of fever of 10 +/- 6 days (range 5-30 days). Two patients required a second dose of IgG after 48 Hr from the first dose. Initial echo was normal in 13. The most commonly affected coronary artery was the LAD. ECG was abnormal in one. Comparison between the groups with and without cardiac affection was done. There was a difference in all variables but did not reach a statistically significant value.

Conclusion:
A significant number of patients with complete as well as incomplete Kawasaki had cardiac involvement especially coronary artery affection. Delay in the referral as well as in the administration of IgG may lead to development of coronary artery involvement

50
SURVIVAL OUTCOME OF 100 PATIENTS WHO UNDERWENT TRANSCATHETER AORTIC VALVE IMPLANTATION (TAVI)

ALI AL MASOOD
SAEED AL AHMARI, MOHAMMED AL OTABI, ALI AL MASOOD, AHMED EL WATIDI, MOHEEB AL ABDULLAH, HUSIEN AL AMRI, SAAD AL KASAB

Background:
TAVI is a new alternative treatment for high risk patients with severe aortic stenosis (AS). The procedural success and survival have improved over time. We report the survival data of 100 patients who received TAVI at Prince Sultan Cardiac Center, Riyadh.

Methods:
Patient’s clinical, imaging and procedural data were collected in a data base, and they were followed at 6 month and yearly afterward. The survival data were derived using statistical software.

Results:
100 patients underwent the procedure with mean age of 78.8± 8.8 years, 55 % males, and 45 % females. 60 % of patient received Edward's valve, and 40 % received Core valve. The procedural success was 95 %. The 30 days mortality was 10 % in patients who received Edward’s valve, and 5 % in those received Core valve. The one year mortality was 21 % in patients received Edward valve and 10 % in those received Core valve. The 30 days mortality for patients who had trans-femoral Edward approach was 9 %, and for those who had trans-apical approach was 11 %. The one year mortality for trans-femoral Edward approach was 15 %, and for the trans-apical approach was 30 %.

Conclusion:
Elderly patients with severe AS and at high risk for surgery can undergo TAVI with high success rate, and acceptable mortality rate. The highest mortality rate at one year was in patients who underwent trans-apical TAVI.
CHEST PAIN IN PAEDIATRIC PATIENTS REFERRED TO PAEDIATRIC CARDIOLOGY CLINIC AT PSCC QASSIM

ALI ALI AL AKHFASH
ALI A. AL-AKHFASH, ABDULRAHMAN A. ALMESNID, ZUHAIR AALEM, SULEIMAN ALMESNED

Chest pain is a common paediatric complaint. Chest pain due to a cardiac condition is rare in children and adolescents, with a prevalence of less than 6%. History and physical exam may be sufficient for identifying the majority of significant aetiologies.

Objectives:
To review the different causes of chest pain of patients referred to PSCC-Q

Method:
Retrospective analysis of our database. Follow up of patients was done with telephone call of all patients family to ask about the child and the chest pain status.

Results:
During the period from January 2011 till December 2012, 28 patients were referred because of chest pain to the cardiac clinic. 18 (64%) were females and 10 (36%) were males. Palpitations were present in 7 of them (25%). Four patients were having noncardiac symptoms in the form of arthralgia in two and recurrent tonsillitis in two. Tow patients were having a positive family history of cardiac problems in the form of mitral valve prolapse in one and dilated cardiomyopathy in the other. General examination and Vital signs were normal in all of them. The mean +/- SD of the heart rate, blood pressure and saturation were 99 +/- 15 bpm, 102/63 +/- 11/9 mmHg, and 97 +/- 1 % respectively. The mean +/- SD of the weight and height were 30 +/- 16 kg and 131 +/- 10 cm respectively. Cardiovascular examination was normal in all of them. Innocent systolic murmur was present in 5 of them (18%). ECG was also normal in all of them. One patient had mild prolongation of the PR interval. Those with history of palpitations had Holter monitoring for 24 hr which were normal in all of them. Chest pain was recurrent in 6 patients (22%) and was related to exertion in only one. On Followup all patients were alive and asymptomatic.

Conclusion:
Chest pain in children usually is benign. History and physical exam usually are sufficient. Laboratory testing should be guided by History and physical exam.
IMPROVEMENT IN DOOR TO BALLOON TIME AT KING ABDULAZIZ CARDIAC CENTER: ARE WE ACHIEVING THE GOAL?

ALI MOHAMMED ALGHAMDI
ALI M ALGHAMDI, MOHAMMED BALGAITH, KAMAL AYOUB, BASIL SAEED, AHMED SAILIK, MUYED ALZAIBAG

Background:
Early reperfusion in acute ST-segment elevation myocardial infarction (STEMI) is very important to improve patients clinical outcome. Implementing institutional plan to decrease door to balloon time is crucial to achieve this goal. Our goal is to met the ACC/AHA recommendations of door to balloon time < 90 minutes.

Methods:
A chart review of all cases of primary percutaneous coronary intervention (PCI) for ST-segment elevation myocardial infarction (STEMI) performed. All door to balloon times were recorded. The average door to balloon time was calculated.

Results:
536 patients underwent primary PCI for STEMI from September 3, 2008 - Sept 30, 2012. For each patient, the initial presenting time, the first ECG time, the time ER physician saw the patient and activate the cath lab, the time patient arrived to cath lab, and puncture time to balloon inflation were recorded. 52 patients were excluded from the study for not having clear door to balloon time. 64.2% of the patients met the ACC/AHA recommendation of < 90 minutes door to balloon time. The average door-to-balloon time was 87.7 (STD +35.5) minutes for all patients. There was significant improvement in door to balloon time from 2008 to 2012. Average door-to-balloon time reduced from 105 minutes in September 2008-December 2009 to 72 minutes in 2012. In 2012 door to balloon time was below 90 minutes in 86% of patients versus 46% in September 2008-december 2009.

Conclusion:
Sixty-four percent of patients underwent primary PCI in King Abdulaziz Cardiac Center met the recommended guidelines. In 2012, 86% met the recommended guidelines. Our future goal is to achieve the recommended guidelines in all patients.
INCIDENCE OF IN-STENT RE-STEMOSIS WITH CATANIA CORONARY STENT

ALI S ALMASOOD
RAHIM GUL, MOHAMED ALOTAIBI, KAZIM HAMEEDULLAH, HUSSEIN AL AMRI, ALI ALMASOOD, ABDULRAHMAN AL MOGHAIRI
Incidence of in-stent re-stenosis with CATANIA coronary stent
Single center experience
Rahim Gul, M. Alotaibi, Kazim Hameedullah, Hussein Al Amri, Ali AlMasood, Moheeb Alabdalah, Abdulah AlKhushail,
Abdulrahman Al Moghairi
Prince Sultan Cardiac Center Riyadh KSA

Objectives:
The study sought to assess safety and efficacy of implantation of CATANIA Coronary Stent.

Background:
CATANIA Coronary Stent is new stents coated with an inorganic, high molecular weight polymer Polyzene F. It is a flexible cobalt chromium balloon expandable stent. Polyzine –F was claimed to have low surface thrombogenicity, anti-inflammatory, bacterial resistance, and pro healing effects which result in low rate of stent thrombosis and in-stent re-stenosis (ISR) requiring short duration of dual anti platelet therapy. Catania is neither a BMS nor a DES but somewhat in between.

Methods:
This is a prospective, single center, observational cohort study of 33 patients with symptomatic ischemic heart disease with de novo, obstructive lesion of native coronary arteries. The patients were followed up at 12 months after the implantation for the symptoms and any new coronary events.

Results:
Of the 33 patients, one patient died due to non cardiac cause, 4 patients were admitted with unstable angina and two patients with angina and positive stress test. The entire 6 patient had significant more than 70% ISR. The target lesion revascularization (TLR) at 12 months was 18.75%

Conclusion:
At one year follow up, The Catania stent was found to be associated with a significant ISR with TLR of 18.75%.
RECOMBINANT ACTIVATED FACTOR VII (RFVIIA) FOR UNCONTROLLED BLEEDING POST CARDIAC SURGERY.

ALY MAKRAM HABIB
ALY MAKRAM HABIB, AHMED YEHIA MOUSA, ZOHAIR YOUSIF AL HALEES

Objectives:
To review recombinant activated factor VII (rFVIIa) as rescue therapy in persistent severe hemorrhage in post cardiac surgical patients at our institution.

Design:
A retrospective observational study.

Patients and Methods: From 2004 till April 2010, all patients who received rFVIIa for bleeding of 3 ml/kg/h or more for 2 consecutive hours after cardiac surgery were included. Surgical bleeding management, patient temperature correction, blood products replacement, and coagulant drugs administration preceded the rFVIIa.

Results:
The mean for chest tube drainage was significantly lower after the administration of rFVIIa compared to that before (1.2±1.08 vs. 4.1±2.3 ml/kg/h, P=0.042). There was a significant decrease in the median of: aPTT (43.8 vs. 46.6 seconds, P=0.027), ACT (128.9 vs. 131.7 seconds, P=0.05), and INR (1.0 vs. 1.43, P=0.001) after the administration of rFVIIa compared to that before. The median of fibrinogen level and the platelet count showed non-significant increase after the rFVIIa doses (2.57 vs. 2.43 gm/l, P=0.34 and 106 vs. 101 X109/l, P=0.27 respectively). 6 patients (3.7%) needed re-exploration after the administration of rFVIIa. Five patients (3.2%) had thrombo-embolic complications. The small dose (40-50 mcg/kg) was comparable to high dose (≥ 80mcg/kg) of rFVIIa in terms of: mean chest tube bleeding within the first 4 hours, blood products required in the first 24 hours, re-exploration for bleeding or thrombotic complications.

Conclusion: rFVIIa produced significant reduction in chest tube bleeding post cardiac surgery with reduction in the administration of blood products. Small dose rFVIIa can be considered effective for intractable bleeding after cardiac surgery.
ANALYSIS OF DIFFERENT ECHOCARDIOGRAPHIC PRESENTATIONS OF PM/ICD LEADS RIGHT HEART WALL PERFORATIONS

ANDRZEJ JERZY TOMASZEWSKI
TOMASZEWSKI ANDRZEJ, BRZOZOWSKI WOJIECH, KUTARSKI ANDRZEJ, OLESZCZAK KRZYSZTOF, TOMASZEWSKI MICHAL

Wide use of implantable pacemakers and cardioverters /defibrillators is connected with serious possible complications. More of them are well known, however there are some surprisingly frequent. This study take special notice of right heart wall perforation by PM/ICD leads. Our group of patients was seriously affected by perforation in high percent – 16 %. Perforations are not so rare, they are not well diagnosed yet.
Erroneous lead implantation into the left ventricle consists known permanent pacing complication. The management of late diagnosed cases is not established till now; open-chest surgery, permanent anticoagulation, antiplatelet drug treatment consists alternative options. Transvenous extraction of such lead consist most infrequent solution. We presents the case of unintentional as many as two leads into left atrial appendage (intentionally distal CS) and left ventricular apex (intentionally RVOT) 5 years ago, through undiagnosed ASD – complicated with trice cerebral stroke in spite proper anticoagulation. Fatal lead location was diagnosed recently adventitially by echocardiographist. All leads were extracted transvenously with cerebral circulatory system protection using especially deticated “spreaders” (Filter-Wirer EZ, Boston Scientific) located in both internal jugular arteries. Surprising was lack of strong connecting tissue scars fixating lead with endocardium in left heart catves with theirs „normal” presence in venous leads course and in right atrium. We concluded, that old, permanently implanted left heart leads can be extracted percutaneously, especially in increased operative risk patients and patients, which refuse cardiac surgery. Not only intraoperative TEE but simultaneous cerebral circulatory protection should to consist indispensable condition of the procedure.
ACUTE, LIFE THREATENING, LEAD DEPENDENT ENDOCARDITIS CASE REPORT

ANDRZEJ JERZY TOMASZEWSKI
ANDRZEJ KUTARSKI, MAREK CZAJKOWSKI, ANDRZEJ TOMASZEWSKI,
SYLWIA TARGONSKA, AGNIESZKA KOLODZINSKA

The case of typically running, lead dependent endocarditis in a 59 years old female patient is presented. Symptoms appeared two years after dual chamber implantable cardioverter-defibrillator implantation. Unexplained fever, pulmonary embolism and „cloths” on leads have been investigated for two months before the correct diagnosis was taken. The “thrombus” in the right atrium enlarged from 36x28 mm to 66x40 mm in meantime, in spite of heparine administration and became a direct danger to the patient’s life. The surgical intervention and correct antibioticotherapy saved the patient. The quick progress of thrombus enlargement, in spite of heparine and antibiotical treatment and connection of the thrombus with loose loop of the lead with abrazed external silicone tube in both the right atrium and ventricle are interesting findings.
MID-TERM OUTCOME OF EXTRACARDIAC FONTAN OPERATION USING CONTEGRA CONDUIT

ARIF ISHTIAQ HUSSAIN
DERAZ AL SAYED SALEM, ARFI MUHAMMED AMIN, SHARFI HUSSAIN MASROOR, FOUAD ISMAIL MUHAMED, BASLAIM GHASSAN, HUSSAIN ARIF

Background:
Limited surgical experience of constructing Fontan circulation using Contegra conduit has raised concerns of high risk of thrombotic occlusion of Fontan circuit. In this study we intended to retrospectively evaluate thrombotic complication and survival of patients undergone extra-cardiac Fontan procedure.

Methods:
Medical records of all patients who underwent Fontan completion from January 2002 to December 2010 were reviewed. Echocardiographic, catheterization, and peri-operative data were recorded. Outcome of Fontan procedure using Contegra conduit was compared with those constructed with Dacron tube. All patients received anticoagulation using heparin in the immediate postoperative period and later on Coumadin to maintain therapeutic level of INR. The primary outcome was the prevalence of thrombotic complication and the survival in the two groups. Chi-square was used to compare the categorical variables. Independent 2 sample t-test was used to compare the pre-operative and postoperative numerical variables in the two groups and Kaplan meier curve and Log Rank test were generated to compare the time interval of the two primary outcomes of the two groups.

Results:
Seventy-six patients underwent Fontan procedure, using contegra (n=47) and Dacron tube (n=29). The two groups matched with regard to demographic variables, preoperative hemodynamic data, intra-operative and post-operative outcome (Table/Figure). Thrombotic complications occurred within the first 30 days in 6/47 (13%) in Contegra and 3/29 (10%) in Dacron group and the difference was not significant (p=0.983). Relative risk of thrombosis in contegra group was 0.949 (95% CI = 0.8-1.3). The mean follow up for the whole group was 87 months. The mean follow up for Contegra group was 70 months and 95 months for the Dacron group but this difference was not significant (p=0.304). Nine patients died: Contegra 7/47, Dacron, 2/28 (p=0.486). Relative risk of dying in contegra group was 0.909 (95% CI= 0.8-1.1).

Conclusion:
This is the largest series evaluating the outcome of extra-cardiac Fontan procedure using contegra conduit. Our results suggest that using contegra conduit does not increase the risk of thrombotic complication or death compared to Fontan completion using Dacron tube.
HUMAN LEUKOCYTE ANTIGEN CLASS II GENETIC VARIANTS ARE HIGHLY ASSOCIATED WITH RHEUMATIC HEART DISEASE IN YEMENI PATIENTS

ARWA MOHAMMAD OTHMAN
ARWA OTHMAN, AHMED AL-MOTARREB, MASOOD HA3

Abstract:
Background: Human leukocyte antigen (HLA) class II polymorphisms have been reported as a risk factor for rheumatic heart disease (RHD); however, the predisposing HLA genetic variants were different in various populations.

The aim of the study: was to investigate the association of RHD with HLA class II alleles in Yemeni patients. Methods: HLA-DRB1 and -DQB1 polymorphisms were genotyped by PCR-SSOP reverse dot blot hybridization in 100 RHD patients and 50 healthy subjects with normal echocardiography (control group).

Materials and methods
Subjects: Yemeni RHD patients aged …14 and 45 years who attended the out-patient clinic at Al-Thawra Hospital for treatment were asked for participated in this study. One hundred RHD patients (57 females, 43 males) were freely participated (case group). Gender and age matched healthy subjects aged ---18 and 47 years in the same geographical area of the patients were invited to participate in this study (control group). Fifty healthy individuals (28 females, 22 males) were freely participated. Venous blood, 3-4 ml was collected from each participant after obtaining the signed consent form. Echocardiogram was done for each patient to confirm the clinical finding of RHD. The healthy subjects were also subjected to echocardiograms to exclude asymptomatic RHD cases.

HLA class II genotyping
Genomic DNA was extracted from peripheral blood leukocytes using PureLink Genomic DNA kit (invitrogen, USA). HLA class II DRB1 and DQB1 genotypes were carried out using sequence-specific oligonucleotide-probe polymerase chain reaction, Dynal RELI SSOP HLA-DRB1 and HLA-DRB1 kits, respectively (Invitrogen, USA).

Statistical analysis:
Frequency of HLA-DRB1 and HLA-DQB1 alleles were compared between the patients and the controls using the chi-square test. The p value and odds ratio (OR) were calculated using SPSS software, version 12, with 95% confidence intervals and Fisher exact correction for small numbers.

Results: The results showed that HLA-DRB1*07 and HLA-DQB1*0203 allele were risk factors for RHD (P = 0.005, OR = 4; P = 0.02, OR = 8.7, respectively). In contrast, the HLA-DRB1*11, HLA-DQB1*0305 and HLA-DQB1*0602 alleles showed a protection against RHD (P = 0.01, OR= 0.32; P = 0.03, OR = 0.23; P = 0.01, OR = 0.24, respectively).
**Conclusion:**
HLA class II genetic variants were a predisposition factor for developing RHD in Yemeni subjects. This study also replicated the association of HLA-DRB1*07 with RHD and suggested that HLA-DQB1*0203 allele as a risk factor for RHD.
GENDER DIFFERENCES IN PATIENTS WITH OUT OF HOSPITAL CARDIAC ARREST – A MIDDLE EASTERN PERSPECTIVE

ASHFAQ AHMAD ABDUL HAMID PATEL
DR. ASHFAQ AHMAD A. H. PATEL, DR. ABDULRAHMAN ARABI,
DR. R. SINGH, DR. JASSIM AL SUWAIDI
GENDER DIFFERENCES IN PATIENTS WITH OUT OF HOSPITAL CARDIAC ARREST – A MIDDLE EASTERN PERSPECTIVE

Objectives:
To compare the clinical characteristics, treatment and outcome in patients hospitalized following Out Of Hospital Cardiac Arrest (OHCA) according to gender.

Methods:
Retrospective analysis of a registry of patients hospitalized with OHCA over a 20-year period (1991-2010) in Hamad Medical Corporation, Doha, Qatar

Results: Out of 987 patients admitted with OHCA, 269 patients were female (27.3%). Compared to males, females were older (61 + 14 vs 55 + 15 years; p 0.001), more likely to have diabetes (62.1% vs 35.5%; p = 0.001), hypertension (63.9% vs 34.7%; p = 0.001), chronic renal failure (12.3% vs 5.6%; p = 0.001) and BMI > 30 (41.2% vs 23.9%; p = 0.02) and less likely to be smokers (1.9% vs 26.6%; p=0.001).

There was a lower incidence of STEMI in the female patients (13.8% vs 36.1%; p = 0.001) with no significant difference in the LV ejection fraction (35±13 vs 34.5±13; p = 0.81).

They were less likely to be treated with antithrombotic medications (heparin / LMWH: 27.9% vs 35.9%; p=0.02; ASA: 47.2% vs 55.8%; p=0.02; thrombolysis: 4.8% vs 17.3%; p=0.001), PCI (5.2% vs 13%; p=0.001) and IABP support (0.7% vs 4.7%; p=0.003).

In hospital mortality was higher in the female group (65.4% vs 57.7%; p = 0.03)

Conclusion:
There are significant differences in clinical characteristics, treatment and outcome in patients admitted with OHCA between male and female patients in our database registry.
Apical hypertrophic cardiomyopathy is characterized by primary hypertrophy localized in the left ventricular apex. It constituted about 25% of all cases of HCM in Japan and much less often in non-Japanese populations 1% to 2%. Apical HCM patients tend to have milder symptoms. Palpitations and syncope should prompt further evaluation of arrhythmias. Atrial and ventricular arrhythmias have been described in patients with apical HCM. Presented here a case report of biventricular hypertrophic cardiomyopathy.
DIABETES, CORONARY ARTERY DISEASE AND ERECTILE DYSFUNCTION DOPPLER STUDY

AYMAN MAHMOUD MORSI
DR. AYMAN MORSI, DR. BASSAM A. FAQIH, DR. AHMED ALSAKA
Diabetes, Coronary Artery Disease and Erectile Dysfunction Doppler study

Abstract:
Objectives:
To assess the role of measuring cavernosal artery blood flow as a screening tool for ischemic heart disease in patients with erectile dysfunction (ED).

Methods:
A total of 303 male patients with ED were enrolled in this study. Patients were interviewed for ED using the International Index of Erectile Function. The penile vasculature was assessed using color Doppler ultrasonography and the Digital Inflection Rigidometer. All patients were referred to a cardiologist for evaluation of ischemic heart disease (IHD). All patients underwent routine laboratory investigations, plus total testosterone and prolactin assessments.

Results:
Seventy-six percent of the patients had organic causes of ED. Of the 303 patients, 31.4% had different degrees of IHD. A statistically significant association was found between the presence of IHD and arteriogenic causes of ED, a poor response to intracorporal injection, poor rigidity in the Digital Inflection Rigidometer, and low peak systolic velocity (PSV) in the cavernosal arteries (P <0.05 for each). No statistically significant association was found between the presence of IHD and increasing end-diastolic velocity values or decreasing resistive index in the cavernosal arteries (P >0.05 for each). A statistically significant association was found between a higher grade of IHD and a decreasing PSV value (P <0.05).

Conclusions:
The results of this study established that a reduced PSV of the cavernous artery is associated with IHD. Determining the PSV could be a reliable screening tool for the detection of IHD in patients with ED.
The immunologic basis of rheumatic fever is well established. However the role of penicillin in the control of the rheumatic process and the prevention of development of rheumatic heart disease is poorly understood.

Objective:
the objective of this study was to monitor the changes in serum levels of Tumour Necrosis Factor (TNF-alpha) and interleukin-8 (IL-8) in children presenting with various stages of rheumatic fever over a time.

Subjects and Methods:
Study included 42 children aged 6-15 years with RHD followed up over one year by Doppler-echocardiography and laboratory tests to monitor IL-8 and TNF-alpha by ELISA technique.

Results:
Twenty five children presented with acute arthritis with or without carditis (59.5%), all had statistically significantly high levels of IL-8 and TNF-alpha throughout the follow-up period. Of these 9 (36%) developed rheumatic reactivity and 6 (24%) developed valvular heart disease. Eight children (19%) presented with rheumatic chorea, all had significantly high levels of IL-8 and TNF- & throughout the follow-up period, of whom 4 (50%) developed valvular disease. Nine children (21.4%) presented with varying degrees of established chronic rheumatic heart disease, all of whom had no rise in the serum levels of IL-8 and TNF-alpha.

Conclusions:
These findings indicate that the clinical and epidemiological pattern of rheumatic fever is changing. Immunemodulatory responses could assist us in tracking these changing patterns of disease and assessing current protocols of management.
EPCS REGENERATE INFRACTED MYOCARDIUM WITH NEOVASCULARISATION DEVELOPMENT

DINA SABRY SABRY
DINA SABRY, MOHAMED TALAAT ABD EL AZIZ, EMADABE EL NABI, MAGDY ABD EL HAMID, LAILA AHMED RASHED, ASHRAF SHAMAA

Abstract:
The aim of the present work was to study whether or not the number and function of EPCs were associated with the development of collateral formation in patients with single-vessel coronary artery disease of CTO. Examine the ability of EPCs to form new blood vessels and to differentiate into cardiomyocytes in canines with AMI. Twenty patients who had CTO in one major coronary artery (n=20) were undergoing CAG. EPCs were isolated from peripheral blood samples and cultured. Their phenotypes were confirmed by uptake of DILDL-UEA-1. EPCs of CTO patients were counted. hVEGFR-2 and eNOS from the culture cells were also measured by qPCR. Isolated EPCs from CTO patients were xenotransplanted intramyocardially in canines with AMI. ECG was done and cardiac enzymes CKMB and Troponin I were measured for the animals to assess cardiac activity. Histopathology was done to assess neovascularization and immunohistochemistry was done to detect hEPCs transdifferentiation into cardiomyocytes in peri-infarct cardiac tissue. qPCR for human genes (hVEGFR-2, and eNOS) was done to assess homing and angiogenic function of transplanted EPCs. Patients with good collaterals exhibited an increased number of EPCs and significant high expression of hVEGFR-2 and eNOS genes in the culture cells, compared with patients with poor collaterals. Histopathology showed increased neovascularization and immunohistochemistry showed presence of hEPCs newly differentiated into cardiomyocyte-like cells. Our findings suggested that EPC-mediated angiogenesis might be associated with coronary collateral formation in humans. hEPCs are able to form new blood vessels and to differentiate into cardiomyocytes in canines with AMI.
Healthcare-associated infections (HAIs) are infections that patients acquire during the course of receiving treatment for other conditions within a healthcare setting (1). There is a vast body of literature which showing that HAIs are a major cause of patient morbidity and mortality in developed countries(2). The aim of this study was to determine the rates of HAIs mainly Devic associated Infections(DAIs) and their impact on patient outcome. This study was an open labelled, cohort, prospective study. All admitted cases in the Postoperative Pediatric Cardiac Surgical ICU in Cairo University, Children Hospital, Egypt from 01/01/2009 to 30/12/2010 were included. The study included 175 patients , eighty eight( 50.3%) males, and eighty seven (49.7%) females. We reported a Ventilator associated Pneumonia(VAP) rate of 73/1000 MV days, Catheter-associated Laboratory Confirmed Blood stream infection(CLAB) rate of 18.8/1000 CL days, and Catheter associated Urinary tract Infection(CAUTI) of 7/1000 UC days. DAIs rates are higher than the Bench marking determined by the International Nosocomial Infection Control Consortium(INICC) using standardized definitions(3). Fifty four (30.9%) of the studied patients died at the end of the study. HAIs were strongly related to mortality by univariate analysis(p=0.011), but not significantly related to mortality by multivariate analysis(p=0.67). The average extra length of hospital stay due to HAI was 5.4 days. The overall rate of(HH) Hand Hygiene compliance was lower in this study than in the overall INICC PICUs: 47.1% vs 58.6%. In summary, Surveillance of HAIs- defining the magnitude and nature of the problem- is the first step toward reducing the risk of infection in vulnerable hospitalized patients. The next step is to implement targeted basic infection control practices that have been shown to prevent HAIs(2).

References:
CARDIOTOXICITY INDUCED BY CLOZAPINE IN ADULT MALE ALBINO RATS AND POSSIBLE PROTECTION BY SELENIUM: A HISTOLOGICAL STUDY

ESAM SALAH KAMEL
ESAM SALAH KAMEL, ASHRAF M F KAMEL

Abstract:

Background:
Clozapine is an efficacious antipsychotic drug particularly in schizophrenic patients refractory to other agents. Treatment with clozapine was reported to be associated with sudden death, myocarditis in some patients.

Aim of the Work:
This study was conducted to investigate the toxic effect of clozapine on cardiac muscle of adult male albino rats and to assess the potential protective role of selenium.

Material and Methods:
This study employed fifty adult male albino rats randomly divided into five equal groups. Group I: Control group, Group II received daily 1 ml of 0.1 M HCl, balanced in phosphate buffered saline intraperitoneally (i.p.), Group III received oral selenium (1.5 mg/kg), Group IV received Clozapine (25 mg/kg) i.p. daily and Group V received both clozapine and selenium. After 14 days ventricular myocardium of each animal were dissected and processed for light and electron microscopic studies.

Results:
After clozapine administration, the ventricular myocardium showed fragmentation and separation of cardiac muscles with diffuse mixed inflammatory cellular infiltrate. The Z-lines were irregularly oriented with rupture of mitochondrial membranes and cristae. Concomitant administration of selenium with clozapine displayed an observable protection against these changes.

Conclusion:
Selenium may have a protective role against cardiotoxicity induced by clozapine therapy.

Keywords: heart, clozapine, selenium, histology, ultrastructure.
HEALTH-RELATED QUALITY OF LIFE TRAJECTORIES AND POSTOPERATIVE CARDIAC SURGERY OUTCOMES

EYAD MOHAMMAD ALHELIH
DR. EYAD ALHELIH, DR. HIBA ALMANZALAWI

Background:
Few investigators have examined the relationship of preoperative HRQL with cardiac surgery clinical indicators in patients stratified by age and sex.

Objective:
To examine the relationships of preoperative HRQL and postoperative pain management, duration of mechanical ventilation and hospital length of stay.

Methods.
A descriptive correlational design was used for this secondary analysis with patients in a larger parent study who completed a preoperative Medical Outcome Short Form - 36. The sample (n = 90) was dichotomized into groups of patients < 65 and ≥ 65 years of age.

Results:
Fifty-nine percent of the patients were under age 65. Sixty-six percent of the total group was male, and the average age of the men (M = 62.6 years) and women (M = 62.3) was almost identical. Patients < 65 years had lower scores on several SF-36 measures than patients ≥ 65 years. Patients < 65 years had higher pain intensity and opiate consumption than patients ≥ 65 (P = .001). Patients ≥ 65 with low perceptions of general health had a longer duration of mechanical ventilation (P = .03). Patients < 65 years with lower vitality had longer hospital length of stay (P = .01). All of the mean Pain Management after Cardiac Surgery scale scores for men and women < 65 were below the national norm average. For women ≥ 65, their mental health, general health, role emotional, and mental health summary score means were above the national average. For men ≥ 65, only the mental health scale score and mental health component score were above the national average.

Conclusions:
Preoperative HRQL could be utilized as a component of preoperative patient screening and has potential to contribute to risk stratification in the cardiac surgery population.
Objective: Postoperative pain control is one of the most important concerns for CABG patients and is one of the most clinically challenging problems for health care providers. The authors investigated the effectiveness of a continuous LAI of bupivacaine at the sternotomy incision after CABG with regards to pain intensity, opioid analgesic requirements, and select clinical outcomes.

Design. This was a prospective, dual armed, randomized, placebo-controlled, double-blind clinical trial.

Methods: Patients (n = 108) undergoing CABG had continuous LAI catheters placed at the sternotomy. Pain intensity scores and opioid analgesic requirements were recorded from postoperative day (POD) 1 – POD 3. Secondary outcome measures were duration of MV, initial ambulation, ICU and hospital LOS.

Results: Participants in all 4 groups were similar in demographic and clinical parameters. Patients in the treatment and control groups of both arms of the study reported comparable pain intensity scores on POD 1 – POD 3. The total amount of opioid analgesia required during weaning from MV did not vary significantly between treatment Pain Management after Cardiac Surgery and control groups in either arm of the study. No statistically significant differences were found in the average time to first ambulation from bed to chair. Most patients in both arms of the study met step-down criteria within 24 hours of surgery. The average postoperative hospital LOS was 4-5 days and did not vary statistically between groups.

Conclusion: The use of a continuous LAI at the sternotomy did not reduce postoperative pain intensity or opioid analgesic consumption in this study. It also did not have an effect on secondary clinical outcomes.
PREVALENCE, CLINICAL PROFILE, CAUSE OF HOSPITALIZATION AND OUTCOMES IN PATIENTS WITH LEFT BUNDLE BRANCH BLOCK IN THE STATE OF QATAR

FAHAD ALKINDI
FAHAD ALKINDI, ABULRAHMAN ARABI, ASHFAQ PATEL, RAJVIR SINGH, JASSIM ALSWAIDI, HAJAR A. HAJAR ALBINALI
Prevalence, Clinical Profile, Cause of Hospitalization and Outcomes in Patients with Left Bundle Branch Block in The State of Qatar: insight from a 22 year registry in the state of Qatar

Objectives:
We studied the prevalence, clinical characteristics, management and outcome among patients with LBBB hospitalized in the cardiology department.

Methods: Retrospective analysis of the 22-year registry data (Jan 1991 to Jun 2012) of cardiac patients hospitalized at Hamad General Hospital and Qatar Heart Hospital, Doha, Qatar.

Results:
Of the 41438 patients admitted under cardiology department, 582 patients had LBBB (1.4%). Compared to patients without LBBB, LBBB patients were older (63±12 vs. 54±12 years, P=0.001), more likely to be female (33 vs.23%, P=0.001) and to be middle eastern (76.5 vs. 54%). LBBB patients have more hypertension (56 vs. 40%, P=0.001), Diabetes (52% vs. 39%, P=0.004) and chronic renal failure (11% vs.4%, p=0.001), but less likely to be current smoker (16% vs. 23%, P=0.001). CHF was the most common cause of admission in LBBB (40 % vs. 17 % in no LBBB patients, P=0.001), followed by unstable angina (35 vs. 40%, P=0.03) and myocardial infarction (9.3 vs. 23%). In hospital mortality was significantly higher in LBBB patients (8% vs. 4.7%, P=0.001).

Conclusion:
Patients with LBBB are more likely to be admitted with CHF, and less likely to be admitted with acute coronary syndrome as compared to patients without LBBB. Moreover LBBB is associated with a 2-folds increase in mortality as compared to those without LBBB.
LONG TERM FOLLOW UP OF PERMANENT PACING IN CHILDREN

FAHAD ABDULRAHMAN AL-MUQBIL
FAHAD A. AL-MUQBIL, MAJID AL FAYYADH, NUHA AL--HEFDHI, ABDULAH AL-WADAI, WALEEED AL-MANEIA, ZUHAIR AL-HALEES

Objective:
To evaluate the experience and the long-term results of pacemaker (PM) therapy in children.

Methods:
We performed a retrospective analysis of all patients (pts) who underwent PM implantation at King Faisal Heart Institute. Data obtained include: demographics, diagnosis, indication for pacing, and follow up evaluation.

Results:
Between 1985 and 2012, 516 pts had PMs implanted; mean age is 2.4 years (2 days–18 years). The most frequent indication are: surgical AV block 392 pts (76%), congenital AV block 73 pts (14%), sinus node dysfunction 38 pts (7%). Surgical AV block was encountered after relieve of left ventricular outflow tract obstruction, ventricular septal defect (VSD) repair, and repair of complex lesion associated with ventricular inversion. Congenital AV block was isolated in 58 pts; the remaining had associated congenital heart defects (ventricular inversion 10, VSD 2, coarctation 2, truncus arteriosus 1). The initial PM system was epicardial in 412 pts (80%). After a mean follow up of 4.2 years (1 month–25 years), 105 pts had 159 revision procedures (lead malfunction 73, battery depletion 77, PM infection 9). Lead malfunction was more encountered with epicardial leads. There was no mortality directly related to the PM implantation procedure or function however there were 21 pts lost during the follow up and 14 pts (3%) had nonpacemaker related death.

Conclusion:
Pacemakers are safe and effective therapy in children. Epicardial lead malfunction is a frequent reason for pacemaker revision.
THE USE OF ROTAFLOW PLS® CENTRIFUGAL PUMP AS A MIDTERM LEFT VENTRICULAR ASSIST DEVICE SUPPORT FOR BRIDGE TO TRANSPLANTATION

FERAS HASSAN KHALIEL
FERAS KHALIEL, WALEED ALHABEEB, JEHAD ALBURAIKI, ELIAS SAAD, MAMDOUH ALAHMADI, ULF KJELLMAN

Mechanical circulatory support systems have been described for short and long term left ventricular assistance. We report the use of a centrifugal ROTAFLOW PLS® (Maquet, Germany) pump in a 55-year old male with ischemic cardiomyopathy and severe left ventricular dysfunction. He was successfully bridged to transplant with 15 weeks of ROTAFLOW PLS® support with no major adverse events.
TRANSCATHETER AORTIC VALVE IMPLANTATION: SINGLE CENTER EXPERIENCE WITH MID-TERM FOLLOW-UP

FERAS HASSAN KHALIEL
FERAS KHALIEL, ZOHAIR ALHALEES, SALMAN ALARFAJ, HANI ALSERGANI,
MAIE SHAHED, JEHAD ALBURAIKI

Background: Transcatheter aortic-valve implantation (TAVI) is an emerging intervention for the treatment of high-risk patients with severe aortic stenosis and coexisting illnesses.

Methods: Between August 2009 and May 2012, we have conducted a retrospective study underwent a balloon expandable transcatheter xenograft (Edwards SAPIEN®) and evaluated the intermediate-term all cause mortality. Average STS and EuroSCORE II predicted risk for mortality was 18.4 ± 8.9% and 7.6 ± 5.5% respectively. The end points included feasibility, safety, efficacy, and durability.

Results: A total of 27 consecutive patients underwent TAVI. Nine (33.3%) patients among them had it through the trans-apical approach. The mean age was 76 ± 8 years; 41% of the patients were females. There was 100% successful implantation. Hospital and one-year mortality were 2 (7.4%) and 4 (14.8%) respectively. At 1 year, the incidence of stroke was 1 (3.7%), infection 6 (22%), AV block 2 (7.4%), severe bleeding 2 (7.4%), vascular complication (14.8%), and the incidence of periprosthetic aortic regurgitation (< 2) was 5 (18.5%). No patient been converted to open surgery. There was a significant improvement of patient left ventricular function post TAVI (p= 0.001), and of aortic valve area (AVA) with mean 0.4±01cm² ranging from 0.2 to 0.9 cm² pre- and 1±0.3cm² ranging from 1 to1.9 cm² post- TAVI (p=0.0001). The aortic pressure gradients have improved significantly from 45± 11mmHg pre- to 8.5± 5.5mmHg post- implantation (p=0.0001). For all patients the average length of follow-up by echocardiography was 346 days and was 100% completed.

Conclusions: TAVI has provided good results in the initial 27 patients. However, The use of transcatheter aortic valve implantation should be restricted to the inoperable high-risk patients.
DOWN SYNDROME AND CARDIAC SURGERY, A DILEMMA, SHOULD WE OPERATE OR NOT?

GHADA SHIEKH ELDIN ABDULLAH
GHADA SH ABDULLAH, SHEHLA JADOON, MILAD ELSEGAIER
Downs syndrome and cardiac surgery, a dilemma, should we operate or not?
Ghada Sh Abdullah, Shehla Jadoon, Milad ElSegaier, M.O Galal
King Fahd Medical City, Prince Salman Cardiac Centre

Background:
Incidence of congenital heart disease in patients with Down syndrome (DS) is 40%. In the past some have advocated that the cardiac defects in DS should not be repaired, reports had shown outcome comparable to individuals without DS. The aim of the study is to analyze the outcome of cardiac surgery in DS.

Methodology:
We conducted a retrospective study in the last 2 years at our institution. Patients involved were DS < than 13 years who had cardiac surgery. DS with chronic lung disease or unreactive pulmonary hypertension were excluded. We analyzed their demographic data, cardiac lesion, type of surgery, ICU stay, morbidities and mortality.

Results:
23 patients with DS (11 Females, 13 Males), with median age of 7months, mean age of 32month. AVSD were (n=15) 65%), VSD were (n= 5 ) 21%.
Postoperatively, 21% were extubated on the same day. 27% had intubation more than 9 days. Almost 30% had a hospital stay of > 15 days. Complications were respiratory problems in 45%, arrhythmias in 8% and residual AV valve regurgitation in 8%. Hospital mortality was (n=2/23) 8%.

Conclusion:
Whether to operate Down syndrome patients or not remains unclear. Our study showed, significant postoperative complications, lengthy hospital stay and relatively high mortality. Despite of this we feel they should be given the chance of surgery to improve their life quality.
UTILIZATION OF PROPHYLACTIC DRUG THERAPY AFTER ACUTE MYOCARDIAL INFARCTION IN ABU DHABI AND SWEDEN

GUNNAR K ENGSTRÖM
OLIVER HARRISON, KHALED AIDHA AL JABERI, EMAN S HASSAN, BJÖRN WETTERMARK, ANA-MARIJA GJUROVIC, GUNNAR ENGSTRÖM

Purpose:
Pharmaceutical treatments to decrease blood pressure and lipids, inhibit platelet aggregation, and control diabetes are cornerstones of secondary prevention after acute myocardial infarction (AMI). This study compares the drug use during a one-year period post-AMI in Abu Dhabi and Sweden.

Methods:
In Abu Dhabi, information on medications dispensed during one year following a hospitalized AMI during January 2010 to June 2011 (n=1,326) was retrieved from the Health Authority of Abu Dhabi’s administrative claims database. Rates of at least one prescription within selected classes were quantified immediately following the event (months 0-3), 4-6 months, and 10-12 months after the event. Similar data was collected for hospitalized AMI patients in Sweden during 2009 (n=19,312), by linkage of the Swedish Myocardial Infarction register and Prescribed Drug Register. All proportions were age-standardized.

Results:
During the first three months post-AMI, the proportion of patients in Abu Dhabi with at least one prescription of an anti-hypertensive drug was 76%, statin 72%, platelet aggregator inhibitor 76%, beta-blocker 64%, and drugs affecting the renin-angiotensin system only 56%. These proportions declined to 36%, 34%, 34%, 28% and 28%, respectively, during month 10-12. Reductions among UAE citizens were somewhat lower than among expatriates. In Sweden, the corresponding proportions were 90%, 82%, 89%, 83% and 68%, respectively, 10-12 months post-AMI.

Conclusion:
Abu Dhabi’s health data systems offer a valuable tool for monitoring adherence to drug use. It appears that the outcomes of AMI patients in Abu Dhabi could be substantially improved by promoting adherence to evidence-based guidelines for secondary prevention.
SYSTEMIC LUPUS ERYTHEMATOSUS; ITS IMPLICATION IN CARDIAC SURGERY: INSTITUTIONAL CASE REPORT

HALA SAMIR EL-MOHAMADY
Systemic Lupus Erythrematosus; its implication in cardiac surgery: Institutional case Report
Hala Samir ElMohamady (MD), Professor of Anesthesia and Intensive Care, Ain Shams University

Introduction:
Systemic lupus erythematosus (SLE) is an autoimmune disease that primarily affects young women. According to the literature, the prevalence of cardiovascular involvement in patients with systemic lupus erythematosus (SLE) has been estimated to be more than 50%. Valvular involvement is the most frequent cardiac manifestation in SLE. Functionally, valvular regurgitation has been reported to occur in up to 74% of patients. Meanwhile valvular endocarditis is a frequent manifestation of SLE, and the mitral valve is most frequently affected. However, any valve or multivalvular affection may occur. Valvular lesions resulting from lupus can cause severe mitral regurgitation (MR). The most classic cardiac valvular abnormality in patients with SLE is known as Libman-Sacks endocarditis, which consists of noninfective, verrucous vegetations (marantic endocarditis). They occur most frequently on the mitral valve. Most of the valves that have vegetations are usually associated with diffuse thickening or regurgitation. However, although cardiac involvement in patients with SLE has been recognized since the early 20th, but cardiac surgery was infrequently performed in patients with SLE, and its clinical outcome was reported only in small series. Also the impact of SLE on provision of anesthesia has never been investigated, and the lack of evidence combined with the heterogeneity of disease manifestations makes it difficult to establish definitive management protocols.

That’s why, we herein describe a 22 years old female patient with SLE, with end stage renal disaeaserequiring peritoneal dialysis. presented to our hospital ( Al-Demerdash, Ain Shams University Hospital), with signsof congestive heart failure such as dyspnea on exertion and orthopnea, paroxysmal nocturnal dyspnea, and fatigue, refractory to medical management. Her therapy for SLE required longterm prednisolon and hydroxychloroquine. Physical examination revealed no facial malar rash or generalized discoid rashes. The breath sounds were diminished at the lower lung zones. Cardiac auscultation showed regular heart beat with a heart rate of 102 beats/min, a grade III/VI systolic murmur at the left lower sternal border and the apex, and a pericardial friction rub. Palpation of the abdomen showed hepatomegaly. The extremities were notable for mild pitting edema. There was no clubbing, cyanosis or deformity of joints.
**Preoperative data:**
Complete blood count revealed Hg 9.9 g/dl, WBC 11.100/ul, Platelet 247,000/ul. Bleeding Profile showed PT 16.4 sec, INR 1.45, PTT 44 sec. Biochemistry work-up showed, Glucose 75 mg/dl, Creat 2.9 mg/dl with hemodialysis session, ALT 15U/l, AST 20U/l.

Preoperative transesophageal Echocardiography showed: A large mass is attached to the atrial surface of the anterior mitral leaflet measuring 6 X 7 mm. The mass perforates the leaflet causing severe mitral regurgitation. And, another large mass measuring 6 X 9 mm attached to the non-coronary aortic valve cusp with 2 small masses attached to each of the other two leaflets causing severe aortic regurgitation. EF 60 %, RVSP 50 mmHg.

So the patient was scheduled for double valve replacement. Although valve repair and bioprosthetic valve replacement are not the best solution, since accelerated native valve and bioprothetic valve calcification tend to occur because of the high calcium turnover. Also Porcine valves have become affected by valvulitis with perforation of valve cusps.

But, our cardiac surgical team decided to replace mitral and aortic valve with bioprothetic valve, as they believe that Anticoagulation may present higher risks in our young patient who require prolonged steroid use and who have end stage renal failure, the resultant dependence on dialysis. Also previous reports described patients with SLE who underwent mitral valve replacement, had a number of complications, and died secondary to anticoagulation. Also, because of successful placement of the porcine Carpentier-Edwards bioprosthesis in patients with SLE has been reported before.

Finally weaning from cardiopulmonary bypass was uneventful (adrenaline 50 n/kg/min). The patient's recovery from surgery was uncomplicated, and she was discharged on the 6th postoperative day.

In conclusion, although the postoperative complication is common, cardiac operation could be performed in patients with SLE.

**References:**

Hala Samir El Mohamady (MD), Professor of Anesthesia and Intensive Care, Ain Shams University, Cairo, Egypt
Email:Halamohamady@yahoo.com
Mobile: 01112247452
DIRECT AORTIC TRANSCATHETER AORTIC VALVE IMPLANTATION, A PROMISING NEW APPROACH.

HASAN SAMI BUSHNAQ
HASAN BUSHNAQ, MICHAEL BUERKE, CHRISTOPH RASPÉ, ROLF-EDGAR SILBER, DIETRICH METZ

Direct aortic transcatheter aortic valve implantation, a promising new approach.

Objective:
The transcatheter aortic valve implantation (TAVI) is an established therapy option for high risk patients with severe aortic valve stenosis. The peripheral arterial (Femoral or Subclavien) and the minimal invasive surgical access via Apex are the standard access routes. Outcome and prognosis of TAVI is determined by the peripheral vessel complications, strokes, paravalvular leak and apical cardiac infarction. The direct aortic (DA) approaches is a new alternative for the minimal invasive surgical TAVI access. We report our experience and discuss the different aspects this technique.

Methods:
Between September 2011 and August 2012 we performed in 50 patients DA-TAVI via partial upper sternotomy with the self expanding Medtronic CorValve bioprothesis. From the tenth patient DA was the primary access route for TAVI. The Procedure is done in general anesthesia and performed by an interventional heart team in the operating room (OR). The fast-track anesthesia with immediate extubation after the procedure in the OR was established after the tenth patient.

Results:
The mean patients age was 78±5.2 years and 52% were male. The mean logistic EuroSCORE were 20.3±10.8. Coronary artery disease were documented in 30 (60%) patients, including eight re-do procedures. In 15 (30%) cases were severe peripheral vasculopathy the main indication for DA access. Procedural success was 100%. Mean aortic gradient dropped immediately under 5 mm Hg, end diastolic left ventricle pressure improved on average by 30% in all patients and there was no vascular complications. Stroke occurred in one patient. 5 patients had, during the first days after the procedure, a psycho-organic syndrome, where a stroke was excluded. The post-operative echocardiogram demonstrated in 45 (90%) patients non to trace, in 4 (8%) patients mild and in 1(2%) patient moderate aortic regurgitation.

Conclusion:
Direct aortic access for TAVI is a surgical simple, flexible and safe approach to treat high risk patients with symptomatic aortic stenosis and might enrich the surgical TAVI access with a new promising approach.
ECMO IN CHANGE - FROM ULTIMA RATIO TO FIRST LINE THERAPY AN INTERDISCIPLINARY APPROACH

HASAN SAMI BUSHNAQ
HASAN BUSHNAQ, MICHAEL BUERKE, CHRISTOPH RASPÉ, ROLF-EDGAR SILBER, DIETRICH METZ

Background:
Since the first successful operation with left heart bypass performed by Dodrill in Michigan in 1952 (The Michigan Heart) and the first successful application of the heart lung machine in 1953 performed by Gibbon the extracorporeal circulation has become a conditio sine qua non in cardiac surgery. Through the last decades extracorporeal circulation has become an important therapeutic tool not only in cardiac surgery. It is used in several indications in neonatology, pediatrics, oncology, and vascular surgery. The most important indication next to cardiac surgery is the use as ECMO in intensive care medicine to treat patients with ARDS, cardiac failure, severe lung embolism and sepsis.

Methods:
Between January 2005 and April 2012, 311 ECMO were implanted in our hospital. In 79 patients a venovenous System was implanted, in 230 patients we performed a venoarterial ECMO and in 2 patients we used a second venous approach as a venovenousarterial ECMO. Different Oxygenators (Quadrox®, ECCO®, Eurosets®and Medtronic®) and different Systems.(Levitronics®, Medtronic®, Lifebridge®, Medos®and Cardiohelp®) were used.

Results:
The average survival in Patients allover is 46%. The highest survival rate is shown in the department for cardiac surgery with 68%. The highest Mortality is shown in the department for internal medicine with 66%. Different Indications, Risk factors, time of Implantation and learning curve might be some reasons for this difference in outcome. It is also shown that we could decrease Mortality in Patients treated with an ECMO in cardiac surgery through the last 5 Years from almost 80 % to 32 %.

Conclusion:
ECMO has become an important therapy part in the management of different medical emergencies such as ARDS, cardiogenic shock, severe lung embolism and sepsis. By increasing in hospital experience in hemodynamically and respiratory compromised patients we established an interdisciplinary ECMO program and decreased mortality in such emergencies. These new technologies are expanding the potential applications for ECMO in exciting ways, including new patient populations and the ability to make ECMO mobile for both intra- and inter-hospital transport. The team approach between Cardiac surgery, Anesthesia, Perfusion and internal medicine was not only a gain on security it is an option to develop ECMO further.
OLDER CHILDREN AT TIME OF NORWOOD OPERATION HAVE ONGOING MORTALITY VULNERABILITY THAT CONTINUES AFTER THE CAVOPULMONARY CONNECTI

HASEN HASHEM ALGHAMDI
HASEN ALGHAMDI, MAJID ALFAYYADH, AHMED ALOMRANI, ZUHEER ALHALEES, MAMDOUH ALAHMADI, BAHAAALDIN ALSOUFI

Background:
Delayed 1st stage palliation of children with hypoplastic left heart syndrome (HLHS) and related pathologies can be associated with poor outcomes due to development of progressive pulmonary vascular disease) and volume load effects on systemic ventricle and atrioventricular valve (AVV). We examine current era survival of this patients' subgroup.

Methods:
Fifty-five infants >2 weeks old underwent Norwood surgery (2003-07). Separate competing risks analyses were performed to model outcomes (death, transition to next stage) after Norwood and after bidirectional cavo-pulmonary connection (BCPC)

Results:
Median age was 32 days (range:15-118). 47% had HLHS, 53% had other complex univentricular variants. Mean ascending aorta was 4.4±1.9mm, 10% had impaired ventricle function, 11% moderate AVV regurgitation, 32% restrictive pulmonary venous return. Pulmonary blood flow was established via aortopulmonary shunt (30) or Sano shunt (25)
Following Norwood, patients required longer ventilation, more oxygen & nitric oxide and had higher inotropic scores compared to traditional management protocol. Competing risks analysis showed that 2-years after Norwood 39% had died and 57% underwent BCPC. 4-years after BCPC, 15% had died and 85% underwent Fontan operation.
Overall 3 years survival post-Norwood was 53%. Factors associated with mortality were age, lower weight at Norwood, impaired ventricular function, longer circulatory arrest and lower pre-BCPC saturation.

Conclusions:
Children >2 weeks old undergoing Norwood operation frequently require postoperative pulmonary vasodilatation and high inotropic support. A significant hazard of death persists through all steps of multi-stage palliation. Elevated pulmonary vascular resistance, volume load effects such as systemic ventricle impairment and AVV regurgitation are commonly evident in patients who fail or don't qualify to proceed to next stage palliation. Those patients should be closely monitored for timely referral for heart transplantation when indicated.
THE IMPACT OF PATIENT’S GENDER AND CULTURAL FACTORS IN PREHOSPITAL DELAY IN PATIENTS PRESENTING WITH MYOCARDIAL INFARCTION IN KI

HASSAN ALI ALSHAHRANI
HASSAN ALSHAHRANI, DONNA FITZSIMONS, ROY MCCONKEY, JULIE WILSON, MUSTAF YOUSSEF

Introduction:
Many factors have been implicated in patients’ decision to seek care in MI, but most research has a Western origin and it is possible that reasons for delay differ in Arab cultures. Our study aimed to explore the factors that contribute to pre-hospital delay among MI patients in Saudi Arabia. This study combined quantitative and qualitative methods using sequential explanatory design and received ethical approval.

Method:
This cross sectional study comprised a consecutive sample of research participants (n=311), who presented with a diagnosis of MI to 3 hospitals in Riyadh, from March 2011 to August 2011. Of these, 189 patients met the eligibility criteria and provided quantitative data. 18 patients were purposefully selected for semi-structured interviews that were taped and transcribed verbatim.

Findings:
There was a statistically significant difference between pre-hospital delay time (onset of symptoms to hospital arrival) and participants’ gender. For males the median delay was 5 hours and for females it was 12.9 hours (p= 0.002). A hierarchical multiple regression model determined female gender as the strongest predictor of total delay in this sample. Thematic content interview analysis produced a core theme - Lack of knowledge and Control and five subthemes, which will be presented with verbatim quotations.

Conclusion:
Total pre-hospital delay time reported here is longer than in studies in other settings and there are significant gender differences, particularly in transfer delay. Qualitative data indicate that cultural factors are implicated. Health promotion strategies for potential MI patients should consider offering culturally- specific, gender related messages.
THE VALUE OF HIGH ON-TREATMENT PLATELET REACTIVITY AND REAL TIME PCR TEST FOR CYP2C19 VARIANTS FOR SAUDI PATIENTS WITH ACUTE COR

HAESSAN HAMED KHALAF
HAESSAN KHALAF, AHMAD AL MEMAN, MAHBOOB ALI DAR, YASSER BASHER, AKRAM AL DOSOKI, SEMAB AL RASOOL

Background:
Clopidogrel has been known for its variable response due to genetic variations. Several researchers have suggested genetic testing and or platelet function test (PFT) routinely. Aim: To find out the value of genotyping and PFT in Saudi patient with acute coronary syndrome (ACS).

Methodology:
Thirty Saudipatients with ACS underwent coronary angioplasty with drug eluting stents wereconsecutively enrolled. Patients received clopidogrel as per usual dose of 300mgloading and 75mg per day as maintenance dose. Pre-procedure arterial bloodsample was taken from every patient for assessment of high on treatment PFT (Verify Now P2Y12 point-of-care assay).Ten patients underwent Real time PCR test for CYP2C19 variants. In hospital clinical events (one month F/U) were monitored for all patients.

Results:
The mean baseline platelet reactivity was 196±58u (107:341).The mean P2Y12 reaction units (PRU) was found 188±61u (88:362). High platelet reactivity (HPR) defined as PRU more than 240 was found in 5 patients (17%); whereas, the mean percent of platelets inhibition was 12 %( range 0%: 48%). Analysis of CYP2C19 variants revealed 8 patients have mild variant 1/1 and 2 patients have moderate resistant variant 2/2. We couldn’t detect allele 3 probably as our sample was small. No in-hospitalclinical events were encountered, including death ,MI, stroke or repeatedrevascularization.

Conclusion:
We found a little impact of the usual dose of clopidogrel on the percentage of platelet inhibition. Twenty percent of those underwent CYP2C19 analysis showed modest resistant gene. Irrespectively weencountered no in-hospital events in our patients.
THE VALUE OF CORONARY CT ANGIOGRAPHY TO ASSESS GRAFTABILITY OF LEFT ANTERIOR DESCENDING ARTERY BEFORE CORONARY ARTERY BYPASS SURGERY

HASSAN HAMED KHALAF
RAMI ABAZID, OSAMA SMETTIE, HASSAN KHALAF, YOSRI AL MOZAMI, YASSER BASHIR, FAZEL AHMAD

Background:
Assessment of graftability of the LAD is an important factor for decision making, when the Left anterior descending artery (LAD) is totally occluded, Multidetector computed tomographic (CT) angiography might identify the flow distal to the total occlusion better than invasive coronary angiography.

Aim:
To identify the value of CT coronary angiography in the assessment of LAD graftability when it is questionable invasive coronary angiography.

Methodology:
Our study is a retrospective single center study, we included 18 patients with multivessel disease who were discussed for Coronary Artery Bypass Surgery (CABG) in combined meeting (including cardiologists and cardiac surgeons), the LAD graftability was questionable and patients referred for coronary CT angiography.

Results:
from the 18 patients. There were 12 patients with concordance between both modalities that the LAD was found not graftable and those patients deferred from CABG. Four of them 4/12 underwent coronary angioplasty and stenting for other vessels and 8/12 continue on medical treatment only. There were six 6/18 patients who showed discordance between both modalities as the CT reveled graftable LAD while the invasive coronary angiography did not show it; those patients underwent successful CABG with LIMA to LAD. One of the CABG patients has LM arising from right sinus of valsalva. CT angiography detects the ominous course of LM between the aorta and pulmonary artery.

Conclusion:
coronary CT Angiography is a very valuable tool to assess graftability of the Left anterior descending artery before Coronary Artery Bypass Surgery.
VALIDITY OF AUTOMATIC FUNCTION IMAGING TO MEASURE PEAK SYSTOLIC STRAIN FOR DETECTION OF MYOCARDIAL VIABILITY AS COMPARED WITH THALLIUM201 SCINTIGRAPHY

HAASSAN HAMED KHALAF
MOHAMMED SALEM, FOUAD KHALEL, HASSAN KHALAF, SAWSAN SAYED, YASIR BARIMA, BADR AL BISHRY

Background:
Thallium201 myocardial perfusion scintigraphy (MPI) is the most common modality used myocardial viability (MV). Automatic function imaging (AFI) to measure peak systolic strain is relatively recent Echocardiographic modality with questionable validity for detection of viability.

Aim:
to evaluated the validity of peak systolic strain for detection of MV as compared with Thallium MPI. Methods: 50 patients with myocardial infarction will be included in our prospective study. Thallium MPI to be used as reference for MV (Rest -4hour and if necessary 24hour protocol). The automatically generated Bulls eye image will be used for quantitative segmental analysis and to be compared with Echocardiographic AFI for peak systolic strain with the 17 segments model of analysis (GE system). The results will be compared as segment by segment as well as regional (as per coronary territory).

Results:
we present the result of first 10 case series (including analysis of 170 segments).there is over all concordance between the automated count at image of peak systolic strain and the percent of radiotracer uptake at Thallium201 bulls eye images in both infracted and non infracted segments. The cut value of AFI for viability requires larger sample analysis. There is observed false negative results at segments with very low Peak systolic strain as low as-2 that showed mild perfusion defect at rest and complete reuptake at redistribution image.

Conclusion:
Peak systolic strain is useful modality for assessment of viability, its sensitivity might be limited with false negative results compared with Thallium 201 scintigraphy.
Mitral clip procedure is an evolving and promising therapeutic intervention which is helpful for patients with symptomatic significant mitral regurgitation (MR) and with very high surgical risk in addition to its role as palliative measure until definitive treatment. Transesophageal echocardiography (TEE) plays a key role in assessing suitability and it is an essential modality during the different stages of the procedure.

Our series includes thirteen (13) patients of significant symptomatic MR. Eight (8) were males (62%), five (5) were females (38%). Age ranges from 45 to 95. Average is 55. The patients were representing 4 different aetiologies of MR. (76.9% were functional MR). Ischemic Cardiomyopathy represented the majority of our patients (53%) with EF ranging from 20 to 30% and MR span from moderately severe to severe. There were three (3) cases of non-ischemic cardiomyopathy (23%) with EF ranging from 25 to 30% and MR of moderately severe to severe. Degenerative MR was represented by two (2) cases 15% of moderately severe MR and EF of 45 to 50%. There was one (1) case (7%) of flail severe MR and EF of 55%. One (1) was aborted due to complication during trans septal puncture.

The clip was implanted successfully in 100% of the cases. All patients were followed up with symptoms and clinical status scrutiny as well as echo predischarge, 1 month and 3 months post procedure. Mitral regurgitation improved 2-3 grades in 6 patients (46%) with significant improvement in symptomatology. Three (3) patients exhibited 1 grade improvement in MR (23%) with limited if any symptomatic improvement and two (2) patients (15%) remains with severe MR.

It appears to be a promising technique to improve MR grade and symptomatology in significant number of patients. However, the small number of patients and the short period of follow-up stand against strict conclusions about the clinical value of the procedure.
VALUE OF TRANSTHORACIC DOPPLER ECHOCARDIOGRAPHY IN THE ASSESSMENT OF THE LEFT ANTERIOR DESCENDING ARTERY FLOW IN PATIENTS FOLLOW

HEBA FAROUK SALEH
HEBA FAROUK SALEH, MD, HUSSIEN HESHMAT , MD, AMIR ABDEL WAHAB, MD, YASSER BAGHDADY, MD, KHALID SOROUR, MD

Background:
The primary goal in the management of acute myocardial infarction is to institute reperfusion as early as possible. A major problem facing cardiologists lies in the limitation of accurate identification of patients in whom antegrade coronary flow has not been restored, whether spontaneously or following thrombolytic therapy. Clinical markers of reperfusion, such as relief of ischemic-type of chest discomfort, resolution of the ST-segment elevation, and the occurrence of reperfusion arrhythmias have limited predictive value in identifying failure of thrombolysis.

Objectives:
Assessment of reperfusion by direct visualization of the distal left anterior descending artery (LAD) flow using transthoracic Doppler echocardiography (TTDE) with 2.5MHz probe, making assessment of reperfusion bedside, simple and reliable tool.

Methods:
We prospectively studied Seventy- four consecutive patients who underwent coronary angiography following an acute ST-segment elevation myocardial infarction. We performed for all of them TTDE with assessment of the LAD distal flow by color Doppler.

Results:
Using TTDE, it was possible to visualize the distal LAD flow in 49 among 60 patients with angiographically patent LAD. Occluded LAD was detected in 9 among 14 patients with angiographically occluded LAD. The sensitivity, specificity, positive predictive value, negative predictive value and accuracy of the transthoracic Doppler echocardiography in the noninvasive assessment of the left anterior descending artery reperfusion with 2.5MHz transducer were 81.6%, 64%, 90.7%, 54% and 78% respectively. Detection of the distal left anterior descending artery flow by TTDE was significantly correlated with the reperfusion of the left anterior descending artery as assessed by coronary angiography ( P=0.001).

Conclusions:
Unlike the widely used noninvasive methods (ECG changes, resolution of ischemic-type of chest pain and characteristic pattern of rise and decline of cardiac markers) for assessment of reperfusion following anterior myocardial infarction, the use of TTDE can be used as more reliable, simple, noninvasive, and widely available tool for direct visualization of the LAD distal flow.
LONG TERM RESULTS OF SURGICAL MANAGEMENT OF ANOMALOUS ORIGIN OF THE LEFT CORONARY ARTERY FROM PULMONARY ARTERY (ALCAPA) AND HO

HOWIDA OBIED ALQATHAMY
HOWIDA ALQATHAMY, MD, ADEL RAGHEB, MD, WAEL HUSSAIN, MRCS, YAHIA ALFARAIIDI, MD, ROBERTO DI DONATO MD

Background:
Establishment of two coronary systems is not the end point of challenge in management of anomalous origin of the left coronary artery from pulmonary artery (ALCAPA). To touch or not touch the mitral valve if there is severe mitral regurgitation is still a point of big challenge, another point is the timing and criteria for mechanical support (ECMO).

Methods:
Forty-seven cases with a median age of 1.29 years (28 days to 8 years) underwent ALCAPA repair from Jan 1985 to July 2012. Seven cases (14.89%) had associated lesions. Ligation of anomalous left coronary artery was performed in four cases (8.51%), Takeuchi’s repair was done for three cases (6.38%) and 40 cases (85.1%) underwent direct aortic implantation of left coronary artery.

Results:
Preoperative echo showed moderate to severe left ventricular dysfunction with severe mitral regurgitation in 15 cases (31.91%). Mortality rate was 17.02% (eight cases). Four cases (8.51%) needed ECMO support in operating room and two patients needed ECMO support in intensive care unit. Mitral valve repair was adopted in three cases (6.38) and mitral valve replacement was performed in one case (2.12%). Early postoperative echo showed moderate to severe mitral regurge with severe LV dysfunction in eight cases (17.02%) which improved in the first year of follow up. One case (2.12%) returned back with left coronary artery origin stenosis after Takeuchi’s repair.

Conclusion:
Early diagnosis and repair of ALCAPA improve outcome of surgery. Aortic implantation of left coronary artery is the best technique of ALCAPA repair and can be done easily. In severe mitral regurgitation, it is better not to touch the mitral valve as repair is very technically demanding especially in small babies without expected good results and consumes a lot of cross clamp time with subsequent bad impact on surgical outcome. Mechanical support should be decided according to the degree of LV dysfunction and severity of mitral valve regurgitation.
TOTAL ANOMALOUS PULMONARY VENOUS CONNECTION REPAIR; RISK FACTORS AND OUTCOME.

HOWIDA OBIED ALQATHAMY
HOWIDA ALQATHAMY, MD, AHMED ELWY, MD, ADEL RAGHEB, MD, YAHIA ALFARAIDI, MD, ROBERTO M DI DONATO MD

Background:
Repair of total anomalous pulmonary venous connection (TAPVC) is associated with high mortality and morbidity. Age of presentation, low birth weight, type of TAPVC, pre-operative infection, clinical situation, pulmonary venous obstruction, pulmonary hypertension and associated lesions are very important factors affect the outcome of TAPVC repair.

Methods:
Seventy patients underwent TAPVC repair from 2000 to 2012 with a median age of 33 days and mean weight of 4.6 kg. Twenty-six patients (48.6%) had Supracardiac type, twenty-three patients (32.8%) had intracardiac type, and nine patients (8.6%) had infracardiac type, while seven patients (10%) had mixed TAPVC.

Results:
Operative mortality was 5.7% (4 patients), while late deaths was 4.3% (3 patients). Four patients out of these 7 deaths were due to pulmonary hypertensive crises (4/7, 57.1%). Obstruction and Single-ventricle physiology were associated with a higher mortality rate (3/7, 42.8%). Mean CPB time was 104.3 min (range, 70–190 min) and mean cross-clamp time was 42.4 min (range, 29–70 min). Three patients had recurrent pulmonary venous obstruction (4.3%) which required early re-intervention.

Conclusion:
Mortality rate in TAPVC repair is higher in those patients who had Single-ventricle physiology or pulmonary venous obstruction at time of repair. Pulmonary hypertension is another risk factor affecting the post-operative course of infants with TAPVC, particularly patients with obstructed, infracardiac TAPVC.
BACKGROUND:
A heterogeneous platelet reactivity response to clopidogrel exists, and the clinical or biochemical predictors of suboptimal response to clopidogrel remain unclear.

OBJECTIVES:
The goal of this study was to identify factors associated with higher platelet aggregation following clopidogrel therapy in subjects with acute coronary syndrome (ACS).

METHODS:
This study was conducted on 62 subjects with ACS requiring treatment with clopidogrel (75 mg daily for 7 days or more). The subjects were divided into diabetic and non diabetic groups. Chrono-log Aggrometer Series 490 used to estimate platelet aggregation. Factors associated with lower response to clopidogrel were identified.

RESULTS:
A heterogeneous, normally distributed platelet aggregation (mean38.58 ± 18.6%) was observed in 62 subjects (age 56.13 ± 7.9 years; 66.1% men). Statistical analysis revealed significant increased platelet aggregation in patients with history of coronary artery disease (CAD) (44.17 ± 16.3 vs 31.33 ± 19.17, p = 0.006), hypertension (44.47 ± 18.79 vs 31.43±15.91, p = 0.005) and body mass index (BMI) ≥ 25kg/m2 (42.54 ± 17.6 vs 27.19 ± 17.04, p = 0.004). Diabetic patients demonstrated a trend to lower response to clopidogrel treatment with platelet aggregation (42.87 ± 18.54) compared to non diabetic patients (34.29 ± 17.93) but this did not reach a statistical significance (p = 0.069). Positive correlations were found between platelet aggregation % and the level of fasting blood sugar (P < 0.001), body weight (p= 0.023) and BMI (P = 0.005).

CONCLUSIONS: Hypertension, past history of CAD, BMI ≥25 kg/m2 and diabetes mellitus are associated with higher platelet aggregation following clopidogrel treatment in patients with ACS. Positive correlations were found between platelet aggregation and the level of fasting blood sugar, body weight and BMI in those patients.
OBESITY IN EGYPTIAN CHILDREN: EFFECT ON CARDIAC FUNCTION AND DIMENSIONS

INAS ABDELSATTAR SAAD
INAS A. SAAD, TAREK S. IBRAHIM

Objectives:
to define the effect of obesity in Egyptian children on cardiac function and dimensions also to investigate the possible relation between obesity and other co-morbid cardiovascular risk factors.

Methods:
prospective descriptive study conducted over 15 months & included 44 children with xogenous obesity aged from 4 to 16 years with a mean of 8.54 ± 2.4 years in addition to a healthy normal weight, matched age and sex 35 children as a control group. All study groups underwent clinical examination, lipid profile in addition to meticulous echocardiography study.

Results:
blood pressure was comparable in both groups and mean serum triglyceride level (though in the normal range) was significantly higher in the obese group with P =0.035. left ventricular wall thickness, mass and mass index were significantly higher in obese group compared to normal weight group with P value 0.001, 0.045 & 0.035 respectively. Myocardial diastolic function presented by isovolumetric relaxation time and E/A was significantly different in favor for the control group. However by correlating cardiac dimension with the lipid profile no significant relation could be elicited.

Conclusions:
obesity in the absence of dyslipidemia and hypertension (as co-morbid cardiovascular risk factors) is associated with increased left ventricular wall thickness and mass also it is a risk factor for left ventricle diastolic dysfunction
THE FATE OF THE NEOAORTIC VALVE AND ROOT FOLLOWING THE MODIFIED ROSS-KONNO

ISMAIL ABDULLAH AL ABRI
AL ABRI I, AL-HALEES Z, AL-FAYYADH M, AL-BULBUL Z,
AL-AHMADI M, ALSOUFI B

Abstract:
Objectives:
In children with aortic valve disease associated with annular hypoplasia or complex multi-level left ventricular outflow tract obstruction (LVOTO), the Ross procedure, combined with a modified Konno-type aortoventriculoplasty is advocated. We aim to examine the fate of the neoaortic apparatus and assess neoaortic valve function following the modified Ross-Konno procedure.

Methods:
Forty-three patients, median age 6 years, underwent modified Ross-Konno with myectomy but without ventricular septal patch utilization. Serial postoperative echocardiograms (n=187) were analyzed and regression models adjusted for repeated measures were used to model longitudinal growth of neoaortic annulus and root.

Results:
There were 2 operative deaths (5%) and 1 late mortality. At 8 years, survival was 93% and freedom from autograft, homograft and all-cause reoperation was 100%, 81%, and 72%, respectively. Median post-procedure diameter and Z-score were 14mm (7-21mm), and 1.25 (-3 to +6.1) for neoaortic annulus and 21mm (9-30mm) and 1.55 (-1.3 to +4.1) for neoaortic root. Serial echocardiograms showed progressive increase in annular (+0.56 mm/year, p<0.001) and root (+0.89 mm/year, p<0.001) diameters but little change in annular (-0.07 /year, p=0.08) and root (-0.002 /year, p=0.96) Z-scores. Nine patients developed autograft regurgitation, however the degree and progression of regurgitation were not significant (p=0.22).

Conclusions:
In children undergoing the modified Ross-Konno procedure, the neoaortic annulus and root increase in size proportionately to somatic growth. Few patients developed autograft regurgitation, usually mild and stable, and none required autograft reoperation. Our findings support the use of modified Ross-Konno as the procedure of choice in children with aortic valve disease and complex LVOTO.
IMPACT OF OPTIMAL MEDICAL THERAPY (OMT), VERSUS OPTIMAL MEDICAL THERAPY PLUS REVASCULARIZATIONS (OMTR) ON ALLCAUSE MORTALITY, I

IYAD AHMED FARAH  
IYAD FARAH, TARA CONBOY, M. BASSAM BDEIR

Background:  
Currently, there is no significant difference between OMT versus OMTR on all-cause mortality in patients with IHD. There is no data in this region. Objectives: Evaluate the impact of OMT versus OMTR on primary end point of allcause mortality in patients with IHD.

Method:  
Data was collected, retrospectively, from the electronic database for all patients with IHD (n= 2,692) attending Cardiovascular Disease Management Program (CVDMP), KAMC - Riyadh, between April 2000 and Oct. 2011. Patients with no follow-up visits (n= 59), or had non obstructive CAD (n= 280) were excluded. OMT is an integral component of routine care within CVDMP. Data was analyzed using SPSS.

Results:  
Mean age was 60±10 years, 22% were female, and average follow-up was 40 ±33 months. Baseline characteristics were similar for both groups with exception of LVEF which was 38% versus 46% (p<0.001), and documented heart failure (HF) 60% versus 31% (p<0.001), respectively in OMT and OMTR. Of the enrolled patients (n= 2353), 86% (n=2031) underwent revascularization, while 14% (n= 322) remained on OMT for the following reasons; 18 % (n=59) refused intervention and 82 % (n=263) were declined intervention by the treating team. All-cause mortality was 3.3 % (n=87) in the total population; 2.2% (45/2031) in the OMTR group versus 11% (35/ 322) in the OMT group (P<0.0001).

Conclusion:  
Mortality was higher in OMT group, which had a higher prevalence of HF and lower baseline LVEF.
IV PARACETAMOL AS A SOLE AGENT FOR POSTOPERATIVE PAIN RELIEF IN ADULT CARDIAC SURGICAL PATIENTS AFTER MEDIAN STERNOTOMY.

JAMSHID ALI MULLAH
JAMSHID ALI MULLAH, KHALED FAROUK, MUTASIM HAMMAD
IV Paracetamol as a sole agent for postoperative pain relief in adult cardiac surgical patients after median sternotomy.
Jamshid Ali MD, FNB1, Khaled Farouk, MD2 ,Mutasim Hammad, MD3,
1&3Consultant Cardiac Anesthesia, 2Consultant CCM,PSCCQ, KSA.

Introduction:
Various pain control strategies for pain relief of cardiac surgical patients after median sternotomy were tried include central neuraxial blockade or selective nerve blocks, and drugs such as opioids, and non-steroidal anti-inflammatory drugs (NSAIDS). Paracetamol (Perfalgan, Bristol Meyers Squibb) is available in IV formulation and is being used in many centers as an adjunct to analgesia regimen. In our practice , we have found that IV paracetamol stared at regular intervals after shifting the patient to cardiac surgical ICU(CSICU), helps in significantly reducing the analgesic requirement consequently patients become less sedated after cardiac surgery.

Methods:
After ethics committee approval, and informed patient consent, we did a prospective cohort study of 52 adult cardiac surgical receiving IV paracetamol as the primary pain control agent .A standard anesthesia and analgesia technique was used for all the patients. Postoperatively IV fentanyl infusion was continued at 1 mcg/kg/ hour till extubation. IV paracetamol was started 30 minutes before extubation given 1gm (over 30 min) IV and continued 6hrly till next 72hrs or till chest tube removal .Pain control was assessed by visual analogue scale(VAS) and target VAS value of 3 or less than three was considered adequate.VAS was assessed at extubation , at 3, 6, 12 , 24 ,36 and 48 hours after extubation. The regimen was considered successful if only two or less than two doses of IV fentanyl and/ or less than 4 doses of oral tramadol were required to supplement IV paracetamol postoperatively.

Results:
The patient age ranged from 24-78 years,8 of them were female ,CABG was performed in14 patients, AVR in 8 patients, CABG plus MVR in 6 patients, CABG plus AVR in 10 patients, MVR plus RFA in 6 patients, ASD closure in 4 patients and pulmonary valve implantation in 2 patient. We found that Paracetamol was successful as the sole analgesic agent in 38 patients (73%), in 10 patients (19.2%) IV paracetamol was primary regimen (with fentanyl/tramadol as adjunct) and in 4 patients (7.6%) patients IV paracetamol regimen was unsuccessful in pain relief.
**Conclusion:**
IV paracetamol may be used as a sole agent for pain relief with successful results after median sternotomy in selected patients in which opioids, NSAIDS or regional blocks are not indicated or produce undesirable side effects. The results need to be reproduced in a larger group of patients and after determining equipotent doses of opioids, case control studies should be done to evaluate the effects of IV paracetamol after median sternotomy.
CLINICAL AND PROGNOSTIC COMPARISON BETWEEN MIDDLE-EAST AND INDIAN SUBCONTINENT PATIENTS FOLLOWING ACUTE CORONARY SYNDROME

KADHIM JAFFER SULAIMAN
DR. KADHIM SULAIMAN, DR. PRASHANTH PANDURANGA, DR. IBRAHIM ALZAKWANI, DR. KHALID AL-HABIB, DR. AHMED HERSI, DR. JASSIM AL SUWAIDI

Background:
Data comparing acute coronary syndrome (ACS) patients from the Middle East with those from the Indian subcontinent is scarce. The aim of this study was to compare clinical characteristics and outcomes between Middle East Arabs and those from the Indian subcontinent presenting with ACS.

Methods and Results:
This was a prospective, multinational, observational study of ACS patients admitted to 65 hospitals in 6 Middle Eastern countries during the period between October 2008 and June 2009, as part of Gulf RACE–II (Registry of Acute Coronary Events). Analyses were performed using univariate and multivariate statistics. The Middle Eastern Arab group was significantly older (60 versus 49 years; p<0.001), hypertensive (51% versus 36%; p<0.001), diabetic (42% versus 34%; p<0.001), with prior myocardial infarction (MI) (22% versus 13%; p<0.001) and higher GRACE risk score (27% versus 8%; p<0.001). Indian subcontinent patients were more likely to be smokers (55% versus 29%; p<0.001) presenting predominantly with ST-elevation MI (57% versus 39%; p<0.001). The Middle Eastern cohort suffered more congestive heart failure (15% versus 9%; p<0.001), recurrent ischemia (18% versus 9%; p<0.001), re-infarction (2.6% versus 1.2%; p=0.001), cardiogenic shock (7.0% versus 3.0%; p<0.001) and received less evidence-based treatment. On multivariate analysis, Middle Eastern Arabs had higher 1-year mortality compared to those from the Indian subcontinent (adjusted odds ratio, 1.81; 95% CI: 1.19-2.74; p=0.005).

Conclusions:
Middle East Arabs were associated with higher rates of coronary risk factors, more complicated in-hospital course and a higher long-term mortality when compared to patients from the Indian subcontinent.
NURSES’ SATISFACTION DIMENSIONS AND INTENTION TO STAY IN PRINCE SULTAN CARDIAC CANTER QASSIM

KAHKASHAN SANAKHAN MUGHAL
SANA K, BSCN, CCN, RN, RM, ABED EDDIN L, MSN, DR. KHALAF H, MD, AL HOSIS KH, MSN, PHD, LABISTE M, BSN

Nurses’ Satisfaction Dimensions and Intention to Stay in Prince Sultan Cardiac Canter Qassim
Sana K, BScN, CCN, RN, RM; Abed Eddin L, MSN; Dr. Khalaf H, MD; Al Hosis Kh, MSN, PhD; Labiste M, BSN

Abstract:
Background: Job satisfaction is an important component of nurses’ lives that can impact on patient safety, quality of care, commitment to the organization, productivity, performance, retention and turnover. Aim: The purpose of this study is focused on the predictive effects of organizational commitment, perceived organizational support, transformational leadership, professional communication, decision making, autonomy, level of professional development and accountability to the degree of job satisfaction.

Methodology: A cross-sectional descriptive study. All nurses at our center (total of 120 nurses) were given a self-administered questionnaire to determine their level of satisfaction in relation to satisfaction dimensions. The instrument consisted of the demographic information, which included: age, gender, marital status, educational degree, years of experience in own country and years of experience in PSCCQ. Job satisfaction instrument constituted of a five-point Likert scale.

Results: 99/110 nurses respond to the questioner. (96 females and 3 males). The overall satisfaction score (from 500 point) was 352.6±85 for female and 349.2±52 for male nurses. Among demographic data, we found that the years of experience is the single item affecting overall satisfaction score (p= 0.05), with those who spent 4-5 years are the most satisfied. Low satisfaction scores were encountered mainly with regards salaries and accommodation facilities while higher scores were encountered at tasks given especially for junior staff. Other items include communication with others and professional development was given average score. 15% of our nurses have intention to change.

Conclusion: The study result is a good indicator for staff satisfaction, staff retention and guide future plan for performance improvement.
Sympathetic over-stimulation is key to the pathogenesis and perpetuation of essential hypertension. We aim to assess the effectiveness and safety of catheter-based renal denervation for reduction of blood pressure (BP) in patients with treatment-resistant hypertension in the Saudi population. This was a prospective, non-randomised analysis of 12 patients who underwent renal artery denervation at our centre presenting with resistant hypertension from October 2011 onwards. Mean age was 55.3 years, 61% were male, mean body mass index was 34.2 kg/m2, 62% were diabetic, 31% had coronary heart disease and 15% were dyslipidemic. Mean baseline eGFR (by MDRD formula) was 74.5 ml/min/1.73m2, mean baseline office BP was 165/84 mmHg and the average number of antihypertensive drugs at baseline was 3.7. Mean systolic BP reduction at 6 months from baseline was -19 mmHg, while mean diastolic BP reduction at 6 months from baseline was -5 mmHg. 3/12 (25%) of patients had increase in antihypertensive medications at 6 months while 2/12 (17%) of patients had reduced anti-hypertensive medications. Only 1 patient had bruising and hematoma at the site of arterial puncture immediately following the procedure. Overall net change in eGFR at 6 months was +10.75 ml/min/1.73m2 (74.5 at baseline, 85.2 at 6 months). There were no cardiovascular or cerebral events at 6 months. Thus, renal sympathetic denervation has proved to be a safe and effective therapy for patients with resistant hypertension and has showed significant improvement in systolic BP 6 months post-therapy. Recruitment of more patients with extended follow-up shall validate the results further.
CLINICAL OUTCOMES OF PCI VERSUS CABG FOR UNPROTECTED LEFT MAIN DISEASE.

KASHIF BIN NAEEM
KASHIF BIN NAEEM. MBBS, MRCP(UK) (FIRST AUTHOR), SAMIH LAWAND. MD, FRCPC, FACC, HAMOUD Y OBIED. MD, NADIAH ALRUWAILI (RESEARCH NURSE), MOHAMED MUBASHER. M.A., PHD, MOHAMED F IBRAHIM. FRCS (C/TH) (SENIOR AUTHOR)

Though coronary artery bypass grafting (CABG) has been the standard treatment for unprotected left main (LM) disease, percutaneous coronary intervention (PCI) with drug eluting stents is increasingly used. We compared clinical outcomes after CABG and PCI for unprotected LM disease in a middle-eastern population. This was a retrospective analysis of all-comers with LM disease with or without multi-vessel involvement presenting to our centre since 2008 who underwent PCI or CABG. Overall there were 94 patients (50 in the CABG group and 44 in the PCI group) who were followed up to 1 year post-intervention. Four patients in the CABG group were lost to follow-up. All pre-procedure demographic and clinical characteristics were similar between the two groups. Two patients in the PCI group were declined for surgery. Although the incidence of all-cause death and stroke appeared similar in the two groups, there was more incidence of cardiac death, target vessel revascularization, non-fatal myocardial infarctions and repeat hospitalizations in the PCI group. Prospective studies as well as increasing the sample size and extended follow-up are further required to validate the results.
ASSESSMENT OF MYOCARDIAL VIABILITY USING EARLY SYSTOLIC MITRAL ANNULAR MOTION VELOCITIES RESPONSES TO DOBUTAMINE INFUSION IN PAT

KHALED ELSAYED ELARABI DARAHIM
DARAHIM K, ATTIA I, FARAG N, ONSY A, HAMMADY W, MOWAFY A

Background:
Dobutamine stress echocardiography (DSE) is widely used for detection of myocardial viability. The main limitation of DSE is its subjective interpretation. Assessment of mitral annular motion velocities with tissue Doppler imaging is simple and quantitative measurement.
Objective: is to determine the relationship between myocardial viability and regional systolic mitral annular motion velocity response to dobutamine stress in patients with previous myocardial infarction with pulsed tissue Doppler imaging (TDI).

Methods:
Our study group included 101 patients with previous myocardial infarction. All the patients underwent conventional DSE and dobutamine stress tissue Doppler echocardiography (DSTDE) measuring velocities of presystolic wave (SW1) and peak systolic wave (SW2) at rest and during low-dose dobutamine infusion.

Results:
After exclusion of the normokinetic walls, we analyzed 505 walls.
Table 1: Detection of viability by using DSE and DSTDE:

<table>
<thead>
<tr>
<th></th>
<th>Viable</th>
<th>Non-viable</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSE</td>
<td>229(45.3%)</td>
<td>276(54.7%)</td>
</tr>
<tr>
<td>DSTDE(SW1)</td>
<td>240(47.5%)</td>
<td>265(52.5%)</td>
</tr>
<tr>
<td>DSTDE(SW2)</td>
<td>252(49.9%)</td>
<td>253(50.1%)</td>
</tr>
</tbody>
</table>

Using the conventional DSE as the gold standard for detection of myocardial viability, the sensitivity of the DSTDE using SW1 for detection of viability was 94.8% and its specificity was 91.7%, while the sensitivity using SW2 for detection of viability was 87.8%, and its specificity was 81.5%.

Conclusion:
The presystolic wave during DSTDE showed a greater sensitivity and specificity for the prediction of myocardial viability than the systolic wave.
INTRACORONARY ADENOSINE AS AN ADJUNCT TO PRIMARY CORONARY INTERVENTION IN ACUTE MYOCARDIAL INFARCTION

KHALED ELSAYED ELARABI DARAHIM
KHALED E DARAHIM, MOHSEN M MAHDY, MONA M RYAN, OSSAMA M HASSAN, SAMEH S THABET, MOHAMMED AMIN ABDELHAMID

Background:
The beneficial effects of primary percutaneous coronary intervention (PCI) in the setting of acute myocardial infarction (AMI) are limited by reperfusion injury. Adenosine limits reperfusion injury in animal models.

Objective: The aim is to study the effects of intracoronary adenosine administration in the setting of primary PCI on the coronary blood flow and left ventricular function.

Methods:
Sixty patients with a definite diagnosis of ST elevation AMI within 6 hours of onset of chest pain were randomly allocated to receive adenosine or saline (on a 1:2 ratio) as an adjunct to primary PCI with assessment of postintervention TIMI flow and TIMI myocardial perfusion grading (TMP). S wave velocity was recorded at the mitral annulus in the territory of the infarct related artery using pulsed-wave tissue Doppler within 24 hours from admission and one week after PCI.

Results:
Both groups showed no significant difference in terms of age, sex, risk factors, infarct location, and distribution of coronary artery disease. The adenosine group showed higher incidence of TIMI III flow (95% vs. 65%; p<0.03), higher incidence of TMP grade 3 (85% vs. 40%; p<0.007), and lower incidence of no-reflow (10% vs. 45%; p<0.006). Only in the adenosine group, there was a significant improvement in S wave velocity at the infarct-related territory at day-7 (P< 0.01).

Conclusion:
Adenosine administration in the setting of primary PCI improves myocardial perfusion and early post-infarction regional LV systolic function.
CLINICAL AND ANGIOGRAPHIC OUTCOMES OF DRUG ELUTING STENTS IN NATIVE OSTAL CORONARY LESIONS

KHALED REFAAT ABD EL MEGUID

Objectives:
The study was designed to evaluate the efficacy and safety of drug eluting stents (DESs) in ostial coronary artery lesions, in terms of early and late restenosis rate. Also, the study was aimed to compare the results of implantation of DES to that of bare metal stents.

Background:
The safety and effectiveness of DESs for the treatment of ostial lesions.

Methods:
We included 177 patients with symptoms subjective of angina pectoris or objective evidence of myocardial ischemia; who underwent percutaneous coronary interventions in 189 ostial lesions using DES. The patients were divided into two groups based on the site of ostial lesion. The incidence of MACE, including death, myocardial infarction (MI), need for repeated revascularization (CABG or angioplasty), were recorded in-hospital and at 12 month.

Results:
The initial procedure was successful in 175 patients (98.8%) in the DES arm; There were no significant major in-hospital complications in the DES group, compared to BMS group which showed 4 cases of in-hospital deaths (p = 0.017). During follow-up, MACE were significantly less frequent in the DES group compared to the BMS group, including death (0.8% vs. 6.4%, p = 0.004) and need for CABG (1.7% vs. 10%, p = 0.012).

Conclusions:
The main finding of our study is that, implantation of the DES in aorto-ostial lesions appears safe and effective. It is associated with high procedural success rate, low immediate and in-hospital complication rate, and favourable long-term clinical and angiographic outcomes compared to bare metal stents.
LIFE SAVING BALLOON

KHALED REFAAT ABD EL MEGUID

**Background:**
A 63 years old male patient, manual worker. Known hypertensive 10 years ago, not diabetic nor smoker. Presented by unstable angina over the last week.
Coronary angiography was done and revealed a long diseased middle LAD segment with maximum area of stenosis around 95%, diseased 1st Diagonal branch and 85% focal non dominant LCX lesion.
Percutaneous intervention for LAD was done using bare metal stent.
After PCI, the patient started to complain of severe chest pain
Coronary angiography revealed coronary perforation and the presence of die in the pericardium
Graft stent was not available in the cath lab
A non complaint balloon was advance to the site of perforation and inflated for recurrent short intervals with partial relieve of chest pain
A decision for surgical intervention was done, but there was no surgical back up team available at that time
A second decision was done which was creating a manual graft stent by shedding a 2.5 x 15 mm balloon and reposition it over a second 2.75 x 15 mm bare metal stent and advanced to the site of perforation and inflated up to 16 atm with very good final result and acute relieve of chest pain and complete disappearance of stagnant die for the pericardial sac
The patient was symptom free over his hospital stay for 48hrs
Clinical follow-up was done every month in the outpatient clinic
PROTECTIVE EFFECTS OF MAGNESIUM SUPPLEMENTATION ON METABOLIC ENERGY DERANGEMENTS IN LIPOPOLYSACCHARIDE INDUCED CARDIOTOXICITY IN

LAMIAA AHMED AHMED

Background:
Endotoxic shock is a major factor that contributes to morbidity and mortality in critically ill patients in intensive care units. Metabolic derangements and bioenergetic failure are major contributors to sepsis induced cardiotoxicity.

Aim:
The present investigation was directed to estimate the cardioprotective effect of magnesium (Mg), a cofactor in many enzymatic reactions that involve energy creation and utilization, in lipopolysaccharide (LPS)-induced metabolic energy changes in mice.

Methods:
Oral doses of Mg aspartate (20 or 40 mg/kg) were administered once daily for 7 days. Mice were then subjected to a single intraperitoneal injection of LPS (2 mg/kg). Three hours after LPS injection, plasma was separated for determination of creatine kinase-MB activity. Animals were then sacrificed and hearts were separated for estimation of tissue thiobarbituric acid reactive substances, reduced glutathione, lactate, pyruvate, adenine nucleotides, creatine phosphate and cardiac Na+,K+-ATPase activity. Finally, electron microscopic examination was performed to visualize the effect of Mg pretreatment on mitochondrial ultrastructure.

Results:
The higher dose of Mg was more effective than the lower dose in ameliorating creatine kinase-MB elevation, the state of oxidative stress, lactate accumulation, pyruvate reduction as well as preserving creatine phosphate, adenine nucleotides and Na+,K+-ATPase activity. Moreover, the higher dose of Mg provided a significant cardioprotection against mitochondrial ultrastructure changes.

Conclusion:
Mg therapy can afford a significant protection against metabolic energy derangements and mitochondrial ultrastructure changes induced by LPS cardiotoxicity. Clinical studies are required to establish the effectiveness of magnesium as an adjunctive therapy in critically ill patients suffering from sepsis.

Keywords: Cardiotoxicity; Energy; Lipopolysaccharide; Magnesium
CARDIAC MRI DECREASES RECURRENCE OF ACUTE PERICARDITIS

M CHADI MOWAFAK ALRAIES
M CHADI ALRAIES, WAEL ALJAROUDI, ALLAN L. KLEIN

Introduction:
Recurrence is a common complication of acute pericarditis, affecting 10-50% of patients after first attack. Steroids have been associated with increased recurrence of pericarditis along with known major side effects. Cardiac MRI (CMR) has been more frequently used to assess pericardial inflammation and guide medical therapy. The aim of our study is to assess whether CMR-guided therapy offers any clinical benefit over standard therapy.

Method and Results:
We evaluated 145 consecutive patients who developed recurrence following first attack of pericarditis and treated with colchicine and NSAIDs. 67 patients treated with medications without CMR (group 1) were compared to 78 patients who had CMR-guided therapy (group 2). Both groups had similar baseline characteristics. All patients used colchicine and NSAID as first line treatment with similar followup period (13±15 vs. 12±13 months, respectively, p=0.7) (Table 1). Patients in group 1 had higher number of steroid pulse therapy (p= 0.03) (defined as prednisone 50 mg orally daily for 10 days then tapered over 4 weeks), and higher overall total milligram of steroid administered as compared to patients in group 2 (p= 0.01). Recurrence rate was lower in (group 2) compared to (group 1) (p= 0.001). Etiology of pericarditis was idiopathic in 67% in both groups. There was no significant difference in incidence of constrictive pericarditis, pericardiocentesis, pericardial windows and pericardectomy among groups (Table 1).

Conclusion:
CMR-guided therapy modulates the management of recurrent pericarditis, which can decrease recurrence rate and the exposure to steroids. Larger and multicenter study is necessary to validate these findings.
CARDIAC MAGNETIC RESONANCE IS A MARKER OF ACTIVE INFLAMMATION IN CONSTRICTIVE PERICARDITIS

M CHADI MOWAFAK ALRAIES
M CHADI ALRAIES, WAEY ALJAROUDI, ANDREW ZURICK, HIRAD YARMOHAMMADI, ARUN DAHIYA, ALLAN L KLEIN

Background:
The diagnosis of constrictive pericarditis (CP) is problematic and there is limited data on the role of cardiac magnetic resonance imaging (CMR) with late gadolinium enhancement (LGE) and inflammatory markers in the diagnosis and management of CP. We sought to study the correlation of CMR LGE and inflammatory markers with disease activity of CP and response to treatment.

Methods:
We identified 59 patients (mean age 52±10 years, 64% female) with confirmed medically managed CP between 2007 and 2010 who had serial CMR and high sensitivity C-reactive protein (hs-CRP) at baseline and follow-up (26±16 weeks).

Results:
At baseline, LGE was absent in 9 patients (18%) (Group 1) and present in 50 (84%) (Group 2). Patients in Group 2 had worse heart failure symptoms, higher baseline hs-CRP levels, and were more likely to be treated with prednisone and colchicine (Table 1). On follow-up CMR, none of the patients in Group 1 demonstrated LGE while the patients in Group 2 showed reduction. There was a significant decrease in heart failure symptoms and hs-CRP in Group 2 (P=0.01).

Conclusion:
In patients with CP, CMR can be used as a measure of ongoing inflammation and its presence correlates with disease activity. It can be performed serially in CP patients to follow disease progression and resolution with medical management, thus avoiding unwanted referrals to surgery.
A CASE OF PNEUMOPERICARDIUM

M CHADI MOWAFFAK ALRAIES
M CHADI ALRAIES

A 77-year-old female with history of abdominal aortic aneurysm, COPD and Nissen fundoplication surgery for a hiatal hernia ten years ago, was admitted with a one day history of sudden onset sharp retro-sternal chest pain radiating to the back. She was hemodynamically stable. Chest X-ray and CT scan of the chest showed evidence of a significant pneumomediastinum and pneumopericardium with the greatest anterior depth of 3.8 cm. No pulmonary blebs were present on CT. Physical exam positive for Hamman’s crunch and pulsus paradoxus of 15mmHg. Esophagram, bronchoscopy and EGD failed to show any evidence of fistulas. Trans-thoracic echocardiogram showed no evidence of cardiac tamponade. CT guided pericardial drainage was negative for gas-forming pathogens. She underwent thoracic exploratory surgery and intraoperative insufflation of the stomach revealing a gastro-pericardial fistula at the fundoplication wrap that was repaired. Pathology report showed thickened and inflamed pericardium. Patient’s pneumopericardium resolved and follow up imaging at six months showed no recurrence.

The patient’s history of Nissen fundoplication predisposed her to gastric ulceration, which complicates almost 5% of cases with subsequent gastropericardial fistula formation. The most common risk factor for a gastropericardial fistula is history of gastro-esophageal surgery. While this is a rare finding to see in practice, one should be aware of the possibility of gastropericardial fistula in patients with previous history of gastric surgery who present with spontaneous pneumopericardium.
DIFFERENT ASPECTS OF QUALITY OF LIFE IN SAUDI HEMODIODIALYSES PATIENTS.

MAGDA MOHAMED BAYOUMI
BAYOUMI M, AL WAKEEL J

Background:
Aspects of quality of life (QoL) is considering the important indicator to reflect the significant problems for patients receiving hemodialysis (HD) therapy.

Aim:
To assess the quality of life using kidney disease quality of life sort form (KDQOL TM) of patient on HD.

Methods:
The Cross-sectional study was carried out in security forces hospital- Saudi Arabia-dialysis unit, from July 2010 to March 2011, All prevalent chronic HD patient(N=50) , mean age 46.6(14.0)years on maintenance hemodialysis duration ranged from 24 to 60+ months.

Results:
In the study sample the characteristics of patients on hemodialysis therapy both sexes were represented in nearly with the mean age was 46.0(14.0)year on maintenance hemodialysis duration ranged from 24 to 60+ months and the caregivers were mostly female, Unemployed, housewife, with Basic/ intermediate level of education. They were mostly married, and have children. With an age 52.0% more the 40 of years According to KDQOL-SF, the mean of overall QOL was 56.6, the effects of kidney disease score was 58.0(18.9), sleep score was 60.5(22.4), work status score was 46.0 (38.9)and pain score was 52.0(28.2) Furthermore the overall QoL score statistically significant positive correlation with level of education (r =465) an negative correlation with the patients’ age (r=439).

Conclusions:
Our results suggest that more than half of these patients might be considered for rehabilitation program including exercise program and counseling to improve overall QoL of HD patients in Saudi Arabia.

Key wards: KDQOL, Saudi Arabia, dialysis patients
THE CORRELATION BETWEEN QUALITY OF LIFE FOR PATIENTS ON PERITONEAL DIALYSIS AND SUBJECTIVE BURDEN ON CAREGIVER

MAGDA MOHAMED BAYOUMI
BAYOUMI M, AL WAKEEL J

Background:
In chronic dialysis such as peritoneal dialysis (PD), care of the patients most often falls upon a family member and may be threatened with many potential losses and lifestyle changes.

Aim:
To correlate between the patients’ quality of life and burden on family caregiver.

Methods:
A cross-sectional study was carried out for 55 patients on PD and their 55 main caregiver, using Caregiver Burden Interview (CBI) and kidney disease quality of life (KDQOL-SF1.3) instrument to collect data.

Results:
The mean of the total burden reported was 49.9(24.5) which ranked from moderate to severe burden on family caregiver whereas, the mean of the total score of QoL was 63.8(16.4). The total burden score statistically significant correlation positive predictor with patients age(r=.440) and with caregivers’ age (r=.280). Moreover the total burden score and QoL subscales statistically significant positive predictor with social support (r=.267) and dialysis staff encouragement (r=.280) and negative predictor with burden of kidney disease (r = -.473), sleep pattern (r = -.367), work status (r = -.477), energy/fatigue(r = -.383), emotional wellbeing (r = -.360) and physical functioning (r = -.359). The patient satisfaction statistically significant negative predictor with duration of dialysis therapy (r = -.266).

Conclusion:
Caregivers of PD patients may have burden related to patient dependency, specific task of dialysis at home and suffering from exhaustion and continuous changing in lifestyle according to patient condition. So extensive continuous follow up by group discussion sessions to update the problems related, improve patients’ QOL and decrease the burden on family caregivers.
**Background:**
Systemic thromboembolism represents a major complication in patients with mitral stenosis (MS). Several chemical and echocardiographic parameters have been suggested to predict the presence of left atrial appendage (LAA) thrombi in these patients. Objective To assess the predictive value of mitral annular TDI systolic velocity and D-dimer for the detection of LAA thrombus in patients with MS in sinus rhythm (SR).

**Methods:**
Ninety one patients with MS, in sinus rhythm were evaluated by transthoracic and transesophageal echocardiography. The annular systolic (S) and diastolic (E and A waves) velocities were recorded. Plasma concentrations of the D-dimer fragment were measured.

**Results:**
Fifteen patients (16.48%) had LAA thrombi whereas 76 (82.52%) patients had no evidence of thrombi. Patients with LA thrombus showed a significantly higher D-dimer levels (965.67±570.27 μg/L vs 261.20±193.80 μg/L, P <0.0001) and a significantly lower mitral annular S wave velocity (10.7±2.1 cm/s vs 15.2±3.5 cm/s, P <0.001) than those without LA thrombi. The LAA emptying velocity showed a significant positive correlation with the S wave velocity (r= 0.884, P <0.0001) and a significant negative correlation with the D-dimer levels (r= -0.643, P <0.0001). Multivariable analysis revealed that the most powerful predictors of LA thrombus were the plasma D-dimer level (OR= 19.6, 95% CI= (1.25-308), P <0.05) and the S wave velocity (OR= 32.0, 95% CI= (2.1-490), P <0.01). ROC analysis yielded an optimal D-dimer cutoff value of 423.25 μg/L for prediction of LAA thrombi with a sensitivity of 85.7%, a specificity of 92.1%, a positive predictive value of 66.7% and a negative predictive value of 95.9% while S wave of 12.5 cm/s predicted LA thrombus with a sensitivity of 92.9%, a specificity of 78.1%, a positive predictive value of 86.5% and a negative predictive value of 82.2%.

**Conclusions:**
D-dimer and S wave velocity are independent predictors of LAA thrombus in MS patients with SR. The S wave velocity has a better positive predictive value than the D-dimer which has a better negative predictive values.
THE VALIDITY OF A GLOBAL TISSUE DOPPLER INDEX IN ESTIMATING LEFT VENTRICULAR END-DIASTOLIC PRESSURE IN PATIENTS WITH CORONARY AR

MAHA EL SEBAIE ATTIA
KHALID ABD EL SALAM, MAHA EL SEBAIE
The Validity of a Global Tissue Doppler Index in Estimating Left Ventricular End-Diastolic Pressure in Patients with Coronary Artery Disease and Intermediate E/E'
Khalid Abd El Salam, MD and Maha El Sebaie, MD
Cardiology Department, Faculty of Medicine, Zagazig University, Cairo, Egypt.

Background:
The left ventricular end diastolic pressure (LVEDP) is an important parameter in cardiac patients. There are few data on adding tissue Doppler derived mitral annular peak systolic velocity ($S'$) wave to the ratio of early mitral inflow to mitral annular velocity ($E/E'$) for the estimation of left ventricular end diastolic pressure (LVEDP) in patients with preserved LV ejection fraction. Objectives To assess the validity of $E/(E' \times S')$ in estimating LVEDP in patients with CAD and intermediate E/E'.

Methods:
Sixty-five subjects underwent echocardiography and TDI of the mitral annulus in less than 30 minutes of cardiac catheterization. Echocardiographic variables including E/E' and $E/(E' \times S')$ were compared to invasively measured LVEDP.

Results:
Based on coronary angriography, 49 subjects showed significant CAD (group I) while 16 subjects showed no evidence of CAD (control group). The E/E' and the E/(E'X S') were significantly higher in CAD patients than in the control group (P <0.001). In patients with intermediate E/E', there was a highly significant positive correlation between the E/(Ex S') and LVEDP ($r = 0.785$, P <0.0001) while the E/E' showed no significant correlation with the LVEDP in this subset of patients ($r = 0.274$, P >0.05). ROC analysis yielded an optimal E/(E' X S') cutoff value of 1.43 for prediction of LVEDP >12mmHg with a sensitivity of 90.9%, a specificity of 57.1%, a positive predictive value of 76.9% and a negative predictive value of 80.0% (AUC 0.88, 95% CI 0.71-1.00, P <0.05). The E/E' ROC cutoff value of 12.2 predicted LVEDP >12mmHg with a sensitivity of 72.7%, a specificity of 28.6%, a positive predictive value of 61.5% and a negative predictive value of 40.0% (AUC 0.68, 95% CI 0.44-0.93, P >0.05).

Conclusions: $E/(E' \times S')$ correlates well with LVEDP and can be used as a simple and accurate estimate of LVEDP in coronary artery disease patients with intermediate E/E'. Keywords Global index, Tissue Doppler, Left ventricular, Diastolic pressure.
GENETIC THROMBOPHILIA IN PATIENTS WITH ISCHEMIC HEART

MAHMOUD MOHAMED ABDOU YOSSOUF
MAHMOUD YOSSOUF, SOLAF EL SHARAWY, SALAH AREF
HANAN GLAL, WAEL ELKHIARY

Introduction:
In premature IHD, the role of genetic risk factors should be more important than environmental factors. Genetic thrombophilias represent a group of inherited conditions that predispose to thrombosis. Although the association between inherited thrombophilia and some thrombotic diseases as deep venous thrombosis is well-established, controversial data are present on the association between inherited thrombophilia and IHD.

The Aim of the Study:
to study some genetic thrombophilic variants in patients suffering from ischemic heart disease

Subjects & methods:
72 subjects: 52 patients with premature ischemic heart disease < 40 years. classified into: • Acute M.I. group:(31 patients). • Unstable angina group: (21 patients)., and 20 apparently healthy individuals (of matched age and sex as a control group
History taking, clinical and E.C.G. and laboratory investigations (cardiac markers, lipogram, lupus anticoagulants screening, antiphospholipids IgG/IgM and anticardiolipin IgG/IgM antibodies). Also, samples were taken for DNA extraction and typing with cardiovascular disease (CVD) StripAssay for the identification of mutations associated with CVD based on polymerase chain reaction (PCR) and reverse-hybridization molecular technique. The assay covers 12 polymorphisms.

Results:
In UA patients group, the heterozygous (GA) genotype, and the (A) for UA, compared with the control group In addition, there were significant decreases in the frequencies of heterozygous (GT), and T allele of FXIII Val34Leu in UA patients group, compared with the control group assuming a protective role of FXIII 34Leu allele against unstable angina development. The prevalence of other studied polymorphisms; factor V H1299R (R2), Glycoprotein Illa Leu33Pro,PAI-1 4G/5G, MTHFR C677T polymorphisms, MTHFR A1298C, apo B R3500Q and apo E polymorphisms; did not differ between IHD patients and control subjects. There was a significant positive association between FVL and family history of IHD in AMI patients. In addition, a highest prevalence of Pl A2 in patients <35 years of age surviving a first AMI, so that age-at-onset of AMI was significantly affected by PlA2 (<35 years vs. 35-40). Apo E3/E4 genotype was associated with both high total Cholesterol (TC) and high TC/HDL ratio in UA group, while in AMI patients, Apo E3/E4 genotype was associated with high TC/HDL ratio, and high triglycerides levels.
Conclusions:
this study has identified a positive association for FV Leiden, Prothrombin G20210A heterozygosity, and ACE (I/D) polymorphism with premature AMI; a positive association for β-fibrinogen 455-GA polymorphism in UA patients; and a negative association (protective role) for FXIII Val34Leu in UA patients. This study may open a door to promised goals of new therapeutics and personalised medicine for premature IHD based on single nucleotide polymorphism in well defined groups of high risk patients (< 40 years); and their families
INTRAUTERINE FIRST-LINE THERAPY AND OUTCOME OF FETAL HETEROTOPIC TACHYCARDIA.

MAROUANE - BOUKHRIS
MAROUANE BOUKHRIS, KAOUATHAR HAKIM, NIDHAL BEN MOUSSA, HELA M*SAAD, FATMA OUARDA, RAFIK BOUSSAADA

Background:
Fetal heterotopic tachycardia is associated with a high risk of congestive heart failure, fetal hydrops and intrauterine death. Transplacental treatment by antiarrhythmic agents can improve prognosis dramatically.

Objectives:
The aim of our study is to review the management and the outcome of heterotopic tachycardia in fetal patients treated in our center.

Methods:
We reported 24 cases of heterotopic fetal tachycardia diagnosed and treated mainly with digoxin and / or amiodarone administered by the transplacental way.

Results:
Twenty four fetal patients were studied, thirteen with supraventricular tachycardia, eight with atrial flutter and three with chaotic atrial tachycardia. Among them, eight fetuses were hydropic. All mothers were given an antiarrhythmic treatment by mouth. There were three intrauterine deaths. Digoxin monotherapy converted 6/8 non hydropic fetuses and 0/2 hydropic fetuses who died. Amiodarone monotherapy converted 4/6 including 2 hydropic fetuses with one intrauterine death. The association of digoxin and amiodarone converted 7/7 fetus including 3 hydropic patients. No death found with this association. Propanolol was used in monotherapy or associated with digoxin in vain in three patients with chaotic atrial tachycardia.

Conclusions:
Maternal oral antiarrhythmic treatment should be given as soon as the diagnosis of fetal heterotopic tachycardia is done. Digoxin and amiodarone seems to be effective. Their association is particularly indicated in hydropic fetuses.
Introduction:
Transcatheter closure of perimembranous ventricular septal defect (PM VSD) is abandoned in many centers and in some became restricted to certain age and criteria because of the risk of complete heart block (CHB). The risk of damaging the tricuspid valve (TV) in the presence of inlet extension is another risk. I am presenting successful closure of such defect using Amplatzer occluder device for PDA with reasonable follow-up period in Prince Sultan Cardiac Center PSCC.

Method:
Through 2011, 4 patients underwent transcatheter closure of PM VSD with inlet extension, all patients were consented and procedure were done under general anesthesia, Transesophageal echocardiography was done in all, one has 3D assessment. Hemodynamics were assessed pre-procedural, A-V loop was applied in 2 patients, ADOI were used in all, heparin and antibiotics were giving during and 24 hr post procedure, 3 patients were extubated same day and one the following day, all patients were kept on aspirin for 6 months.

Result:
Median age 17 kg, 3 female and 1 male, median age 7 year, Median ventilatory duration is one day, Median hospital stay is 2 days, Median Follow up is 16 months, No immediate or early complication or deaths, normal ECG immediately and during follow-up period, normal Echocardiography with no residual leak during follow-up period.

Conclusion:
In selected patients with PM VSD and inlet extension ADOI device can be used safely and effectively to close the defect with no immediate or early complications.
EARLY EXPERIENCE ON AORTIC ARCH SURGERY AT KING FAHD ARMED FORCED HOSPITAL (KFAFH), JEDDAH

MASSIMO ANGELO MARIA PORQUEDDU
MASSIMO PORQUEDDU, ABDULLAH ASHMEG, AMMAR ARNOUS, KHALED SHIATY, WALID ABUKHUDAIR

Background:
To our knowledge KFAFH cardiac department is one of the few centers performing aortic arch surgery in Saudi Arabia. The optimal strategy for management of the circulation during aortic arch surgery remains controversial and neurologic dysfunction due to cerebral ischemia remains a significant concern. We report our early experience on aortic arch surgery performed with Deep or Moderate Hypothermic Circulatory Arrest (DHCA or MHCA) and Antegrade Selective brain Perfusion (SAP).

Patients and methods:
14 consecutive patients (pts) underwent aortic arch repair between 2008-2012. 4 pts were operated on emergency basis because of type A aortic dissection or impending rupture, 10 pts on elective basis. 5 pts (35.7 %) had complete arch replacement and 9 pts (64.3 %) had emiarch repair. Axillary cannulation was performed in 12 pts (85.7 %), femoral cannulation in 2 pts (14.3 %). Our brain protection strategy consisted in DHCA (18-20 C) in 11 pts (78.6 %), MHCA (23-25 C) in 3 pts (21.4 %). Selective monolateral antegrade perfusion (uSAP) trough axillary artery was performed in 12 pts (85.7 %), selective bilateral antegrade perfusion (bSAP) in 2 pts (14.3 %). Mean circulatory arrest was 29±15 min, Cerebral oximetry has been employed to monitoring brain perfusion.

Results:
In-hospital mortality rate was 0, no pt had permanent neurological deficit. 1 pts (7.1 %) had a temporary neurological deficit, 2 pts renal impairment (21.4 %), 1 pt vocal cord paralysis (7.1 %), 3 pts bleeding (21.4 %). Temperature was not identified as independent predictor of transient neurological deficit (p 0.5). MHCA was significantly associated to reduced blood loss after surgery (p<0.01). Mean follow-up (22 months): no pt died, 1 pt presented aortic pseudoaneurysm 6 months after surgery (Marfan syndrome with aortic dissection).

Conclusion:
Early KFAFH experience on aortic arch surgery has been performed with very good outcome. HCA arrest with SAP represents a very effective technique of brain protection. For short circulatory arrest time MHCA is safe and can reduce coagulopathy problems related to DHCA.
MONITORING OF ANTIAGGREGATION THERAPY EFFECTIVITY IN PATIENTS WITH ACUTE STEMI: IS IT REALLY NECESSARY IN CLINICAL PRACTICE?

MATEJ MATEJ SAMOS
SAMOS M., SIMONOVA R., KOVAR F., STASKO J., MOKAN M., KUBISZ P.

Introduction:
Antiaggregation therapy is the keystone of acute ST elevation myocardial infarction (STEMI) drug treatment; but effectivity of this therapy is not always sufficient. The aim of the study was to determine whether laboratory monitoring of antiaggregation therapy helps to improve the management of patients with acute STEMI.

Material and methods:
A pilot prospective study in patients with acute STEMI treated with direct percutaneous coronary intervention (dPCI) of culprit lesion. Optic aggregometry was chosen to assess the effectivity of antiaggregation treatment. Samples were taken prior to coronaryography (sample1) as well as at first day after diagnostic procedure (sample2). MACE (in-stent trombosis, heart failure, in hospital death, all cases mortality, ventricular arrhythmia, needs of repeat revascularization) were sequently monitored. Study group included 22 patients (average age 66 years, 11 men, 11 women), from whom 14 had received clopidogrel loading dose and 8 had received prasugrel loading dose.

Results:
In clopidogrel group 11 patients did not reach effective drug activity in first sample and 3 patients did not reach effective drug activity in second sample. While in prasugrel group ineffective antiaggregation was seen just in 1 patient in first sample. In patients with clopidogrel treatment more MACE developed in followed period (13 vs. 6).

Conclusion:
Our results show that optic aggregometry seems to be a useful laboratory method for antiaggregation drugs effectivity assessment. Prasugrel treatment seems to be more effective than clopidogrel administration in patients with acute STEMI and dPCI of culprit lesion.
EFFECTIVENESS OF INTRAARTERIAL NITRATE FOR TRANSRADIAL CORONARY ANGIOGRAPHY

MD. ABU SALIM
MD. ABU SALIM, SYED ALI AHSAN, KMHS SIRAJUL HAQUE, PC RATH, VBPUROHIT
Effectiveness of Intraarterial Nitrate for Transradial Coronary Angiography

**Background:**
Transradial access is a well established approach for coronary angiography and percutaneous coronary intervention. However a major pitfall is radial artery vasospasm, for which several pharmacological agents are being considered. We have used 100 microgram intra-arterial glycerine trinitrate (GTN) only to counter this problem.

**Method:**
A study was done in Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh and Apollo Hospital, Hyderabad, India from January 2102 to June 2012. Total 80 patients (40 patient in GTN group and 40 patients in GTN+Diltiazem group) were included for CAG±PCI. Patients were randomized into 2 groups to compare intraarterial GTN and a combination of GTN + Diltiazem. Radial artery spasm and patient comfort were assessed in both groups.

**Results:**
Radial artery spasm leading to femoral access was statistically insignificant comparing both groups. None of the patients in GTN group had pain or burning sensation during administration, whereas the cocktail group (GTN+Diltiazem) had some discomfort in the form of pain and burning sensation despite aspirating blood and thorough mixture of blood with GTN and Deltiazem. Radial artery spasm rate was almost similar in both group ( 2 vs 1 out of 40 in each group respectively). Total procedure time from vascular access to sheath removal was almost similar in both groups ( 15.41±1.3 minutes vs 14.85±1.6 minutes) and total fluoroscopy time in GTN group was 3.1±1.6 minutes and in GTN with diltiazem group was 2.9±4.6 minutes.

**Conclusion:**
Intraarterial GTN alone is a safe and equally effective arterial dilator for transradial coronary angiography compared to combined GTN and diltiazem.
ST ELEVATION MYOCARDIAL INFARCTION IN YOUNG ADULTS: PREVALENCE, DEMOGRAPHICS, RISK FACTOR PROFILE AND EARLY OUTCOME AFTER PRIMARY PCI

MEHBOOB ALI DAR
MEHBOOB ALI DAR, AKIF ALI MUFTI, YASIR BESHIR, HASSAN KHALAF, TARIQ I SOOMRO, OWAYID AL SHAMMARY, AKRAM DESOKY, MOHAMMAD SAYED, YASIR BIREMA, MOHAMMAD IMRAN, ARSHAD SODHAR, MUSHTAQ AHMAD, FAZEL AHMAD

Objectives:
We sought to investigate prevalence, clinical profile, in-hospital and long term clinical outcomes of Primary Percutaneous Coronary Intervention in young adults presenting with Acute MI.

Methods:
Total of 95 patients ≤40 years were enrolled in retrospective data analysis. Prevalence, risk factor profile and demographics were analyzed. Procedural success, in-hospital and short-term (1 month) outcomes were assessed as primary end points. Secondary end points were recurrent MI and new revascularization.

Results:
Mean age was 36±14 years (range 19-40); 97% males and 3% females. 59 (62%) patients presented with anterior wall MI, 36 (38%) with inferolateral wall MI; 5% had infarction in other territories. 51% patients were Saudis and 49% were non Saudis. Risk factor profile revealed: Smoking (76%), Diabetes Mellitus (22%), Hypertension (20%), Dyslipidemia (12%), Family History (12%). 3 patients had cardiogenic shock at presentation. All underwent PCI, with door to balloon time of 83±05 minutes (74-220 min). Majority had SVD (47%). 2VD and 3VD was seen in 33% and 18% respectively. (Infarct related artery: LAD 54%, RCA 23%, LCX 12% and Left Main Disease 2%). DES was deployed in 89%. Successful recanalisation of IRA was achieved in 95% with 87% achieving TIMI III flow. No reflow occurred in 2%. Procedure related coronary artery dissection occurred in 1 patient. 6% developed Ventricular Tachycardia, 2 patients developed complete heart block. In-hospital mortality was 3%. 1 patient had acute stent thrombosis and 4 patients presented with subacute and late stent thrombosis on follow up. All patients were alive at one-month follow up.

Conclusions:
Our data reveal that younger patients, predominantly males comprise a significant proportion of patients of STEMI. Smoking appears to be a prominent risk factor. Such patients have a favorable outcome after Primary PCI. High incidence of stent thrombosis in our cohort of patients needs further assessment.
SPONTANEOUS IMPLANTATION OF A LEFT ATRIAL MYXOMA INTO THE LEFT VENTRICLE

MICHAL DOMINIK TOMASZEWSKI
ANDRZEJ TOMASZEWSKI, DIANA STETTNER, MICHAL TOMASZEWSKI,
ANDRZEJ WYSOKINSKI, MAREK CZAJKOWSKI, JANUSZ STAZKA

We present a first described case of the coexistence of myxomas located around the foramen ovale of the left atrium and on one of the chordae tendineae within the left ventricle. We hypothesise that the myxoma striking the chordae tendineae of the mitral valve implanted itself on the one of the chordae tendineae.
TAILORED MANAGEMENT APPROACH FOR CRITICALLY SICK CHILDREN AND LATE PRESENTERS WITH CONGENITAL HEART DISEASE

MILAD SALEH EL-SEGAIER
MILAD EL-SEGAIER, MO GALAL

Background and objectives:
Re-conditioning before cardiac surgery in critically sick children is often needed. We report our experience using tailored management approach in these patients.

Methods and patients:
The charts of patients with CHD who judged to have high operative risk were reviewed. Included were patients with: large left to right shunt and ventilation for longer than 2 months, significant left to right shunts at multiple levels combined with malnutrition or recent infection, severely impaired cardiac function needing inotropic support and antifailure medications, recent RSV infection, severe malnutrition (body weight < 5th centile), and critically sick patients during early postoperative course. Excluded were patients with: significant left to right shunts, presented early, with minor growth retardation, and without recent active infection.

Results:
Six patients were included. The median age was 13 months (2-48months) and median weight was 4.6 kg(2.3–12.6 kg). Two patients had multiple left to right shunts and ventilator dependency. One with huge VSD presented at four years of age. Another with low body weight, large VSD and impaired LV function.Two more with early postoperative complications and ventilator dependency.

In the first category, staged approach was essential. This was done by transcatheter closure of the PDA, followed by pulmonary artery banding. This approach lead to extubation. After proper nutrition, total correction was done. The patient who presented at four years of age underwent banding of PA, later surgical repair of VSD. Because of long postoperative ICU stay, he needed percutaneous closure of his residual VSD and then discharged. The patient with large muscular VSD and impaired LV function underwent percutaneous VSD closure with good result despite low weight (4.2 kg). The last two patients; one needed balloon dilation of residual coarctation, the other because of severe obstruction to his bilateral Glenn anastomosis, underwent stenting of these stenosis. Both had good result.

Conclusions:
In severely sick children and late presenter with multiple shunts, a tailored management including therapeutic catheterization and supportive measures are essential before cardiac surgery. Catheterization and possible intervention should be considered early during postoperative phase in severely sick patients.
ABSTRACT ON PERCUTANEOUS CORONARY INTERVENTION IN DIFFERENT ANOMALOUS CORONARY ARTERIES - AN OBSERVATIONAL STUDY

MIR JAMAL UDDIN

MIR JAMAL UDDIN, MOHAMMAD SAFIUDDIN, MD IBRAHIM KHALIL, KHANDAKER QAMRUL ISLAM, KAJAL KUMAR KARMAKAR, ABDULLAH AL SHAFI MAJUMDER

ABSTRACT ON PERCUTANEOUS CORONARY INTERVENTION IN DIFFERENT ANOMALOUS CORONARY ARTERIES - AN OBSERVATIONAL STUDY
Mir Jamal Uddin1, Mohammad Safiuddin2, Md Ibrahim Khalil1, Khandaker Qamrul Islam1, Kajal Kumar Karmakar1, M Amir Hossain3, Humayun Kabir1, A.N.M. Monowarul Kadir2, Amanullah-Been-Siddiqui1, Sanjib Chowdhury1, Golam Azam1, Abdullah Al Shafi Majumder1, Fazlur Rahman2.
1 Department of Cardiology, National Institute of Cardiovascular Diseases, Dhaka, 2 Department of Cardiology, Bangabandhu Sheikh Mujib Medical University, Dhaka, 3 Bangladesh Medical College and Hospital, Dhaka.
Address for correspondence: Dr. Mir Jamal Uddin, Associate Professor, Department of Cardiology, National Institute of Cardiovascular Diseases, Dhaka, E-mail: dr.mirjamal@yahoo.com.

Aims:
Anomalous coronary arteries are uncommon but clinically significant, depending upon its ostial origin, course & distribution, such patient may be asymptomatic or may present with angina, acute myocardial infarction, arrhythmias, syncope & sudden cardiac death. Our aim is, to show the feasibility of percutaneous coronary intervention in those anomalous coronary arteries and also to assess the selection of hardwire in those particular cases.

Methods and Results:
Since January 2002 we have done 3110 PCI cases in NICVD and other cardiac centers in Dhaka. Out of which total twenty-one cases of PCI were performed in different varieties of anomalous coronary artery. Among those twenty-one cases, seven cases were PCI to high take off origin of RCA(33%), six cases were PCI to RCA of posterior origin(28%), three cases were PCI to RCA arising from left sinus of valsalva(14%), single case each for PCI to LCX as proximal branch of RCA(4.76%), PCI to LCX arising from right sinus of valsalva(4.76%), PCI to LAD arising separately from LSV(4.76%), PCI to LCX arising separately from LSV(4.76%), PCI to RCA where RCA & LM arising from RSV as a single stem(4.76%). We report here successful PCI in twenty(95%) cases having eight verities of anomalous coronary artery with failure in one case(4.76%).

Conclusion:
PCI in anomalous coronary arteries is a feasible therapeutic strategy with excellent clinical results. Selection of appropriate guiding catheter and other equipment is essential to the technical success of the procedure. Since these cases are rare, the reported experience of other practitioners may provide helpful tips.

Keywords: • Percutaneous coronary intervention (PCI), Anomalous coronary arteries
COMPARISON OF CLINICAL OUTCOMES AMONG PATIENTS UNDERGOING CABG WITH OR WITHOUT PRIOR PCI

MOHAMAD ABDULWAHAB AALASSAL
MOHAMAD ABDULWAHAB AALASSAL, AHMAD HELMI OMAR, MOHAMAD FAHMI IBRAHIM, MOHAMED MUBASHER

Introduction:
There are increasing numbers of patients who are referred for coronary artery bypass grafting (CABG) after prior percutaneous coronary intervention (PCI) due to in stent thrombosis or other coronary complications. The intent here is to characterize the risk, if any, that is associated with a prior PCI experience.

Objectives:
To compare clinical outcomes between patients undergoing CABG with or without previous PCI.

Methods:
This is a retrospective chart review study. Two hundred seventy eight patients underwent CABG at KING FAHAD MEDICAL CITY, KSA between January 2009 to December 2010, of whom, 60 patients had prior PCI and 218 without a previous PCI. Primary outcome measures included post CABG survival, hospital stay, post CABG inraortic balloon, myocardial infarction, or repeat revascularization. Statistical analysis was pursed using the t-test/Wilcoxon and multiple linear regression analysis test for the continuous outcomes and the chi-square/Fisher exact test and logistic regression analysis for dichotomous outcomes. SAS version 9.3; Carey, NC, USA was used for statistical analysis.

Results:
Overall there were 278 patients (60 in the CABG plus prior PCI group and 218 in the CABG alone group). All patients were followed up to 2 year post-CABG. All pre-CABG demographic and clinical characteristics were similar between the two groups. Overall, mean age was 59.3 years (median=59 years); 54 (20%) females and both age and gender distributions were similar between the two groups. Mortality in the CABG alone group occurred in 6/218 patients (2.8%) compared to 2/60 (3.3%) in the CABG with prior PCI group (p=0.8). Sixty six (30.3%) on the CABG alone group had recent MI vs. 29/60 (49.2%) in the CABG with prior PCI, p-value =0.007. Mean + sd of hospital stay was 11.8 + 12 days on the CABG alone group vs. 13.7 + 11.6 days on the CABG with prior PCI group, p-value =0.27. Postoperative need of inraortic balloon occurred among 7 (11.62%) cases in the CABG alone group and among 3 cases (5.5%) in the CABG with prior PCI group, pvalue=0.33.

Conclusions:
Although the incidence of recent MI differed significantly between the two groups, no apparent differences were detected in terms of mortality, hospital stay and need for inraortic balloon. Prospective studies as well increasing the sample size and extended follow-up are further required to validate the results.
OUTCOME OF CORONARY ARTERY BYPASS IN PATIENTS WITH CHILD-PUGH CLASS A LIVER CIRRHOSIS

MOHAMED AHMED ELAWADY
DR. MOHAMED AHMED EL AWADY MD, DR. MOATZ REZK MD.
Outcome of Coronary Artery bypass in Patients with Child-Pugh Class A Liver Cirrhosis

Introduction:
Postoperative course of CABG in liver cirrhotic patients had a lot of complications like bleeding, hepatic de-compensation, multi organ failure and infection. Which increase the risk morbidity and mortality.

Methods:
A retrospective study from 2007 to 2011 to evaluate the early postoperative outcome of elective CABG in 59 patients with class A cirrhosis.
Exclusion criteria are:
1- Class B and C Child Pugh classification
2- Emergency CABG
3- Open heart surgeries rather than single CABG
4- Patients with ejection fraction below 35%
5- Renal failure patients on regular dialysis.
All preoperative, operative and postoperative data including 3 months follow up after discharge home are collected and analyzed.

Results:
59 patients with class A liver failure underwent CABG, 37 male, 22 female. 42 hypertensive, 28 diabetics. Mean 1st 24h chest tube drainage was 853.80±567.10ml, minimal 130ml maximum 3500 ml. 12 patients (20.3%) reexplored for bleeding, Mean ventilation time was 10.48± 6.65 hours. Mean ICU stay was 59.52± 13.91 hours. Two patients died (3.38%), one patient due to hepato-renal failure (re explored 3 times) the 2nd patient died after delayed recovery due to cerebral hemorrhage. 20 patients (33.89%) had of wound infection two of them need debridement and rewiring. Mean hospital stay was 9.18±2.29 days. Total morbidity was (49%). Mortality was 4%.

Conclusion:
CABG can be tolerated satisfactorily in class A Child cirrhotic patients with high incidence of the postoperative complications specially bleeding and wound infection.
RIGHT ATRIAL MASS POST ATRIAL SEPTAL DEFECT SURGICAL CLOSURE: A DIAGNOSTIC CHALLENGE

MOHAMED QUDAIH
THE USE OF VACUUM ASSISTED CLOSURE SYSTEM (VAC) IN THE TREATMENT OF POSTOPERATIVE MEDIASTINITIS, A SINGLE CENTER EXPERIENCE. INT

MOHAMED AHMED ELAWADY
DR. MOHAMED AHMED ELAWADI, MD, , DR. FAROUK OUEIDA, MD, EUROPEAN BOARD OF CARDIOTHORACIC & VASCULAR SURGERY

Introduction:
Post cardiac surgery mediastinitis is a serious complication, associated with high morbidity and high financial costs. VAC therapy is well established line of treatment in mediastinitis which improves outcome in those patients.

Methods:
Retrospective study to evaluate the outcome of VAC therapy in 34 patients with post-sternotomy mediastinitis. All preoperative, operative and postoperative data are collected and analyzed.

Results:
34 patients treated with VAC, 27 patients were re-admitted after discharge home, mean time from infection to VAC therapy was 3.34±1.10 days. The duration of VAC therapy was 6.51±1.85 days minimum 3 days and maximum 9 days. The mean amount of discharge was 759.60±175.28 with minimum 354ml and maximum 990ml. 21 patients (61.76%) received direct surgical wound closure of the wound, de-wiring or just tighten the sternal wires. 13 patients (41.16%) need debridement of the sternum and re-wiring. 2 patients need bilateral pectoral flap to close the defect of soft tissue. One patient had chronic fistula formation 4 months after discharge home and need de-wiring and curettage of the fistula. One patient had tear in right ventricle controlled surgically. Mean hospital stay 11.28±2.09 days, minimum 6 days and maximum 16 days. One patient died due to postoperative cerebral infarction and multiple organs failure.

Conclusion:
VAC therapy is safe, reliable and cost-effective adjacent to conventional treatment of postoperative mediastinitis especially in high risk patients like old age and diabetics.
CARDIAC MAGNETIC RESONANCE IMAGING IN ASSESSMENT OF LEFT VENTRICULAR FUNCTION AND MYOCARDIAL VIABILITY IN PATIENTS WITH CHRONIC

MOHAMED HAMDY ZAHRAN
PROF.DR. MOHAMED HAMDY MAHMOUD ZAHRAN, PROF.DR. TAREK MOHAMED RASHAD, PROF.DR. MOHAMED YOUSSEF AREF, PROF.DR. AMR MAHMOUD ZAKI, WALID MOHAMED AHMED MOHAMED, ASHRAF MOHAMED AL-AGAMY

Background:
The assessment of myocardial viability has become an integrated part in the diagnosis of patients with chronic ischemic heart disease (IHD). The available evidence suggests that patients with preserved viability will show improvement in function and symptoms after revascularization. In contrast, patients without viability will not benefit from revascularization, and the high risk and unnecessary surgical intervention should be avoided.

The aim of the study:
The aim of this study was to evaluate the role of cardiac magnetic resonance imaging in assessment of global and regional LV function and myocardial viability in patients with chronic IHD.

Methods:
Sixty patients with chronic IHD with reduced LVEF and who had documented myocardial infarction referred for viability assessment were included in this study. Cardiac magnetic resonance imaging adopting cine images to assess LV function and late gadolinium enhanced MRI to assess myocardial viability were implemented.

Results:
Of the examined 1020 segments, 44 patients had 221 segments (21.7%) with thinned myocardium and their end diastolic wall thickness (EDWT) less than 5.5 mm, of which 205 segments (92.8%) had transmural infarction, 15 segments showed subendocardial infarction less than 50% and 1 segment had no delayed enhancement. 628 segments (61.57%) had no evidence of delayed enhancement, 84 segments (8.23%) had subendocardial enhancement less than or equal to 50% of the wall thickness and 308 segments (30.20%) had more than 50% of the wall thickness or transmural infarction.

Conclusion:
Contrast-enhanced magnetic resonance imaging can be used to visualize the transmural extent of myocardial infarction with high spatial resolution. LGE-CMR imaging represents the new gold standard in the detection of irreversibly damaged myocardium
A 59-year-old man suffering anterior myocardial infarction 3 months ago with persistent dyspnea. Echocardiography revealed marked hypokinesia of the anterior and septal left ventricular walls with reduced ejection fraction (30 %) as well as turbulent flow at the apical region was noted with suspected apical thrombus formation. Coronary artery angiogram images show total occlusion of the LAD at its proximal and mid segment, tight long 90% stenosis of the first obtuse marginal artery as well as 99% mid segment stenosis of the RCA. Cardiac MRI was done and steady state free precession (SSFP) cine images revealed localized myocardial tearing and a flap appeared at the LV apex with a small tear at the flap containing fresh blood. Delayed-enhancement magnetic resonance imaging (intravenous dosage of 0.2 mmol/kg of Gad-DTPA; inversion recovery delay 260 ms; delayed time 10 minutes) revealed that the flap was enhanced and deviated toward the LV cavity and scarred enhanced myocardium deviated toward the epicardial border denoting the diagnosis of an intramural dissecting hemorrhage of the myocardium at the LV apical region. This entity accounts for fewer than 10% of cardiac ruptures and may occur after myocardial infarction, chest trauma, or surgery, or even spontaneously. Preoperative diagnosis is difficult, with differential diagnosis including pseudoaneurysm and intracavitary thrombus. Considering the poor prognosis of patients treated medically (less than 10% survival), corrective surgery is usually the treatment of choice.
ASSESSMENT OF SELF-REPORTED PRACTICE PATTERNS REGARDING TREATMENT OF DYSLIPIDEMIA AMONG PHYSICIANS UNDER TRAINING IN FAMILY MEDICINE

MOHAMED SALEM NASRALLA
DR MOHAMED SALEM NASRALLAH, DR HEBA MOUSTAFA, DR HANAN KAMAL, DR ABDELMAJEED AHMED

Abstract:
Introduction:
Cardiovascular diseases are the leading cause of death and disability in most societies. These trends are potentially reversible with the optimal assessment and management of cardiovascular disease risk factors, of which dyslipidemia is prominent. The aim of this study is to improve family physicians' knowledge, beliefs and practice towards dyslipidemia. The assessment of their practice is the first step in this regard.

Subjects and methods:
This study was a cross-sectional-descriptive study. Its target population was physicians under training in family medicine in Ismailia governorates who were trainees in the Family Medicine Department in the Faculty of Medicine, Suez Canal University. The total number of the sample was 114 physicians. The study population was subjected to a structured questionnaire derived from a study published in the Journal of the American Board of Family Medicine and modified according to a pilot study. Scoring system was done by expert opinion. If a physician’s score was >60% it is a good result and if it was < 60% it is poor.

Results:
Results of the current study showed that among studied family physicians 87.7% had a poor practice score regarding dyslipidemia screening and assessment and 68.4% of them had a poor practice score regarding dyslipidemia management. 45.6% of studied family physicians had read the NCEP ATP III guidelines and 25% of them had read them carefully.

Conclusion:
This study demonstrates that not all recommendations of the NCEP ATP III guidelines have been adopted in clinical practice by most studied family physicians. It also demonstrates the large degree of practice variation regarding dyslipidemia assessment and management.
We report the use of cutting balloons in recanalization of left pulmonary artery (LPA) occlusion due to embolic thrombus in a 9 month-old infant, status post surgical repair of a common atrioventricular canal associated with tetralogy of Fallot. Transhepatic approach was used because of inferior and superior vena cavae thrombosis. After high pressure balloon angioplasty failure, the LPA was successfully recanalized with cutting balloons. This was followed by stent implantation with good angiographic result and spectacular left lung reperfusion on post-catheterization lung scan (from 1% to 36%).
SHOULD WE CLOSE HYPOXAEMIC PATENT FORAMEN OVALE AND INTERATRIAL SHUNTS ON A SYSTEMATIC BASIS?

MOHAMMAD ABDALLA EL TAHLAWI
MOHAMMAD EL TAHLAWIA, BERTRAND JOPA, BÉATRICE BONELLOA,
ANDREEA DRAGULESCUA, FRANCIS ROUAULTB,
GILBERT HABIBC, ALAIN FRAISSE

Background:
Rarely, hypoxaemia is associated with shunt reversal at the atrial level. Closure by interventional catheterization is the treatment of choice but indications and results have been studied insufficiently.

Purpose:
To describe our experience with interventional closure of atrial right-to-left shunts described as hypoxaemic and the impact on patient oxygenation and clinical status.

Method:
Retrospective study in two referral centres, including all patients undergoing closure of interatrial right-to-left shunt associated with hypoxaemia.

Results:
Since 2001, 21 consecutive patients underwent interventional shunt closure using the “Amplatzer® device”; two patients had atrial septal defect and 19 had patent foramen ovale. Three patients had minor adverse events; two patients have a tiny residual shunt. Transcutaneous oxygen saturation and partial oxygen pressure increased significantly from 86±5 to 95±3% (p < 0.001) and from 49.8±6.8 to 82.9±30.4mmHg (p = 0.001), respectively. Seventeen (80%) patients reported clinical improvement. However, patients with chronic respiratory insufficiency remained more symptomatic, with three deaths after a median follow-up of 35 (6—97) months and 89% remaining in New York Heart Association class III/IV (vs 29% of patients without chronic respiratory insufficiency; p = 0.035).

Conclusion:
Hypoxaemic shunts are treated effectively by transcatheter closure, resulting in functional improvement in patients without respiratory insufficiency. When associated with chronic respiratory insufficiency, hypoxaemia often persists after shunt closure. In such cases, the right-to-left atrial shunt does not seem to be the main cause of hypoxaemia and the indication for closure is questionable.
CLINICAL OUTCOME OF FAMILIAL HYPERCHOLESTEROLEMIA (FH) AT KING ABDULAZIZ MEDICAL CITY, RIYADH- A 20 YEAR EXPERIENCE

MOHAMMAD GHORMALLAH ALGHAMDI
DR. MOHAMMAD ALGHAMDI, CONSULTANT CARDIOLOGIST, DR. EMAD ALJOHANI, MEDICAL STUDENT

Familial Hypercholesterolemia (FH), is a well recognized risk factor for premature atherosclerosis and increased cardiovascular mortality. Prevalence of FH and FH-related cardiovascular adverse clinical outcomes in the Saudi population are unknown.

The aim of this study is to evaluate; epidemiological aspects, current management practices and clinical outcomes of FH over a 20-year-period, in King Abdulaziz medical city-Riyadh (KAMC-R).

This is a retrospective, chart review study that includes patients of both genders and all ages, who have been clinically diagnosed as FH or have had significantly elevated cholesterol level, after excluding secondary causes of hypercholesterolemia. Potential study candidates between January 1990 and December 2010 were identified through hospital information system and laboratory database. Study population was limited to a subgroup of patients who have an LDL-C ≥ 10 mmol/l as a potential homozygous phenotype, representing the highest risk population who deserves special medical attention. A set of predetermined demographic, clinical and laboratory variables were meticulously extracted from paper charts and electronic medical records. Out of 1,227 discharge diagnosis of FH and 29,196 laboratory database candidates of LDL-C >4 mmol/l, thirty-one subjects met the study criteria.

All patients are Saudi Nationals with mean age of 23 years and 52% being males. Xanthoma was documented in 87% with mean baseline LDL-C of 16.5 mmol/l and latest available mean LDL-C of 14 mmol/l. Statins were used in 94%, while longterm apheresis therapy was performed for 2 individuals (7%) and none of the study population underwent liver transplantation. Ten (32%) patients with mean age of 21 years underwent cardiac surgical interventions in form of CABG, mostly in combination with different valve replacement procedures. Seven patients (23%) were either documented to be dead or lost to follow up.

The demographic distribution, clinical features and laboratory parameters are highly suggestive of Homozygous FH in the majority of study population. This large number of potential Homozygous FH in a small Saudi community is highly suggestive of increased prevalence of FH in the Saudi population at large as compared to the western countries. The reported adverse clinical outcomes in conjunction with persistently elevated LDL-C level may reflect the substandard lipid lowering strategies being delivered to this population.

National FH registry and comprehensive FH management program are strongly recommended for urgent implementation.
ASSOCIATION OF KHAT CHEWING WITH SIGNIFICANT CORONARY ARTERY DISEASE IN PATIENTS PRESENTING WITH HEART FAILURE

MOHAMMED ABDULRAHMAN AL-SHAMI
MOHAMMED AL-SHAMI, AHMED AL-MOTARREB

Abstract:
Background:
Khat has been associated with higher rates of heart failure among patients presenting with acute coronary syndrome (ACS). Coronary artery spasm was the mechanism by which khat worked to induce ACS in laboratory animal. In human; there is still lack of data about this mechanism.

Objective:
To evaluate the effect of khat chewing on the coronary arteries in patients with history of heart failure using coronary arteriography (CAG).

Patients and methods:
Cross sectional observational prospective study. All patients who underwent CAG as elective one day procedure at Al-Thawra Modern General Hospital, Cardiac Center, over the period from April 2011 to August 2011 were included in our study.

Results:
Out of total 365 patients, 109 (30%) had history of heart failure before CAG. The mean ±SD for the age in years was 57.64±9, with 66% male. Ischemic heart disease was the cause of heart failure in 70 patients, 26 patients had valvular heart disease and 13 patients had other causes of heart failure. History of khat chewers was positive in 86 patients (79%). Khat chewers were more likely to be men (79% vs. 17%) and had chest pain in their presentation before CAG (70% vs. 43.5%) compared with non-khat chewers. Khat chewers were more likely to be smokers and smokeless tobacco (shamma) users. Obesity and overweight was more prevalent in khat chewers. Left ventricular contractility (LVEF %) was lower in khat chewers compared with non-khat chewers. Anatomically significant coronary artery lesions (≥ 50%) were more prevalent in khat chewers (74% vs. 26%, odds ratio, 4.3; 95% confidence interval, 1.5-12; P=0.005) and physiologically significant lesions (≥ 70%) were also more prevalent in khat chewers (55% vs. 22%; odds ratio, 4.3; 95% confidence interval, 1.4-12; P=0.008) compared with non-khat chewers. Furthermore, the extent of coronary artery disease (CAD) was higher in khat chewers. The previous observations remained significant even after restriction of the traditional risk factors for CAD like diabetes mellitus, hypertension, smoking, family history of CAD, and obesity.

Conclusion:
Khat chewing was prevalent among heart failure patients and was associated with more significant and higher extent of CAD and could be considered as independent risk factor for CAD in patients with heart failure.
ECHOCARDIOGRAPHIC PEARL
A RARE COMPLICATION OF INFECTIVE ENDOCARDITIS
ONE OF THE RAREST COMPLICATION OF INFECTIVE ENDOCARDITIS
BEING DIAGNOSED BY ECHOCARDIOGRAPHY.

MONA MOSTAFA RAYAN
MONA RAYAN, MONA ABOULSOUD, MARAWAN SAAD, AZZA ELFIKY

Our patient is a 41 years old male, born and living in Cairo, working as a constructor worker and has 3 children the older of which is 13 years old. He was admitted to the internal medicine department by fever and shortness of breath for about 1 week associated with weakness of his right upper limb for 12 hours before his presentation which made him sought medical advice. He was not known to be hypertensive nor diabetic. He was a heavy Cigarette and Shesha smoker for about 17 years. He denied history of any substance abuse. He has no family history of any cardiac disease.

O/E: The patient appeared pale, toxic, orthopenic, a little confused however he was oriented to time, place and persons. There was mild weakness of his right upper limb with intact sensation. BP: 100/70 bilaterally, HR: 110, regular, of average volume, peripherally felt. Temp: 38.8 °C, RR: 20/min. Bilateral fine basal rales on deep inspiration, Normal abdominal examination.

Cardiac examination: The cardiac impulse was hyperdynamic at the 5th intercostal space just outside the mid-clavicular line with no palpable thrill. Auscultation revealed S3 gallop apically with grade III-IV pan systolic murmur radiating to the anterior axillary line.


Discussion:
Left atrial dissection (LAD) is a rare complication and the literature reveals only a small number of cases. LAD is by Gallego et al. as a gap from the mitral or tricuspid annular area to interatrial septum or left atrial wall, creating a new chamber with or without communications into the true left or right atrium. The most common etiology of LAD is mitral valve surgery.
Debridement of much calcified valves annulus, improper suturing of the annulus to the prosthetic cuff, excessive traction on sutures in the posterior annulus, and the hemodynamic influence of the paraprosthetic leak extended the dissection into the left atrial wall, developing a false cavity. Also left atrial thrombectomy can be associated with injury to the left atrial endocardium as a mechanism of primary tear. A rare case of left atrial dissection as a consequence of infectious endocarditis was reported. They present a
patient with infectious endocarditis with involvement of mitral and aortic valves; in whom the trans-esophageal echocardiography was able to visualize the left atrial dissection. The LA has a venous component that receives the PVs, a fingerlike atrial appendage, and shares the septum with the right atrium. The major part of the atrium, including the septal component, is relatively smooth-walled whereas the appendage is rough with pectinate muscles. The smoothest parts are the superior and posterior walls that make up the pulmonary venous component, and the vestibule. Seemingly uniform, the walls are composed of one to three or more overlapping layers of differently aligned myocardial fibers, with marked regional variations in thickness.

Why the posterior wall of the left atrium: A sagittal section through the left atrium of a cadaver shows the proximity of the esophagus to the posterior wall of the left atrium. The wall is particularly thin at the level of the superior pulmonary veins. Clinical presentation may be the appearance of a new systolic murmur, associated with or without symptoms of heart failure and low-output manifestations, hours to days after the operation but there were patients in whom clinical onset occurs years after surgery. Rarely, LAD can be an incidental finding on TEE in an asymptomatic patient. LA dissection typically appears as a hypoechoic space from the mitral/tricuspid origin extending along the interatrial septum or LA wall. M-mode is excellent at distinguishing subtle movement of the intima or the endocardium in relation to the cardiac cycle. Similar to what is seen in aortic dissections, the false cavity is compressed during systole as the LA is being filled.

Other entities that should be considered when an LA mass is visualized are: Thrombi most common left atrial myxoma, cysts, coronary aneurysms. Pericardial blood impinging on the LA wall may mimic these findings.

Color flow Doppler can be used to examine the endocardium for a tear and point of communication with the chamber. Pulsed wave Doppler can also be used to identify flow across a tear. TEE is the diagnostic modality of choice for LAD. No definitive criteria exist to help guide management of LAD. Prompt surgical repair is usually required because of coexistent significant mitral regurgitation, intra-cardiac shunt, mycotic aneurysm, pseudo aneurysm or fistulous communication. However, in the absence of these findings, surgery may not always be necessary and occasionally successful repair has been performed years after diagnosis.
THE EXPRESSION OF THE GENE SEEMS TO DETERMINE SEVERITY OF CARDIAC INVOLVEMENT IN GELEOPHYSIC DYSPLASIA

MOTEA ELTAYEB ELHOURY
M E ELHOURY, EIYSSA FAQEIH, M O GALAL

Background:
Geleophysic dysplasia is an extremely rare autosomal recessive acromelic skeletal dysplasia characterized by short stature and short limbs, joint contracture and cardiac involvement. It has been described worldwide in less than 40 patients. We describe the cardiac involvement in three girls of a Saudi family who showed different severity of the cardiac involvement.

Clinical description:
Three sisters referred from general pediatrics over a period 5 years, because of dysmorphic features and heart murmur. The parents are first degree cousins, they have a boy who is now 3 years old and is quite normal in regard of his growth and development. The older sister is 8 years old, the next is six years, and the third is two years old. All three girls were born full term spontaneous delivery and had history of respiratory problems with frequent hospital admissions. They are all short for their ages (less than 3rd centile). Furthermore they share dysmorphic features in a form of small hands and feet, hypertelorism, depressed nasal bridge and anteverted narse. They all have contracture at both elbows and knees with inability to flex all to full range of flexion. They are happy and very friendly children, mentally normal and seem to be intellectually appropriate for their age. Genetic studies were done which confirmed the heterogenicity of the ADAMTSL2 gene in the older child.

The three girls have associated cardiac lesions with different expression. The older has a mild pulmonary and aortic valve stenosis, the second has thicking of mitral valve and the youngest moderate to severe aortic and pulmonary valve stenosis.

Discussion:
Geleophysic dysplasia (GD) has been described in 1960 as a form of atypical gargoylism by Vanace et al. and described by Spranger et al 1971 as a focal mucopolysacchridosis. The disease is now considered as a severe form of acromelic skeletal dysplasia which is a rare form of dysplasia including three disorders: geleophysic dysplasia, Weill-Marchesani and acromicric dysplasia. Up to date there are less than 40 reported cases with GD. All of these patients have a combination of cardiac valve involvement. The most frequent cardiac lesions described being the mitral valve, then the aortic valve followed by pulmonary valve and the least is tricuspid valve. Spranger described one girl with atrial septal defect (ASD) and patent arterial duct (PDA) without valvular involvement. Pontz and Santolaya seperately described 5 cases with normal cardiac structure. Until todate there is a believe that the valve involvement show progression over time.
Conclusions:
There are very few case reports describing the cardiac involvement in this condition but none is from the Middle East. Almost most of the cardiac conditions affect the cardiac valves in a form of thickening leading to stenosis in one or more of the cardiac valves. Most of the cases suggest progression of the disease. In our three cases the younger has the most severe form of valve involvement. This suggests that the expression of the gene could determine the severity of the disease, rather than the suggested progression with age.
THE REPRODUCIBILITY OF CORONARY CALCIUM SCORING ON MULTIPLE SOFTWARE PLATFORMS

MOUAZ HUSAYN AL-MALLAH
NORAH FAISAL ABUKHALED, ABDULLAH MOHAMMED ALSKAINI, HASSAN ALZIADEY, IHAB SULEIMAN, AHMAD ALSAILEEK, MOUAZ H. AL-MALLAH

Introduction:
Coronary Artery Calcium (CAC) Scoring has been validated as an accurate tool to risk stratify patients without known coronary artery disease. The aim of this analysis is to evaluate the reproducibility of CAC calculated on different commercial softwares.

Methods:
We included 159 patients who underwent CAC scoring with use of 64-slice multidetector computed tomography (CT) with prospective electrocardiographic gating for clinical reasons. The data sets were evaluated on two different commercially available softwares (4DM from INVIA, Ann Arbor, MI (software A) and Smart score from General Electric, Milwaukee, WI (software B)) by two blinded independent readers using the method of Agatston with a threshold of 130 Hounsfield units. Comparative analysis of CAC scores between the different software was performed by using Spearman rank correlation and Bland Altman analysis.

Results:
Each software produced different absolute numeric results for Agatston score. CAC was detected on 107 scan on both softwares. A total of 59 scans (37%) had the same reading of which 50 patients are without detected calcium. In contrast, CAC reading were within 10 units in 86 scans (52%) There was excellent statistical correlation between the two softwares (r = 0.948, p<0.001) for both scoring software. Bland Altman analysis showed significant variability at high calcium score (figure). When grouped in the different prognostically validated CAC groups, (CAC of 0, 1-9, 10-99, 100-300, >400), 132 (87%) of the scans were in the same group by both softwares.

Conclusion:
Our analysis shows that there is a close correlation between the different software calculation of CAC, although the different CAC software different absolute CAC scores. The two software concordantly classified 87% of the study population prognostically.
INCREMENTAL PROGNOSTIC VALUE OF MYOCARDIAL PERFUSION IMAGING IN PATIENTS WITH RENAL DYSFUNCTION

MOUAZ HUSAYN AL-MALLAH
FATIMA KHALID, WAQAS QURESHI, KARTHIK ANANTHASUBRAMANIAM

Background:
Coronary artery disease is the main cause of mortality and morbidity in patients with impaired renal function. The aim of this study is to evaluate the prognostic implications of single-photon emission computed tomography myocardial perfusion imaging (SPECT-MPI) in patients with impaired renal function.

Methods:
We included 11829 consecutive patients (mean age, 65+/-12 years; 52% men) referred for SPECT-MPI between April 2004 and May 2009. Renal function was estimated using the estimated glomerular filtration rate (GFR) formula. Patients were followed up for a composite endpoint of all-cause mortality and nonfatal myocardial infarction (D/MI). Multiple nested Cox proportional hazard models were used to determine the incremental prognostic value of SPECT-MPI over clinical features and renal function.

Results:
A total of 916 (8%) and 3565 (31%) patients had GFR less than 30 and between 30-60 mL/min/1.73 m2 respectively. Patients with decreased GFR were more often older, with higher prevalence of conventional risk factors (P<0.001). After a median follow-up of 5 years (25th to 75th percentiles, 3 to 6.5 years), 2578 (22%) patients experienced D/MI (764 MI and 2113 dead). The risk of death increased with worsening kidney function. At each stage of impaired renal function, patients with abnormal SPECT-MPI had increased hazard of adverse events (P<0.0001). Using Cox regression, total perfusion defect offered improved discriminatory ability beyond traditional risk factors (area under the receiver operator curve [AUC] 0.742 vs. 0.759, p<0.0001).

Conclusions:
SPECT-MPI adds incremental prognostic information to identify patients at higher relative risk of D/MI across a wide spectrum of renal function.
CORRELATION BETWEEN CALCIUM SCORE ON ATTENUATION CORRECTION CT AND GATED NON-CONTRAST COMPUTED TOMOGRAPHY

MOUZ HUSAYN AL-MALLAH
HASSAN AL-ZIADEY, IHAB SULEIMAN, MOHSEN ALHARTH, AHMAD ALSAILEEK, MOUZ AL-MALLAH,

Introduction:
Quantification of coronary artery calcification with non-contrast gated cardiac CT has been well validated using Agatston method. While visual estimation of CCS using attenuation correction CT (CTAC) images obtained during positron emission tomography (PET) appears to agree with CAC scans, the quantification of CCS by CTAC has not been extensively studied. The aim of this analysis is to determine the correlation between coronary artery calcium score (CCS) using a low dose radiation non ECG gated CTAC and a dedicated ECG gated non contrast Cardiac CT (CAC).

Methods:
We included 147 patients (mean age 62 years, 52% male) who underwent myocardial perfusion positron emission tomography (PET) and coronary calcium score in the same setting. Calcium score was calculated twice on both non-contrast gated CT (120 Kvp, 200 mA, 2.5 mm slice thickness), and computed tomography attenuation correction CTAC (120Kvp, 20 mA, 3.8 mm slice thickness) using Agatston method by two physicians blinded to the results of the other study. A threshold of 130 HU was used to define detected calcium.

Results:
Nearly half of the patients included in the study were obese (median BMI >31kg/m2). 92 cases (63%) had CCS>0. There was a strong statistical correlation between calcium score obtained from the two scans at patient level (R=0.897, P<0.0001) and at vessel level. (r=0.827, P<0.001). However, compared to CAC, calcium score on CTAC was overestimated in 5 cases and underestimated in 86 (59%) patients with median difference of 88 (range 1-1468). Of the 92 patients with detected calcium on CAC, 39 (42%) patients had no detected calcium on CTAC.

Conclusion:
A very low radiation attenuation correction computed tomography scan underestimates calcium score often. A total of 42% of patients with coronary calcifications were missed on the CT attenuation correction.
ROUTINE LOW RADIATION CORONARY COMPUTED TOMOGRAPHY ANGIOGRAPHY IN THE CURRENT ERA

MOUAZ HUSAYN AL-MALLAH
MOUAZ AL-MALLAH, MOHSEN ALHARTHI, AHMAD ALSAILEEK

Introduction:
Recent advances in coronary computed tomography angiography (CCTA) allow for the performance of CCTA with very low radiation doses. The aim of this analysis is to determine the impact of adopting new dose reducing techniques on overall radiation exposure in consecutive patients without known CAD undergoing CCTA to rule out coronary disease.

Methods:
We included 839 consecutive patients without known CAD who underwent CCTA to rule out coronary disease between January 2007 and June 2012. New dose reducing techniques were adopted in June 2010. These included High Pitch Dual Source Scanning (FLASH) and Iterative Reconstruction (IR). The total radiation dose was calculated for each scan from the Dose Length Product multiplied by conversion factor (0.014). The annual median radiation doses were compared over the study period.

Results:
After the adoption of the new scanning techniques (n=578), 56% of the scans were done with High Pitch Scanning, 41% with Prospective Gating (36% of which were done with IR) and 3% with retrospective gating and dose modulation. This was associated with more than 80% reduction in the radiation doses with a median radiation dose of 2.7, 1.5 and 1.8mSv in 2010, 2011 and 2012 (first 6 months) respectively. There was no difference in the frequency of non-diagnostic studies or imaging quality before and after 2010. A total of 11% and 63% of the scans had a radiation dose less than 1 and 2 mSv respectively.

Conclusions:
Our analysis demonstrates that in the current era, low radiation CCTA can be routinely done in daily clinical practice.
ABSTRACTS FROM ARAB LEAGUE COUNTRIES IN THE EUROPEAN SOCIETY OF CARDIOLOGY ANNUAL MEETING

MOUAZ HUSAYN AL-MALLAH
MOUAZ AL-MALLAH

Introduction:
The European Society of Cardiology (ESC) annual meeting is the largest cardiology meeting worldwide. It is attended by more than 30,000 delegates and more than 4,000 abstracts are presented annually. The aim of this analysis is to determine the participation of physicians from Arab leagues countries in the scientific program of the ESC meeting.

Methods:
The abstract books of ESC meetings between 2005 and 2012 were reviewed online. The total number of abstracts presented from each Arab league country was calculated for each meeting. When authors are from several countries, the country of residence of the first author was considered to be the country of the abstract.

Results:
In the last 8 years, a total of 225 abstracts from Arab countries were presented at ESC (Average 28 abstracts per meeting) in comparison to 487 abstracts from Turkey. A total of 55% of these abstracts were from Egypt. In 2012, more than 10,000 abstracts were submitted to the ESC meeting, of which 187 abstracts (1.9%) were from Arab counties. The acceptance rate of abstracts from Arab countries was 15% (compared to nearly 40% overall acceptance rate and 35% acceptance rate of Turkish abstracts). Thus, in the 2012 meeting, only 28 abstracts (0.7%) from Arab countries were presented in comparison to 77 abstracts from Turkey (p<0.001).

Conclusions:
Nearly 2% of abstracts submitted to ESC annual meeting are by investigators from Arab countries. These abstracts have lower than average acceptance rate resulting in less than 1% of the abstracts presented at ESC being from Arab countries.
STENTING FOR HUGE CORONARY ARTERY ANEURYSM AND STENOSIS IN PATIENT WITH BEHÇET’S DISEASE PRESENTING WITH NON-ST SEGMENT ELEVATION

MUHAMMAD ADIL SOOFI
MUHAMMAD ADIL SOOFI, AREF BIN ABDULHAK, FAISAL ALSAMADI, ABDELFATAH ELASFAR, MOSTAFA YOUSSEF

Coronary artery aneurysms in patients with Behçet’s disease are rare and associated with fatal complication. Covered stents have been used in the management of coronary aneurysms but not in patient with Behcet's disease. We are reporting a rare case of Behçet’s disease, admitted with non-ST segment elevation myocardial infarction (NSTEMI), whose coronary angiogram revealed huge aneurysm involving proximal left anterior descending (LAD) artery followed by severe stenosis. The stenosis was treated by drug eluting stent and the aneurysm was successfully sealed with covered stent. He remained asymptomatic at 3 months followup and repeat angiogram showed patent stents.

**Keywords:**
Behçet’s disease; Coronary artery aneurysm; covered stents.
CAN A SWALLOWED FOREIGN BODY CAUSE SEVERE MITRAL VALVE REGURGITATION?

MUHAMMAD ARIF KHAN
MUHAMMED ARIF KHAN, FCPS, YAHYA H. ALMASHHAM MD, MILAD ELSEGAIER MD, ABDULRAHMAN ALMOUKIRISH MD, MOHAMMED OMAR GALAL MD

Abstract:

Background:
Very rarely a foreign body in the esophagus may penetrate anteriorly to heart or aorta. Such foreign bodies may cause pericardial effusion and cardiac tamponade.

Aim:
To report that an accidentally swallowed foreign body in the esophagus may penetrate the heart and even cause severe mitral regurgitation.

Material and Methods:
A 20 month old girl previously healthy presented to the emergency department with 3 days history of fever, respiratory distress, vomiting and poor feeding. The mother reported that her child had some choking event almost a week before, when the child was admitted to another hospital where diagnosis was made of myocarditis. Anti-failure medications prescribed.

On examination she had palpable peripheral pulses, a pansystolic murmur on the cardiac apex, and hepatomegaly. EKG showed sinus tachycardia with left ventricular hypertrophy. Chest X-ray revealed normal cardiac size with lungs congestion and suspicion of possible foreign body. Echocardiography showed dilatation of the left atrium and of the pulmonary veins, severe mitral regurgitation with an echogenic structure in next to the posterior mitral valve leaflet with consensual moving. Chest CT scan revealed a high-density metallic foreign body inside the heart in correspondence of the left atrio-ventricular junction. The foreign body was removed surgically and proved to be a thin shiny metal bar, 2 cm in length. The mitral valve was completely damaged and was replaced by mechanical valve (Carbomedics 18mm). The postoperative course was uneventful and patient was discharged home with anti-failure medications (frusemide, captopril) and warfarin. She remained asymptomatic one year after surgery

Conclusion:
The process of diagnosing a foreign body in an infant or a toddler, eroding from the esophagus to the heart was very tricky. The diagnosis was suspected by the history of choking. The x-ray of the chest showed an abnormal structure on the heart shadow, which was further underlined by the echocardiogram suggesting abnormal structure in the heart. Finally CT angio of heart confirmed a metallic foreign body in the left atrium. Happily, MRI was not done; it may have proved disastrous in such a case.

The strategy regarding foreign body management either conservative or by its removal either by cardiac catheterization or surgery, depends on location, size of foreign body as well as on whether the patient is symptomatic and in danger to develop further complications. In our case, as the foreign body was in the left

145
atrium and the patient was very critically ill, we opted to remove it by surgery. Moreover, it was thought that patient might need mitral valve repair but unfortunately the valve was so damaged that we opted for mitral valve replacement.
DIFFICULTIES IN PERCUTANEOUS CLOSURE OF ATRIAL SEPTAL DEFECT ASSOCIATED WITH SITUS SOLITUS AND DEXTROCARDIA

MUHAMMAD ARIF KHAN
MUHAMMAD ARIF KHAN FCPS1,, MILAD ELSEGAIER, MD1,2,, ABDULRAHMAN ALMOUKIRISH1 MD, MOHAMMED OMAR GALAL, MD, PHD, MBA1,3

Abstract:

Background:
Percutaneous closure of secondum atrial septal defect (ASD II) in cases of dextrocardia and situs inversus has been reported in only very few cases in the literature. ASD II device closure in case of isolated dextrocardia with situs solitus, according to our knowledge, was never reported before.

Objective:
To describe the unexpected problems encountered in decision making during the deployment of the device in a case of ASD-II with dextrocardia and situs solitus.

Methods and results:
19 months old girl, a case of situs solitus, dextrocardia, fenestrated ASD-II, moderate pulmonary hypertension since 4 months of age. Echocardiography showed situs solitus, dextrocardia, persistent left superior vena cava draining to coronary sinus and normal pulmonary veins. Fenestrated ASD-II (12 mm size in total) with left to right shunt. The total septal length was 28 mm. Volume loaded right atrium and right ventricle.
The procedure
During cardiac catheterization we found that in situs solitus with dextrocardia, the left atrium is more superior in relation to the right atrium and the septum seems to be more horizontally oriented. Therefore, when probing the left pulmonary veins, in the lateral view, it appeared much more anteriorly, than anticipated. Despite these difficulties we could deploy and release the device in stable and safe position. Post catheterization, X-Ray of the chest, showed device in good position. The post cath ECG was unchanged. Echocardiography 24 hours after the procedure showed device in good position and sandwiching the rims well with no residual shunt.

Conclusion:
Our case highlights the technical difficulties encountered during device closure of ASD II in a case with situs solitus associated with dextrocardia. It further shows that though it is doable, but attention should be paid to the abnormal orientation of the interatrial septum and guidance by hand injections as well as the pressure tracing are occasionally more important than TEE. To the best of our knowledge, this is the first report of a case of successful ASD device closure in a patient with situs solitus and dextrocardia.
ELECTROCARDIOGRAPHIC CHANGES IN CASES OF DUCHENNE MUSCULAR DYSTROPHY

MUHAMMAD ARIF KHAN
MUHAMMAD ARI KHAN, YAHYA ALMASHHAM, ABDULREHMAN ALMOUKIRISH, TAREK SULAIMAN MOMENAH, ABDULAZIZ ALSAMAN, ABDULLAH ALJARALLAH

Abstract:
Background:
Duchene muscular dystrophy is an x-linked recessive progressive muscular disease. It presents in first year of life and is fatal by second decade mostly because of respiratory involvement and in 10% case because of cardiac failure. The cardiac involvement usually occurs after 10 years age. The incidence of cardiac involvement increases with increasing age affecting all patients by age of 18 years. Duchene muscular dystrophy (DMD) usually leads to dilated cardiomyopathy (DCM), congestive cardiac failure, arrhythmias, & sudden cardiac death. DMD may be associated with various ECG changes like sinus tachycardia, reduction of circadian index, decreased heart rate variability, short PR interval, right ventricular hypertrophy, S-T segment depression and prolonged QTc. Rarely it might be associated with Wolf Parkinson White syndrome (WPW syndrome). WPW syndrome is characterized by short PR interval, delta wave, and wide QRS complex and is a surface evidence of accessory pathway. It might be associated with supraventricular tachycardia and sudden cardiac death from ventricular tachycardia.

Aim:
To study ECG findings in cases of Duchenne muscular dystrophy.

Materials and Methods
The study was conducted at Pediatric cardiology department, Prince Salman Heart Centre Riyadh. All patients diagnosed as Duchenne muscular dystrophy were included in the study. The diagnostic criteria were clinical, biochemical and confirmed by PCR. All patients underwent 12 lead ECG and long lead II in recumbent posture and 24 hour holter monitoring and echocardiogram. The 24 hour holter was applied to all patients. The were given a diary to record any symptoms like palpitation, syncope, chest pain or dyspnea during 24 holter monitoring. The holters were reviewed for heart rate and presence of any ectopics or arrhythmias. The electrocardiogram of all patients were reviewed and following parameters were noted; characteristics heart rate, R waves, waves, R-S ratio, PR interval, delata wave, Q waves, QT interval, T wave, ST segment. The aforementioned ECG parameters were studied and measured manually and compared with published standard age matched normal values. The abnormal were findings were defined if were away from minimal or maximal limits for that age.
Results:
A total of 20 patients were studied. All were male. The mean age of patients was 10 years. The mean weight of patients was 34.5 kg. Majority of patients (75%) were wheelchair bound and 25% were ambulatory. The ECG abnormalities were noted in 80% of patients. Sinus tachycardia was present in 60% of patients. Tall R waves were present in 45% of patients with RS ratio more than 1 in lead V1 as well as deep S waves in leads V5 & V6. Short PR interval was noted in 3 (15%) of patients. One patient had was diagnosed as WPW syndrome and had short PR interval, delta wave and wide QRS complex. 24 hour holter monitoring was normal in all patients.

Discussion:
The most frequent electrocardiographic findings described in cases of Duchenne muscular dystrophy are sinus tachycardia and tall R waves in right precordial leads as seen in our study. Similar findings are also observed in female carriers of Duchenne muscular dystrophy gene. The presence of sinus tachycardia may suggest cardiac dysfunction or autonomic dysregulation in these cases. Other interesting finding in our cases was short PR interval in 3 cases (15%) and presence of WPW syndrome features in one patient. We planned further study in these patients to correlate clinical, biochemical, echo and ECG findings.
MATERNAL PREFERENCES REGARDING COUNSELING OF CONGENITAL HEART DISEASE IN THEIR CHILDREN AT A TERTIARY CARE HOSPITAL

MUHAMMAD ARIF KHAN
MUHAMMAD ARIF KHAN, ABDURRAHMAN ALMOUKIRISH, OMAR H KASULE, MOHAMMED OMAR GALAL

Background:
Communicating bad news to mothers of children with congenital heart disease (CHD) is a challenging task and an ethical dilemma for the physician. It is never a pleasant task but breaking it at the wrong time or in the wrong way can be even worse, so it's important to know the best approaches to breaking bad news.

Aim:
To know the preferences of mothers regarding breaking bad news about the diagnosis of congenital heart disease in their children.

Methods:
The study was conducted in our Pediatric Cardiology Department between 1st Oct 2010 to 1st September 2012. A cross sectional interview was conducted including Saudi mothers whose children had CHD. The questionnaire consisted of 27 questions. Verbal consent was obtained.

Results:
Total 889 mothers were included in the study and 39 refused to participate in the survey. The results revealed that 58.4% mothers were from urban areas while 41.6 from villages and 98.3% were educated. Based on answers to questionnaire we found 20 different preferences. Counseling is preferred: immediately after diagnosis 92.7%, directly in person 99.9%, both parents present 96.4%, single session counseling 92.2%, detailed counseling 93.9%, detailed medical report 98.2%, isolated and quiet place of counseling 64.3%, counseling with help of heart model 85.3%. Most mothers want counseling by their primary physician 92.3%. The mothers accepted to have their nurse present at time of counseling but not relative or friend.

Discussion:
Counseling parents about diagnosis of congenital heart disease in their children is a challenging task for physician and an ethical dilemma. The diagnosis of any congenital heart disease in children leads to parental anxiety. Our results confirm previously reported preferences by mothers from western countries and Egypt to be told early, detailed and in person. We found that mothers want a completely quiet room, presence of nurse and detailed counseling as well as detailed medical report both in paper and electronic form. They want counseling to be done by their primary physician.
**Conclusion**
Our study delineates that mothers of patients with CHD in our area have clear preferences for how bad news should be conveyed to them. We believe that following these directions might reduce their anxiety to an accepted level.
DO WE NEED MORE THAN ECHOCARDIOGRAPHY BEFORE CARDIAC SURGERY FOR CHILDREN WITH CONGENITAL HEART DEFECTS

MUNA ISMAIL AHMED ISMAIL
DR. MUNA ISMAIL, DR. FAHAD ALHABSHAN

Do We Need More Than Echocardiography Before Cardiac Surgery For Children With Congenital Heart Defects
Muna Ismail, Fahad Al Habshan, King Abdulaziz Cardiac Center, NGHA, Riyadh

OBJECTIVES:
Detailed echocardiographic evaluation for children with congenital heart defects (CHD) can give a lot of information about the pathology. In this study, we aimed to verify whether echocardiography can be used as the main diagnostic modality to evaluate children undergoing surgery to repair congenital heart defects (CHD).

Methods:
A retrospective review of all patients underwent cardiac surgery for CHD between January 2011 and December 2011 at King Abdulaziz Cardiac Center. The cardiac and hospital data base was reviewed for the diagnostic modalities used before cardiac surgery. The indications and additional value for tests other than echocardiography were evaluated.

Results:
During the study period 392 patients fulfill the inclusion criteria. 269 (69%) patients underwent cardiac surgery based on echocardiography as the only diagnostic tool. 123 patients (31%) required diagnostic modalities other than echocardiography with one patient underwent cardiac MRI before pulmonary valve replacement, 36/123 patients (30%) underwent computerized tomography (CT) for vascular angiography, and 86 patients (70%) required cardiac catheterization of those 50/86 patients (58%) for hemodynamic assessment. Among all patients Echocardiography provided accurate diagnosis in 317 patients (81%) with confirmatory finding provided by the other diagnostic modality, while 75 patients (19%) were found to have additional diagnostic finding in the other diagnostic modality used. Only 7 patients (0.02%) were found to have additional diagnostic findings intra-operatively.

Conclusion:
Echocardiography can be used as the main diagnostic modality in majority of children requiring cardiac surgery. Other modalities can be used with limited indications.
P WAVE DISPERSION AS A PREDICTOR OF ATRIAL FIBRILLATION.

NABILA FAIEK AMEEN
NABILA FAIEK, SALAH ATTA, NOOR EL HEFNY, ALAA E ABDEL MONIEM
EMAN MOHAMED

Background:
P wave dispersion (PWD) constitute a recent contribution to the field of non invasive electrocardiography. It is an electrocardiography measurement, which reflect a disparity in atrial conduction. Atrial fibrillation (AF) is the most important risk factor for stroke; it has a deleterious effect on longevity with doubling of all cause mortality. The estimation of the probability of recurrent AF by using a simple parameter might guide the clinician in the management of these patients.

Objective:
To asses the value of PWD as a predictor of AF recurrence in patient with successful cardioversion to sinus rhythm.

Patient and methods: Sixty two patients who had recent onset AF and successfully converted to sinus rhythm were included. They were followed up for recurrence of AF for six months. All patients were subjected to the following: through history, clinical examination, standard 12 lead ECG for PWD calculation, Echo-doppler to measure LA diameter, left ventricular systolic and diastolic function.

Results:
According to af recurrence, the patients were classified into : Group 1 included 36 patients with recurred AF and Group !1 included 26 patients with persevered sinus rhythm (PSR). Maximum p wave duration was significantly longer in group 1 than in group 11 (p<0.04). PWD was significantly higher in group 1 (71±21ms) than those in group 11 (40 ±15ms) (p<0.000) with sensitivity of 75% and specify of 88.5% at cutoff point >80.5ms. Statistically significant left ventricular diastolic dysfunction (in the form of impaired and pseudo normal relaxation) and increased left atrial diameter were more obvious in group 1 than those in group 11 (p<0.000 and P,0.007 respectively). Logistic regression analysis for p max, PWD, LAD and EF% revealed that PWD is independent predictor for recurrence (r=0.585, p<0.000).

Conclusion:
PWD measured from the ECG may be considered one of the predictor for AF recurrence.
VERY EARLY COMPLICATION OF RHEUMATIC HEART DISEASE
(VALVULOPLASTY FOR SEVERE MITRAL VALVE STENOSIS FOR 6 YEAR OLD MALE PATIENT)

NAWAR ALI ALWATHER
A.ANNONU, NAWAR ALWATHER, AHMED AL-MOTORREB

Abstract:
Rheumatic heart disease continues to contribute greatly to the burden of cardiovascular disease in Yemen. It's usual to see a lot of advance RHD cases in adult in Yemen but in pediatric it is rare to see such advance case specially under the age of eight.

Case report
A.M, a 6-year-old Yemeni male child was seen in September 2012 with history of recurrent breathlessness which started about 4 years earlier. His symptoms worsened in the previous three weeks when he became breathless at rest, had paroxysmal nocturnal dyspnea, huge abdominal distention, bilateral leg swelling and cough productive of whitish sputum. Past history wasn't significant for recurrent sore throat but he was diagnosed to have RHD at age of 3 year old without any further follow up and irregular using to long acting penicillin. He was the second child in his family; both parents are in a very low income group. There was no family history of the disease in any of his siblings.

Examination revealed that the child looked marasmic, pale, was chronically ill, and had a tinge of jaundice with bilateral pitting pedal edema. A cardiovascular system examination revealed a pulse rate of 101 per minute, regular and small volume, blood pressure of 90/60 mmHg, elevated jugular venous pressure, displaced apex beat which was located at 5th intercostal space anterior axillary line, loud first and second heart sounds opening snap and mid diastolic rumbling murmur with systolic murmur at left parasternal border. The respiratory rate was 26 cycles per minute and bilateral crepitations. Other examination findings were visible dilated abdominal vein, a tender, pulsatile hepatomegaly of 3 cm below the right coastal margin and massive ascites (Figure 1). An echocardiography showed densely thickened mitral valves with severe commissural fusion leading to doming of the mitral valve in diastole, markedly dilated left atrium, normal left ventricular ejection fraction, markedly dilated right atrium and right ventricle. Colour flow showed severe tricuspid regurgitation and severe pulmonary hypertension. The calculated mitral valve area is 0.6 cm² and pressure gradient max/mean (14/6 mmHg) respectively. ECG sinus rhythm normal axis and dilated LA with RBBB. Complete blood count showed low HB 9 mg/dl with normal white cell count. The chest X-ray revealed cardiomegaly with a double cardiac shadow positive mitralization sign.

He was placed on diuretics (furosemide and low-dose spironolactone) Angiotensin Converting Enzyme inhibitor (Lisinopril), intranasal oxygen,
intravenous heparin and antibiotics. And was prepared for percutaneous mitral valvuloplasty. On the third day of admission, the PMVP was done with good outcome; the mitral valve area increased from 0.6 to 1.8 cm² and the pressure gradient decreased to 6/4 mmHg and the pulmonary hypertension to mild.

After that, the patient's condition improved with improvements in dyspnea, the child became more active, started to eat and play more frequently, and the abdominal distension decreased. The patient was discharged to home in good condition and advised to follow up the hospital after six months.

**Discussion:**
Rheumatic heart disease, no doubt remains a disease with great morbidity and mortality in most low and middle-income countries, especially in Yemen, despite having almost eradicated in high-income countries, it affects the young population of our community, who presented late most of the time with complications due to the shortage of medical services in the most of the regions of Yemen, especially in remote areas.

The case presented typifies the cost of late presentation in patients with rheumatic heart disease. It's usual in our country to see such cases in late stages and complicated. However, it's rare to see a 6-year-old child presented with severe mitral stenosis and needed PMVB, even though it's a successful procedure that saved his life, but all that could be prevented from happening in the first place by a simple preventive program which we do not have in our country.
PATTERN OF CONGENITAL HEART DISEASE IN THE CARDIAC CENTER OF AL-THAWRA GENERAL TEACHING HOSPITAL

NAWAR ALI AL-WATHER
NAWAR AL-WATHER, A-NASSER MUNIBARI

Abstract:

Background:
Congenital heart disease is the most common congenital problem in children in Yemen. There are little data on patterns of the congenital heart disease in Yemen.

Aim:
to study the age distribution, gender and frequency of congenital heart disease in children referred to the cardiac center at Al-Thawra hospital at the time of visiting of the Saudi Arabia team to Yemen.

Methods:
A retrospective descriptive study. All patients with the confirmed diagnosis of congenital heart disease referred to the cardiac center at Al-Thawra hospital during the visiting time of Saudi Arabia team from 9-28/September 2012 Patients from day one of life till 30 years were included. Study was conducted in the pediatric cardiology clinic at cardiac center at the Al-Thawra hospital. A full clinical cardiac evaluation was performed and confirmed by Echocardiography and Doppler examination. Data were analyzed using statistical SPSS program version 18.

Results:
A total of (338) children were included. There were (181) males (53.6%) and 157 females (46.4%) with a ratio of 1.2:1. Fifty three percent (53%) of the children had acyanotic cardiac lesions. The most common acyanotic congenital heart lesions; Ventricular septal defect represent 19.9% followed by atrial septal defect 11.5%, patent ductus arteriosus 11.5%, and Bicusped Aortic valve 4.7%. Whereas Tetralogy of Fallot (TOF) 21.9% followed by transposition of the great arteries 5.1% were the commonest cyanotic congenital heart lesions. There was a female dominance in PDA and coarctation of aorta from 29 cases of PDA 17 were female and 12 were male. While more males had TOF, VSD and ASD. 46% of the children were presented by a complex lesions and about 2% was already presented with Eisenmenger syndrome.

Majority of the CHD have non-cyanotic CHD (53.8%) and the cyanotic heart disease represent 45.6% of the patients. TOF is the commonest cyanotic lesion and VSD non-cyanotic lesion

Conclusion:
Congenital heart disease is a major health problem not only in childhood but also in growing up adults. CHD are potentially correctable heart defects. High altitude in most of the country region may play a major role.
Background:
As other developing countries, heart diseases in Yemen are one of the most common causes of morbidity and mortality (An estimated 17 million people die of cardiovascular diseases, particularly heart attacks and strokes) development of diagnostic and therapeutic measures lead to marked improvement of the health status. In spite of these, many obstacles (patient-induced, practitioner-induced, others) still face reaching to the required goals. In Yemen, the most common and the most disabling one is rheumatic heart disease as it affects the young age group, 66% were younger than 40 years-old, which is supposed to be the active and productive group in the community only 34% were older than 40 years-old. Now the cardiac surgery in Yemen is performed mainly in the cardiac center in TMGH. The operations which mainly performed are, Coronary arteries grafting, Valves replacement and repair, other major cardiac surgeries, some cases of complicated congenital heart deformations. Before opening the cardiac center in Al-Thowra hospital, about 12 thousands patients a year used to go abroad for treatment. In cardiovascular physiology, ejection fraction (EF) is the fraction of blood pumped out of a ventricle with each heartbeat, which is one of the most important parameter to assess left ventricular function.

Objective & Methodology:
The study aimed to assess left ventricular systolic function pre & post cardiac surgery in TMGH for all admitted elective cases to surgical ward in cardiac center through prospective cross-sectional descriptive study demonstrated on 252 consecutive cases within three consecutive months, the used parameter to assess left ventricular function is EF analyzed during serial echocardiographic assessment for patients in regular follow up one week, one month & after three months of surgery.

Result:
Within period of study the center received 252 cases at rate of 45 case/day where most of cases (58%) are rheumatic heart disease more than one half of rheumatic cases had have more than one valve lesion, ischemic heart disease represent 33% & congenital heart 9%, the mortality rate intra-operatively was 0.6%. One week evaluation for 237 cases revealed that there is reduction of EF value (pre 55%-post 52%), patient with rheumatic heart disease showed significant reduction in value of EF while those with ischemic heart disease showed constant means of EF value even they show progressive increase in their readings on period of follow up, the means of EF for all pattern of heart disease on one week, one month & on three months (51.7%, 53.26%, 56.34%) respectively. There were many parameter studied to find its burden on
systolic function (HTN, DM, Smoking & kat chewing) but the study revealed that all of which have effect on EF value but the most important & that which had significant effect is LVEDD pre operatively, the EF showed reduction post operatively as the LVEDD is big before surgical intervention.

**Conclusion:**
There is reduction in cardiac systolic function when it is evaluated after open cardiac surgery but this reduction seen to be improve after weeks of operation, so immediate evaluation not reliable in assessment of outcome of cardiac surgery & assessment of left ventricular functions, considering all surgical & para-surgical effects on left ventricular function.
LONG-TERM OF OUTCOME OF CARDIAC PACING IN NEONATES

NUHA ALI AL-HEFDHI
NUHA AL-HEFDHI, MAJID ALFAYYADH, FAHAD AL-MUQBIL, ABDULRAZAQ ALENAZI, WALEED AL-MANEA, ZUHAIR AL-HALEES

Background/Hypothesis:
The advent of technology has made it safe to implant pacemakers (PM) in children. However, safety of neonatal PM implantation is unclear. We aim to report our experience with neonatal PM implantation in regard to visibility and long-term outcome.

Methods:
We performed a retrospective analysis of patients (pts) who underwent PM implantation during the first month of life at our institution. The data obtained: demographics, diagnoses, indications for pacing, follow-up, and PM revisions.

Results:
Between April-1988 and May-2011, Twenty-nine neonates (15 males) underwent PM implantation, median age 14 days (range 2-30) weight 3.1 Kg (range 2-4.5). The indications for pacing were: surgical AV block (12), congenital AV block in (16), and Long QT syndrome (1). All PM’s were epicardial single chamber system with abdominal pocket and VVI mode. The median pacing threshold at implant was 0.8 Volts at 0.5 ms (range 0.5-1.7). There were no PM infections, wound dehiscence or PM related mortality; however there were 3 deaths after palliation for complex congenital heart disease. The pts were followed for 7yrs (1-24) during which 15 revisions were done for 13 patients. The initial revision was needed after median of 5 yrs (4-9) for battery depletion (10), upgrade (2), and lead malfunction (1). One pt developed cardiomyopathy after 3.5 yrs of pacing and improved with cardiac resynchronization.

Conclusion:
Pacemakers are a safe in neonates including low birth weight. Pacemaker related morbidity and mortality are rare however longer follow up is need to assess the effect of pacing on ventricular function.
THERAPEUTIC ROLE OF MOBILIZED BONE MARROW CELLS CHILDREN WITH NON ISCHEMIC DILATED CARDIOMYOPATHY

OMNEYA IBRAHIM YOUSSEF
Nevin M Habeeb Assistant professor of pediatric cardiology faculty of medicine Ain Shams university, Omneya I Youssef, lecturer of pediatrics faculty of medicine Ain Shams university, Eman S El Hadidi, Assistant professor of clinical pathology faculty of medicine Ain Shams university

Dilated cardiomyopathy is an important cause of congestive cardiac failure in infants and children. Mobilizing hematopoietic progenitor cells is a promising intervention to this deadly disease. Aim of the work: to evaluate the granulocyte colony stimulating factor (GCSF) as a therapeutic modality in children with idiopathic dilated cardiomyopathy (IDCM).

Subjects and methods: This case control prospective study was conducted on 20 children with IDCM following up at cardiology clinic Children’s Hospital, Ain shams university (group 1) who were compared to another ten age, sex, duration of illness and systolic function matched children with IDCM as a control group (group 2). They were subjected to history taking, clinical Examination, echocardiographic study of the left ventricle and cluster of differentiation thirty four T (CD34⁺) cells assessment in peripheral blood before and one week after granulocyte colony stimulating factor intake for five consecutive days by group 1. GCSF was not given to group 2. Results: a significant improvement in echocardiographic data and increase of the CD34⁺ T cells was found in group 1 patients post granulocyte colony stimulating factor intake one week after GCSF intake and for the next 6 months but not in group 2. The percentage of change of the CD34⁺ T cells showed no significant correlation with the percentage of change of the left ventricular dimensions and systolic function.

Conclusion: Administration of GCSF to children with IDCM resulted in clinical and echocardiographic improvement that was not correlated to the mobilized cluster of differentiation thirty four T cells, implying the involvement of additional mechanisms than simple stem cell mobilization.
Neurodevelopmental problems in patients with congenital heart diseases (CHD) have become focus of an increasing concern. Aim of the study: to assess level of S100B protein as a brain damage marker in patients with CHD undergoing cardiosurgical procedures. Patients and methods: Fifteen patients (8 with cyanotic and 7 with acyanotic heart disease), mean age of 4.8 ± 3.9 years, neurologically free admitted for procedures involving CPB were enrolled in the study, and 30 healthy children as a control group. S100B protein levels were assessed before operation, 1/2 an hour after CPB and 24 hours after operation as well as heart rate, blood pressure, hematocrite, central venous pressure (CVP), PO2 and PCO2. Results: S100B protein was significantly elevated in patients 1/2 an hour after CPB, before and after operation than controls with highest values 1/2 an hour after CPB (P < 0.0001, P < 0.001 and P < 0.001 respectively). Also, it was elevated in cyanotic compared to acyanotic group (P < 0.001). S100B protein 1/2 hour after CPB correlated positively with aortic clamping time, and negatively with body temperature.

Conclusion: patients with CHD are liable for subtle brain damage which increases during surgical intervention as evidenced by increased S100B protein. This elevation is related to aortic clamping time and core temperature during cardiac surgery.
CORRECTED QT INTERVAL IN NORMAL EGYPTIAN NEONATES: COMPARISON TO CORRECTED QT INTERVAL OF OTHER ETHNIC GROUPS

OMNEYA IBRAHIM YOUSSEF
Mona mostafa el Ganzoury professor of pediatrics faculty of medicine ain shams university, Safaa Shafeek Emam professor of pediatrics faculty of medicine Ain shams university, Omneya Ibrahim Youssef lecturer of pediatrics faculty of medicine Ain Shams university, Nagla sayed yonis Msc pediatrics, suzn iman pediatric consultant cairo university

Long QT syndrome (LQTs) is a familial cardiovascular disorder characterized by abnormal cardiac repolarization and sudden death from ventricular fibrillation. Possible acquisition of standardized neonatal screening method to identify children with (LQTs) has led to interest in establishing normal values for neonatal QT intervals.

**Aim of the work:** to compare corrected QT interval in normal Egyptian neonates to published values of other ethnic groups.

**Subjects and Methods:**
This cross sectional study was conducted on neonates following up in Children's Hospital Ain Shams University, with post natal ages ranging from 8 to 28 days (mean 13.91±3.97 days). They were subjected to: history taking, clinical examination, Echocardiography and 12 lead ECG assessment of corrected QT interval using Bazett's formula.

**Results:** Cut off point of LQTc was >0.44 s., while that of short QTc was < 0.29 s. Significant increase in mean QTc values and LQTc % was found in upper Egypt than Delta(p 0.026, 0.01) . Eighty five percent of neonates had normal QTc (0.300-0.450s), 9% had LQTc (>0.45s) and 6% had short QTc (<0.300s). Significant increase in short QTc was found in PT than FT while significant increase in LQTc was found in FT (P= 0.020, 0.019).

**Conclusion:**
Cut off point was >0.44 s for LQTc and < 0.29 s for short QTc in studied Egyptian neonates. A higher percentage of patients with LQTc was found in Upper Egypt than Delta, and in FT than PT. Higher percentage of SQTc was found in PT than FT. Further studies are needed to confirm our results.
CORONARY ANGIOGRAPHY SAFETY BETWEEN RADIAL AND FEMORAL ACCESS

OSAMA MOHAMED TAYEH
OSAMA TAYE, MD, FEDERICA ETTORI, MD

Transradial coronary angiography has a lower incidence of access site complications, earlier patient ambulation, improved patient satisfaction, and lower cost. One of the major criticisms of the radial approach is that it takes longer; there are a longer overall procedure and fluoroscopy time, which means not only more staff will be exposed during the procedures, but they will also stand close to the patient where rates of radiation scattered by the patient are higher. The American Heart Association/American College of Cardiology clearly state that “the responsibility of all physicians is to reduce the radiation injury hazard to their patients, to their professional staff and to themselves”. So, the aim of this study was to evaluate the safety of radial versus femoral artery approach in our institution’s routine coronary angiography practice. Methods: All cases of diagnostic coronary angiography (CA) over a 23 months period at a tertiary care hospital (Cardiothoracic Department, Spedali Civili, Brescia University, Italy) were reviewed for this analysis. Study population was stratified according to arterial access used to perform the procedure into 2 groups; radial group and femoral group. Access crossover was recorded and stratified based on the first route of access attempted. Procedure duration was calculated as a total in laboratory catheter time. Fluoroscopy time is recorded, as it is correlated to catheter manipulation. Contrast injection was performed using an automatic power injection device that allows for online control of contrast injection rate and volume. All diagnostic coronary angiography which followed by percutaneous coronary intervention (PCI) were excluded. Results: Eight hundreds patients underwent a diagnostic CA were included in this study. Radial approach was used in 586 patients (73.25%) and femoral approach in 214 patients (26.75%). The incidence of post CABG patients was higher in femoral group (63 patients “29.44 %”), while only 11 CABG patients (1.88%) were done through left radial artery (P = 000). Crossover from right radial artery access to femoral approach occurred in 24 cases (4.1%), while there was no cross over in the femoral group (P = 0.003).

Comparing the radial and femoral approaches, fluoroscopy and procedure times were not significantly different (3.43 ± 1.19 vs 3.86 ± 1.49 minutes, P = 0.215 and 31.87 ± 9.61 vs 33.24 ± 10.33 minutes, P = 0.170, respectively). While contrast utilization during the procedure was significantly lower in the radial than the femoral approach (67.63 ± 25.49 vs 81.53 ± 24.80 mL respectively, P = 0.03). Conclusion: This study confirms that, transradial coronary angiography can be performed with the same safety for the patient and the professional staff members as for the transfemoral approach.
DOOR-TO-BALLOON TIME IN RADIAL VERSUS FEMORAL APPROACH FOR PRIMARY ANGIOPLASTY IN PATIENTS WITH ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION

OSAMA MOHAMED TAYEH
OSAMA TAYEH, MD, FEDERICA ETTORI, MD

Primary percutaneous coronary intervention (pPCI) is considered the preferred reperfusion strategy for patients presenting with ST-segment elevation myocardial infarction (STEMI), conditional on the timely performance of the PCI procedure, as survival directly relates to reperfusion times. For patients undergoing pPCI for acute STEMI, potential differences between radial PCI (r-PCI) and femoral PCI (f-PCI) in door-to-balloon (D2B) times have not been widely evaluated. This study compares the D2B time between transradial versus the transfemoral approach in patients presenting with STEMI. Methods: A retrospectively collected catheterization laboratory database was reviewed for the consecutive patients presenting with a STEMI, who underwent pPCI by the authors over a 23 months period at a tertiary care hospital (Cardiothoracic department, Spedali Civili, Brescia University, Italy). The study population was divided according to arterial access used to perform pPCI into 2 groups; radial group and femoral group. Specific time parameters were recorded: time from emergency room arrival –to- patient arrival in catheter laboratory, time from patient arrival in catheter laboratory –to- balloon inflation and total D2B time. Our composite end point was the time to revascularization, angiographic success, short term clinical success, and procedural vascular complications. Results: Radial PCI were performed in 33 patients (67.3%) and 16 patients (32.7%) done through femoral artery. There was no statistical significant difference between the two groups regarding all demographic data. No significant difference was observed in the pre-catheter and catheter laboratory times. Mean times from emergency room door-to-catheter laboratory time for r-PCI vs. f-PCI were 82.48 ± 37.42 and 76.29 ± 34.32 minutes respectively (P = 0.636). The mean time from patient arrival to the cardiac catheter laboratory-to-balloon inflation was 34.56 ± 14.2 in the r-PCI group vs. 33.12 ± 12.56 minutes with the f-PCI group (P = 0.215). The total D2B time was not significantly different between r-PCI vs. f-PCI groups (100.32 ± 36.3 vs. 97.31 ± 30.37 min respectively, P = 0.522). Angiographic success rates were observed in 92.1% of the patients for r-PCI, and in 87.5% for f-PCI (P= 0.712).

Conclusions: Patients presenting with STEMI can undergo successful pPCI via radial artery without compromising patient care. Door to balloon time is not increased by radial artery access compared with femoral artery access, where the operator has a considerable experience using the radial artery for coronary intervention.
THROMBOLYSIS IN THE AGE OF PRIMARY PERCUTANEOUS CORONARY INTERVENTION: REVIEW AND META-ANALYSIS OF EARLY PCI

OWAYED MOHAMMAD AL SHAMMERI
OWAYED M AL SHAMMERI, ABDULLAH A ALGHAMDI, LAWRENCE A GARCIA

Introduction:
Primary percutaneous coronary intervention (PCI) is only available for minority of patients with ST segment elevation myocardial infarction in acute care hospitals in Saudi Arabia. Early PCI has evolved from facilitated PCI but with more delayed timing from thrombolysis to PCI (needle to balloon time). Previous metanalyses proved the effectiveness of early PCI but they were contaminated by inclusion of facilitated PCI trials. Our metanalysis enroll clinical trails of early PCI only to estimate the effectiveness and determine the needle to balloon time.

Methods:
MEDLINE search in English language from 1990 to March 2012 of randomized control trials of early PCI was performed. All included clinical trials compared early PCI to standard medical therapy. We excluded clinical trials that used early PCI when primary PCI feasible. Statistical analysis was performed using the Review Manager 5. Odds ratio (OR) random-effect model and 95% confidence intervals (CIs) were used as summary statistics.

Results:
Five randomized trials of Early PCI only met the inclusion criteria. Early PCI is associated with improved cardiovascular events (see figure) with no significant bleeding complications. There is minimal clinical heterogeneity and insignificant statistical heterogeneity ($I^2= 12.6\%, p=0.33$) among the five randomized control trials. The median time for needle to balloon is 4 hours.

Figure 1: Forest plot of the included randomized controlled trials for early PCI versus standard thrombolysis therapy

Conclusion:
Early PCI should be incorporated in the treatment of all ST-segment elevation myocardial infarction. The median time for needle to balloon is 4 hours.
CHRONIC VENOUS INSUFFICIENCY: PREVALENCE AND EFFECT OF COMPRESSION STOCKINGS

OWAYED MOHAMMAD AL SHAMMERI
NOURAH AL-HAMDAN, BUSHRA AL-HUTHALY, FARID MIDHET, A.RAHMAN ALMOHAIMEED, MAHBOOB HUSSAIN, OWAYED AL SHAMMERI

Introduction:
Chronic venous insufficiency (CVI) is a common disease affecting mainly lower limbs leading to significant impact on the quality of life. There is no study, to our knowledge, has attempted to evaluate the impact of compression stockings on all patients with CVI. Our aim is to estimate the prevalence of CVI in Qassim and to test the effectiveness of compression stockings.

Methods:
Screening for CVI among patients visiting the primary health care centers in Qassim until we reached 100 CVI patients diagnosed using the clinical, etiologic, anatomical, and pathophysiological (CEAP) classification. Then CVI patients randomized to compression stocking or standard medical therapy. Clinical follow up using multiple scale system including CEAP scale.
Data analysis was performed using SPSS, version 17.0. We used chi-square test, ANOVA and linear regression to assess the impact of compression stockings on the clinical and venous scores of CVI before and after the intervention.

Results:
Among the 226 screened patients, 138 (61.1%) were diagnosed to have CVI (69% in females and 45% in males, p<0.001). Compared to baseline, both the clinical and venous scores for CVI at the follow-up were significantly lower among patients using compression stockings, p=0.002 and p=0.003, respectively. Regression analysis suggested that, after controlling for age, sex and body mass index, compliance was the main factor responsible for a significant reduction in the clinical score among CVI patients.
Conclusions: Chronic venous insufficiency is very common in Qassim, 61%. Compression stocking is highly effective in improving clinical symptoms and signs of CVI.
Background:
The “no-reflow” phenomenon refers to the absence of myocardial perfusion after opening the infarct-related artery during Percutaneous Coronary Interventions (PCI). “No-reflow” phenomenon is associated with malignant arrhythmia, advanced left ventricular remodeling, congestive heart failure, and cardiac death. We aim to study the gross appearance and histopathology of the extracted thrombus that may suggest variables to predict the occurrence of “no reflow” phenomenon.

Methods:
Twenty-five consecutive cases ST-segment elevation myocardial infarction (STEMI) treated by PCI using thrombectomy in Prince Sultan Cardiac Centre in Qassim were studied. Detailed Clinical, angiographic and histopathologic data were obtained. “No reflow” is diagnosed the presence of one of two criteria: 1) failure to obtain > 70% of ST-segment resolution; 2) TIMI flow rate < 3. Chi-square test was used to compare the proportions.

Results:
“No reflow” diagnosed in 14 patients (56%). The histopathology data suggested the majority of STEMI had recent thrombus, 19 out of 25 patients, but no different between “no reflow” and normal flow groups, 11 versus 8, respectively; p=0.73. The gross color of thrombus among patients with “no reflow” tend to be darker color, 12 versus 9 in “no reflow” and normal flow, respectively; p=0.39. Though both observations were not statistically significant due to probably small sample size.

Conclusion:
“No reflow” is common phenomenon during percutaneous coronary intervention in ST-segment elevation myocardial infarction. Larger scale study needed to test the observation of darker color thrombus may alert the development of “no reflow”.

STEMI: THROMBUS CHARACTERISTICS AND NO REFLOW PHENOMENON

OWAYED MOHAMMAD AL SHAMMERI
BUSHRA E. ALHOTHALY, OWAYED M. AL SHAMMERI, ADEL AZMY, ABDULLAH ALGHAMDI, MAHBOOB ALI DAR, YASER BASHIR
DEMOGRAPHIC, CLINICAL AND DEVICE PROFILES OF 5580 PATIENTS IMPLANTED WITH IPG IN A GEOGRAPHICALLY DIVERSE POPULATION

RAED ABDELHALLIM SWEIDAN
RAED SWEIDAN, JANIS ANSABERGS, FAIZE LORGAT, PEDRO UREÑA, ULHAS PANDURANGI, FAWZIAH ALKANDARI

Background & Objective:
We describe demographic, clinical and programming characteristics of a geographically diverse population implanted with an IPG, with a focus of patients enrolled from Middle East (ME).

Methods:
Data were obtained from PANORAMA, a long term, prospective observational study of 8522 patients from 34 countries implanted with a cardiac rhythm management device between 2005 and 2011. This analysis is based on the 5580 (65%) that were implanted with an IPG, of which 782 patients were enrolled from the ME (Kuwait n=361 and Saudi Arabia n=421).

Results:
Compared to the other regions patients from the ME were more likely to present with diabetes (20% vs 37%, P<0.001) and less likely to have NYHA class II, III or IV (34% vs 7%, p<0.001) or atrial fibrillation (33% vs 17%, p<0.001). The ME region had the highest proportion of patients implanted with a single chamber device and AV block indication.

Conclusion:
The Panorama IPG cohort provides a unique opportunity to examine the implant practices and clinical profiles of patients implanted with an IPG in the Middle East region. We found significant differences in patient characteristics, type of IPG, and choice of programming. Further work is needed to understand how these differences might contribute to differences in patient management and outcomes.
ASSESSMENT OF THE HEMODYNAMIC CHANGES FOLLOWING FLUID PRELOADING IN CARDIAC SURGERY

RAED AMRULLAH ALSATLI
DR. RAED A. ALSATLI

Assessment of the hemodynamic changes following fluid preloading in cardiac surgery
Raed A Alsatli
Department of Anesthesiologist, College of Medicine, King Fahad Cardiac Center, King Saud University, Riyadh, Saudi Arabia
Correspondence Address:
Raed A Alsatli
Department of Cardiac Science, P.O. Box: 7805 (Internal 92), College of Medicine, King Saud University, Riyadh 11472 Saudi Arabia

Background:
This prospective double-blind randomized study aims to study the hemodynamic changes following fluid preloading with Hydroxyethyl starch (HES) 6% (130/0.4) compared with normal saline (NS) in cardiac surgery patients.

Methods:
Forty patients undergoing coronary artery bypass grafting (CABG) were enrolled in this study, then they were divided in 2 equal groups, HES and NS. After fast administration of 10 mL/kg from either solutions over 5 min only, hemodynamic parameters, such as heart rate, mean arterial pressure (MAP), central venous pressure (CVP), pulmonary artery occlusion pressure (PAOP), mean pulmonary artery pressure, systemic vascular resistance, and pulmonary vascular resistance were measured every 5 min for the total duration of 40 minutes. Results: There were significant differences in the cardiac index measurements between both groups at 15 min onward; also PAOP was significantly higher in HES group at 10 min onward. CVP was higher in HES group but statistically significant at 10 min only. MAP was higher in HES group, but that was statistically significant at 40 min only. On the other hand PAP was significantly higher at 10 and 40 min.

Conclusion:
Fluid preloading with HES led to a significant increase in filling pressure of the left ventricle (PAOP) and cardiac index compared with NS. We believe that HES (130/0.4) could be a suitable solution for fluid preloading in CABG surgery patients. However, further studies are needed on different fluid preloading modalities with different dosing regimens.
IMPACT OF ATRIOVENTRICULAR COMPLIANCE ON CLINICAL OUTCOME OF PATIENTS UNDERGOING SUCCESSFUL PERCUTANEOUS BALLOON MITRAL VALVULOP

RAGAB ABDELSALAM MAHFOUZ
RAGAB A, MAHFOUZ, MD, WALED ELAWADY, MD, EKHLAS HOSSEIN, AHMAD YOSRI, MD

Objective:
We aimed to assess the impact of atrioventricular compliance (Cn) on the clinical outcome, pulmonary hypertension (PH) and right ventricular (RV) function changes after successful percutaneous balloon mitral valvuloplasty (PBMV).

Methods and results: Using Doppler echocardiography Cn was estimated from the equation that has been previously validated. Mitral valve area, tricuspid annular plane systolic excursion (TAPSE), pulmonary artery pressure (PAP) and degree of TR severity were evaluated before, immediately and every 6 months with a median duration of 32 months after successful PBMV in 150 consecutive patients. Compared to control subjects patients with MS had significant lower Cn (P<0.0001). An immediate drop in PAP and significant improvement of RV function was observed after PBMV. Cn was correlated with the degree of PAPs, TAPSE (p<0.0001). Patients with Cn<3.75 mL/mmHg had higher incidence of adverse outcome (developing atrial fibrillation, worsening RV function, progressive left atrial dilation and redo intervention). Multivariate regression analysis showed that the Cn was the strongest independent predictor of PAPs and RV functional before and after successful PBMV (P<0.0001). Cn < 3.75mL/mmHg was the cut-of value for prediction of clinical events at follow-up

Conclusions:
The change and follow-up in RV function and pulmonary hypertension after successful PBMV were significantly correlated with the degree of Cn. This suggests a significant role of Cn in patients with MS, providing a good insight for intervention and utilizing Cn as a non-invasive hemodynamic index for risk stratification and proper timing for intervention in patients with MS.

Key Words: Atrioventricular compliance; Mitral stenosis; Valvuloplasty.
PREVALENCE OF RECURRENT CARDIAC EVENTS AMONG PATIENTS ATTENDING A SECONDARY PREVENTION CLINIC

RAID Taha Rabai
RAID Rabai, Musaab Ghidhan, Tara Conboy, Dr. Mohammed Bdeir,

Background:
Coronary artery disease (CAD) is one of the leading causes of death worldwide. Risk of a second cardiovascular event is 5–7 times greater than the general population. Prevalence of coronary artery disease (CAD) in the Saudi population age 30-70 years is 5.5%; however no studies to date investigated the recurrence of events among Saudi patients being followed up closely in a secondary prevention clinic.

Objective:
To study the prevalence of recurrent cardiac events in adult Saudi population diagnosed with CAD and being monitored in a secondary prevention clinic at King Abdul Aziz Medical City (KAMC) Riyadh.

Method:
Retrospective descriptive study which included all patients diagnosed with Ischemic Heart Disease with ejection fraction (EF) <40%. Patient’s data was extracted from computerized database between January 2001 and September 2012. Recurrent event was defined as any CAD progression required intervention after 1st event.

Statistical analysis was performed using SPSS, version 18

Results:
Pending
DRUG-ELUTING BALLOON FOR DE-NOVO, ISR AND BIFURCATION LESIONS CAD: SHORT AND INTERMEDIATE RESULTS, PROSPECTIVE REGISTRY

RIDA MUSTAFA NOURALLAH
RIDA NOURALLAH, ADULT CARDIOLOGY, HEART FAILURE AND CATHLAB., ALI ALMASOUD, MENWAR ALANAZI, SAAD ALKASAB,

Drug-eluting Balloon (DEB) for De-Novo, In-stent Restenosis and Bifurcation lesions CAD: Immediate and Intermediate Term Results from a Prospective Registry
Rida Nourallah1, Ali AlMasoud2, Menwar AlAnazi2, Saad ALKasab1.
1Adult cardiology, Prince Sultan Cardiac Center, Riyadh, Saudi Arabia.

Objectives:
This prospective study designed to assess the safety and short and intermediate term efficacy of drug-eluting balloon (DEB) in the treatment of de-novo, in-stent restenosis and bifurcation coronary artery disease (CAD) in Saudi Arabic Population.

Methods:
Total of 64 patients so far enrolled in a prospective registry using a Be Brown Paclitaxel-coated balloon (DEB) at our hospital, 61 patients were studied for short and intermediate term outcomes (6 to 12 months). All patients with symptomatic CAD including 21 patients 33 % of de-novo lesions, 25 patients 39 % of in-stent restenosis (ISR) and 17 patients 28 % of bifurcation lesions requiring percutaneous intervention (PCI) with a DEB were included. Clinical follow-up was conducted at 6 and 12 months. Coronary angiography (CAG) or SPECT Scan were done in 71 % of patients during this period. Primary outcome was a composite of target vessel revascularization and mortality.

Results:
Procedural success was achieved in 96 % of the patients. Two patients were failed due to failed DEB to cross heavily calcified vessel. Mean age was 60.8 ± 30 years. 47 patients 77 % presented with Stable angina and 9 patients 15 % with acute coronary syndrome (ACS). 25 patients 41 % had triple vessel CAD. Sixty percent were classified as having ACC/AHA B-2 or C type coronary arteries including 26 % patients with bifurcation lesions. Lesions stenting post DEB required in 8 patients 13 % due to either dissection (4 patients) or inadequate result (4 patients). Mean DEB diameter was 2.2 ± 0.5 mm (2 to 3.5 mm)and mean length was 19.3 ± 8 mm (10 to 30 mm). Immediate result mean diameter stenosis was 80% ± 8 decrease to 5%± 9 post DEB dilatation and the diameter stenosis reached 15% ± 20 with coronary angiography follow up at 6 to 12 months. A 7 patients 11 % has restenosis (6 patients from ISR group and one patients from bifurcation lesions group) the 7 patients required revascularization (5 patients has PCI and 2 patients has CAGB).
A 37 patients 59 % who were followed by either recath (17 patients) or SPECT

172
Scan (20 patients) showed no evidence of restenosis. The remained 17 patients 30\% were followed clinically and showed no Angina. One patient died from cancer one month after PCI. There was no cerebrovascular accident and no major bleeding

**Conclusion:**
Be Brown Paclitaxel-coated balloon (DEB) can be used safely with good and successful intermediate result with target vessel restenosis of 7 patients 11.3\% (5 patients has PCI and 2 patients has CABG) and non cardiac mortality of 1.6\%.
INFLUENCE OF PHYSICAL ACTIVITY LEVEL ON SAUDI REFERENCE VALUES OF 6-MINUTES WALK TEST.

SALWA BAHAA EL-DEEN EL-SOBKEY
EL-SOBKEY B. SALWA

Influence of Physical Activity Level on Saudi Reference Values of 6-Minutes Walk Test.
Salwa El-Sobkey, Associate Professor, Physical Therapy Program, Department of Rehabilitation Health Sciences, College of Applied Medical Sciences, King Saud University, Riyadh, Kingdom of Saudi Arabia.

BACKGROUND:
The 6-minutes walk test (6-MWT) is widely used to evaluate exercise capacity in several cardiopulmonary diseases due to its simplicity, applicability and low cost. Establishing reference value is essential to guide the diagnostic and prognostic use of the 6-MWT and previous study showed that the Saudi subject’s age and height were the most significant predictors for 6-minutes walked distance (6-MWD). On the other hand, physical activity level proved to have direct effect on the exercise capacity. This study aimed to answer the question: Does the physical activity level influence the Saudi reference values of 6-MWT?

Method:
The main outcome measure was the 6-minutes walked distance (6-MWD) which was measured by the 6-MWT following the protocol of the American Thoracic Association. The demographic characters, including age, gender, weight, and height, of the participants were collected and their body mass index (BMI) was calculated. Participant’s physical activity level was calculated using the Last 7-Days International Physical Activity Questionnaire (IPAQ) and was expressed as high, moderate and low levels. For each participant the following cardiovascular variables were measured before and after the test; the heart rate, systolic and diastolic blood pressure, and arterial oxygen saturation. The percent from the predicted maximum heart rate (%PMHR) was calculated for each participant. The predictive power of the studied demographic and cardiovascular characters to estimate the 6-MWD was evaluated using the statistical program SPSS version 17.

Results:
Participants in the current study are 359 Saudi health subjects (70.5% female). They aged from 18 to 71 years (31.0 ± 14.0 years). Results showed a significant (p= 0.0001) decrease in 6-MWD with increasing the age. In addition, within the different age groups, male participants showed longer 6-MWD than females (503.3 and 471.1 meters respectively). This longer male's 6-MWD was significant in the younger age groups. From the age of 50 years up to 71 years there was no significant gender difference in the 6-MWD.
In all age groups, there were significant increase in 6-MWD from low, moderate,
to high physical activity level. Moreover, the interaction between age, gender, and level of physical activity was significant (P=0.0001). Younger male with high level of activity had the best 6-MWD. Older age, female gender, and lower physical activity level was accompanied with significant shorter 6-MWD. The 6-MWD was positively correlated to the subject's height, heart rate, arterial oxygen saturation, and physical activity level. It was negatively correlated to age, weight, BMI, % PMHR, systolic and diastolic blood pressure. Out of all these correlations within the studied demographic and cardiovascular factors; physical activity level, age and gender were working as a predictive factors for 6-MWD of Saudi healthy subjects and were significantly included in the regression equation to estimate the 6-MWD [6-MWD= (74.31 X physical activity level) + (33.88 X gender) – (4.25 X age) + 342.650]. This equation explained 67.8% of the distance variance.

**Conclusion:**
It is not only the subject's age and gender which predict the 6-MWD but the physical activity level as well. This necessitates considering the subject's physical activity level when establishing ethnic reference values.
HIGH PREVALENCE OF TRICUSPID VALVE DISEASE AMONG RHEUMATIC HEART DISEASE PATIENTS IN YEMEN

SAMEERA MOHAMMAD AL. RAJWI
SAMEERA AL. RAJWI, AHMED AL-MOTARREB,
NOURADDIN ALJABER, AZIZ ALZENDANI

Background:
Rheumatic heart disease is common in Yemen with high prevalence among children and young adult that make social and economic burden over the patient, his family, the community and the country. Tricuspid valve disease receive less attention as compared to the primary left sided disease. It is frequently labeled as the forgotten valve because appropriate management and surgical correction is often ignored.

AIM:
The aim of this work was to determine the prevalence of tricuspid valve disease among rheumatic heart disease patient in the cardiac center in TMGH outpatient. STUDY DESIGN: descriptive prospective study

Methods:
we enrolled all adult patients who had been referred to an echocardiography outpatient Echo Lab. Over 3 months time from 1/5/2009 to 1/8/2009 Setting: cardiac center, Al-Thawra General Hospital, Sana’a city, Yemen.

Results:
172 cases (34.4%) were having Rheumatic heart disease out of 500 cases referred to the Echo lab. Organic tricuspid valve disease was found in 33 patients (19.2%). 88 cases (51.1%) were having functional (secondary) tricuspid valve disease. While normal tricuspid valves were found in 51 cases (29.7%). Pulmonary Hypertension was found in 115 cases (66.8%); 27 cases had sever PH (15.7%), 25 cases had moderate PH (14.5%), 63 cases had mild PH (36.6%) and 57 cases had normal pulmonary tension. Right atrial enlargement was found in 24 cases (14%). While no comment on atrial size in 29 cases (16.9%), 119 cases were having normal RA size. 20 patients (11.6%) were having right ventricular enlargement, no comment on 31 cases (18%) while 121 cases had normal RV size.

Conclusion:
High prevalence of tricuspid valve disease among the rheumatic heart disease either organic affection or functional (secondary). Tricuspid Valve Diseases need special care before surgery as both organic and functional tricuspid diseases need to be managed surgically in most cases.
ADJUSTED DE VEGA TRICUSPID ANNULOPLASTY GUIDED BY INTRAOPERATIVE TRANSESOPHAGEAL ECHOCARDIOGRAM.

SAMIR ABDALLAH KESHK
PROF. SAMIR KESHK MD. DHPE.,
DR BASSEM RAMADAN MD (ASSOCIATE PROF.)

Adjusted De Vega Tricuspid Annuloplasty Guided by Intraoperative Transesophageal Echocardiogram
Prof.Samir Keshk MD.,Dr Bassem Ramadan MD. CTS Department,Faculty of Medicine,Alexandria University.

Abstract:
Functional tricuspid regurge (FTR) is an important dilemma in cardiac surgery, and tricuspid annular dilation is a reliable indicator of the degree of FTR. Many methods are available for repair: Ring repair is believed to be more durable than suture annuloplasty, however the suture repair still holds a place. This work was conducted over 60 patients with history of rheumatic heart disease with predominance mitral valve diseases, pulmonary hypertension (PH) and FTR.Group I : 30 patients had ADVTA using intraoperative TEE. Group II: 30 patients had conventional De Vega tricuspid annuloplasty(CDVTA). The two groups were assessed immediately and six months later by TTE. There was a significant relation between PH and tricuspid valve annulus diameter (TVAD) in Group I (mean TVAD in PH grade 2 is 38.0 + 6.5 mm, while in PH grade 3 mean TVAD is 41.1+4.6) . Also PH correlates significantly with TVAD in Group II. Results showed advantage of ADVTA in avoiding postoperative residual TR due to accurate application of tension( Preoperative FTR grade 2 in 12 patients and FTR grade 3 in 18 patients, immediate postoperative TR grade 2 in 4 patients and no patient in TRgrade 3,late postoperative TR grade 2 in 6 patients and TR grade 3 in one patient). Results demonstrated superiority of ADVTA in decreasing postoperative diastolic gradient(PODG) on tricuspid valve and in avoiding tricuspid stenosis (immediate PODG in Group I is 5.4 +3.2 mmHg and 9.1+3.3mmHg in Group II, late PODG in Group I is 5.9+3.3 mmHg and 9.9 +3.5 mmHg in Group II). ADVTA guided by TEE still holds a place as it is quick, inexpensive, devoid of use of foreign body especially in the presence of infection, and showed durability.
Robotic ablation of atrial fibrillation saves time and irradiation dose
Samir Rafla; Mostafa Nawar, Amr Kamal; Josef Kautzner*
Alexandria Univ. Cardiology Dept, Egypt and IKEM institute, Prague, Czech Republic*
This analysis assesses the effect of Robotic technique on the results of ablation of paroxysmal AF.

Methods:
We studied 150 patients (pts) (86 males and 64 females) having a mean age of 51.3 yrs (54 > 50, 96 below 50 yrs), who suffered from symptomatic drug refractory paroxysmal AF. Cardiac MSCT image integration to the 3D electroanatomic LA map was used in 106 pts (70.6%, however all of them underwent intracardiac echo guided imaging during the ablation procedure. 40 pts underwent manual RF ablation using CARTO, 40 pts underwent ablation using NavX system, 70 pts underwent robotic ablation using Sensui system. Pulmonary vein isolation was done to all pts using either pulmonary vein (PV) antral isolation in 116 (77.3%) or circumferential pulmonary vein ablation in 34 pts (22.7%). Circumferential PV ablation was usually associated with posterior wall ablation. All pts were followed at 3, 6, 9, and 12 months.

Results:
34 patients (22.6%) developed early recurrence of AF after an initial blanking period of 3 months. We had 16 patients (10.6%) with treatment failure at short term follow up, this number increased to 18 patients (12%) at midterm follow up and further small increase to 20 patients (13.3%) at long term follow up, recurrences were any episode of AF and/or AFL/AT > 30 seconds after the blanking period. The incidence of recurrence of AF in males was 13% (11/86), 14% in females (9/64), P NS. Comparison between manual and robotic groups as regards ablation points

<table>
<thead>
<tr>
<th>Groups</th>
<th>No of patients</th>
<th>Mean</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total no of ablation points</td>
<td>Robotic group 70</td>
<td>49.9</td>
<td></td>
</tr>
<tr>
<td>Total ablation time</td>
<td>Robotic group 70</td>
<td>1323.1</td>
<td></td>
</tr>
<tr>
<td>Total fluoroscopy time</td>
<td>Robotic group 70</td>
<td>6.9</td>
<td></td>
</tr>
<tr>
<td>Total fluoroscopy dose</td>
<td>Robotic group 70</td>
<td>552.7</td>
<td></td>
</tr>
</tbody>
</table>

Manual group          | 80          | 72.2      | 0.000* |

Robotic group          | 80          | 2094.8    | 0.000* |

Robotic group          | 80          | 19.9      | 0.000* |

Robotic group          | 80          | 2257      | 0.000* |
**Complications rate:**
None in 92.5%, air embolism zero, cardiac tamponade zero, trivial pericardial effusion 1, groin hematoma 5%, pulmonary vein stenosis > 50% zero. No difference in complications between robotic and manual groups.

**Conclusions:**
Robotic ablation of paroxysmal atrial fibrillation saves time and irradiation dose.
COMPARISON OF EFFECT OF RATE CONTROL VERSUS RHYTHM CONTROL ON LV FUNCTION IN PATIENTS WITH AF AND ISCHEMIC HEART FAILURE

SAMIR M. RAFLA
SAMIR RAFLA, KAMAL MAHMOUD, ABDEL-AZIZ EL-KAK, MOHAMED LOTFY, ISRAA SAGHIER

The effect of rate control and rhythm control on left ventricular (LV) function in patients (pts) with atrial fibrillation (AF) and ischemic (LV) failure need to be delineated.

Methods:
The study was conducted on 48 pts with persistent AF of more than one week and less than one year duration and ischemic LV failure (EF < 50%). They were randomized into two groups matched in age and gender. Group 1: 24 pts submitted to rate control treatment. Group 2: 24 pts submitted to rhythm control treatment. Exclusion criteria: previous thromboembolism, left atrial (LA) or LA appendage thrombi, LA > 60 mm, intractable heart failure. Myocardial performance index (Tei index) was determined. Rate control: was achieved using digoxin, carvedilol, bisoprolol. Precardioversion TEE was done within 24 hours of cardioversion. All pts received warfarin.

Results:
Heart rate on admission and after one month follow up (mean): G1: 96 then 78. G2: 95 then 74. All improvement of LV function was statistically insignificant. NYHA class II, III and IV: G1: 100% then 66%, G2: 91% then 58%. The EF increased from 41% to 46% and 42% to 47%. Fractional shortening: G1 20 to 23; G2 20 to 23. Tei index improved in both groups: 1.4 and 0.96 to 1.27 and 0.74. LA diameter G1 50 mm to 52; G2 48 to 46.

Conclusions:
Both rate and rhythm control strategies are effective in controlling HR equally. There is no difference between both strategies in improvement in LV function after one month of therapy.
Background/Introduction:
Cardiothoracic surgery quality improvement is a core value of healthcare provision. In order to improve quality of care, information on key indicators needs to be systematically collected and maintained. In 2006, the cardiothoracic department at Aga Khan University developed an infrastructure that would enable us to answer the more challenging research queries in cardiac surgery practice. The resulting electronic cardiothoracic database is based on the European Association of Cardiothoracic Surgeons database and the Society of Thoracic Surgeons database. While, it is currently used only at Aga Khan University, it has the potential to become a multicenter database.

Objective:
To assess the impact of database development and maintenance on clinical practice and quality of care.

Methods:
We chose the following aspects of patient care to be included in the database form: pre-surgery patient condition and medications, anesthesiainformation, perfusion information, surgery information, recovery information, status of the patient at discharge, 30-days and 365-days post-surgery follow-up information. Information was collected through structured questionnaire by trained data abstractor and entered into Microsoft Access software. On the basis of research hypotheses, specific data chunk was extracted and analyzed in SPSS (Statistical package of social sciences) software.

Results:
From January 2006 – May 2011, there was 3418 open heart surgeries performed. Out of them, 69.63% were isolated coronary artery bypass grafting, 10.7% were isolated valve, 2.3% were valve and coronary artery bypass grafting, 15.9% were other cardiac procedures, and 1.46% was combination of cardiac procedures. The overall 30-day mortality was 3.6%. Post-surgery morbidity was 21.5%, which includes 3.6% reoperation for bleeding, 0.6% neurological, 0.7% dialysis, 1.3% heart failure, 0.3% septicemia, 1.8% prolonged ventilation, 8.6% multiorgan failure and 0.9% respiratory complications, 1.7% cardiac arrest, 1.1% deep sterna wound infection, 0.1% Follow up at 30-days patients alive were 91.6% death, 0.1% lost to follow-up, 3.6% and 365-day showed that alive, 93.2% death, 2.1% lost to follow-up, 4.6% Impact in clinical practice

Before this database, there was no way to monitor mortality and morbidity. Fortunately, with the development of database, post-surgery mortality and morbidity rates could easily be generated. It helped in development of strict enforcement of protocol to reduce the mortality and morbidity rates. It also
helped in controlling preventable post-surgery complications. It also helps in identification of a gap in patient knowledge regarding the use of warfarin after heart valve surgery and deficiencies in laboratory capabilities, both causing catastrophic complications. As a result, we modified our practice in an effort to address these issues and reduce the complication rates after heart valve surgery. Furthermore, identification of the need to quantify the mid-term functional status of in-person and telephonic interview, resulting in the development of a questionnaire that has been added to our protocol one year post-surgery. Way forward: More meticulous record keeping, including long-term follow-up for five years will be collected. In addition to this, the development of a separate congenital/pediatrics cardiac surgery database will also be developed.

Conclusion:
Updated and stringently maintained database helps to identify deficiencies in practice and provides a direction for future improvement.

Key Words:
Database, coronary artery bypass grafting, warfarin, mortality, quality of care, evaluation
HEMOSTATIC MARKERS AND THEIR RELATIONSHIP WITH SEVERITY OF CORONARY ARTERY DISEASE IN SAUDI ADULTS

SYED SHAHID HABIB
ZOHAIR AL ASERI, SYED SHAHID HABIB, ABEER AL MASRI, MOHAMMAD IBRAHIM KURDI

Objectives:
This study was aimed to determine total (TFPI-T) & free (TFPI-F) tissue factor pathway inhibitor, plasminogen activator inhibitor-1 (PAI-1), and tissue plasminogen activator (t-PA) in a cohort of Saudi patients with chronic stable angiographically defined coronary artery disease (CAD) and to see its correlation with its severity and diffuseness determined by Gensini and vessel scoring.

Methods:
This cross sectional study was conducted in the department of physiology and department of cardiology, College of Medicine & King Khalid University Hospital, King Saud University, Riyadh. Sixty known cases of CAD who had undergone angiography (35 Males & 25 females) were selected. Fasting Venous blood samples were analyzed for total (TFPI-T) & free (TFPI-F) tissue factor pathway inhibitor, plasminogen activator inhibitor-1 (PAI-1), and tissue plasminogen activator (t-PA). Gensini scoring system and vessel scoring was determined to determine the CAD severity.

Results:
There were non significant differences between age, body mass index (BMI) and Blood pressure between control and CAD subjects. Comparison of haemostatic markers between control and CAD patients showed significantly higher levels of Fibrinogen, PAI-1, TFPI-T and TFPI-F in CAD patients compared to control subjects. But there was no difference in plasma t-PA levels. TFPI-T had asignificant positive correlation with severity of disease determined by Gensini Scores \( r = 0.344, P = 0.006 \) and vessel scores \( r = 0.338, P = 0.015 \).

Conclusions:
TFPI-T has a significant positive relationship with Gensini scores and vessel score of CAD severity. This suggests that TFPI involvement is related to CAD risk in these patients. Thus elevated plasma levels of total TFPI may be considered as useful diagnostic and prognostic markers in patients with CAD.
THE OUTCOME OF BODY MASS INDEX IN PATIENTS UNDERGOING PERCUTANEOUS CORONARY ANGIOGRAPHY.

TAARIQ HUSSEIN NUCKCHADY
PROF.DR KHALED SOROUR, PROF.DR SOLIMAN GHARRIB, DR.HEBA FAROUK

Background:
Obesity is a well-known risk factor for development of diabetes, hypertension, and coronary artery disease. However, recently the “obesity paradox” showed that short-term outcome is superior after PCI in overweight and obese patients. Therefore, a prospective, single-center observational study was performed to evaluate the in-hospital outcome of obese patients who were candidates for elective PCI in Cairo University hospital.

Methods:
Prospective analysis of clinical and catheter related data were obtained from 156 patients admitted to our center for elective PCI. Patients were stratified according to their BMI into two groups: Group A: overweight/obese (>25 kg/m2) and Group B non-obese (<25 kg/m2) respectively. All patients were subjected to thorough clinical examination for assessment of risk factors for CAD as well as to laboratory work-up to rule out electrolyte abnormalities and to detect any change in cardiac markers following PCI. Pre- and post procedural ECG and echocardiographic data were obtained from all patients. Standard coronary angiography was done through trans-femoral approach using modified Seldingertechique with the intervention performed according to the operator discretion.

Results:
The majority of patients who underwent PCI in our center were obese (81%). Group A patients were significantly younger (P =0.01) and had more risk factors for coronary artery disease (CAD) than group B patients. The prevalence of chronic stable angina was significantly higher among group A patients while prevalence of STEMI was much lower when compared to that of group B (P=0.006, P=0.002 respectively). Coronary angiography revealed that atherosclerotic affection of more than one vessel was more prevalent among group A patients (P= 0.2). Fourteen cases (9% of patients) developed post procedure complications. After adjustment of several covariates, vascular complications, heart failure and death were more prevalent in group B (P=0.1, P =0.1, P =0.3 respectively), while chest pain and instent stenosis were more prevalent in group A (P= 0.8, P =0.3 respectively) with insignificant difference in the prevalence of complications between both groups. A U-shaped relation has been exhibited between BMI and MACE with the lowest risk observed in the middle of the BMI spectrum.
**Conclusions:**
Obesity is not associated with neither increased nor reduced risk of adverse post-procedural in-hospital outcomes following elective PCI. These findings, however, do not discount the need for sustained efforts in secondary prevention of obesity and its consequences.

**Keywords:** Obesity, BMI, PCI, CAD, obesity paradox, and MACE.
AORTIC VALVE REPLACEMENT IN OCTOGENARIANS: IMPACT OF LESS INVASIVITY ON POSTOPERATIVE OUTCOME

TAREK MOHAMMED KASSEM ALAMEDDINE
TAREK ALAMEDDINE MD, OMER SENBAKLAVACI MD, EHAB SUBHI MD, HILAL ALSABTI

AORTIC VALVE REPLACEMENT IN OCTOGENARIANS:
IMPACT OF LESS INVASIVITY ON POSTOPERATIVE OUTCOME

Objective:
Due to increasing life expectancy in industrialized countries, the number of octogenarian patients undergoing an open heart procedure is increasing. In these patients with high comorbidity less invasive procedures could probably improve the postoperative outcome. The aim of this study was to determine the effects of minimal access aortic valve replacement (AVR) in octogenarians on postoperative morbidity and mortality.

Methods:
Partial upper sternotomy has become the standard approach to isolated aortic valve surgery in patients without any previous cardiac surgery at our institution. Almost 20 % of the 353 patients who underwent AVR through a partial upper sternotomy between 1998 and 2006 were octogenarians. These 70 patients (16 male, 54 female) had a mean age of 81,8 years (80-95 years). We reviewed retrospectively data on these patients.

Results:
The patients had a mean logistic Euroscore of 9,1 (0,9-29,2) and a mean left ventricular ejection fraction of 54,7 % (20-70 %). Mean cross clamp time and mean bypass time were 63,3 min (33-149 min) and 108,5 min (52-290 min), respectively. In 3 patients (4,3 %) a conversion into full median sternotomy was necessary due to bleeding (n=2) and low cardiac output (n=1). Mean ICU and total hospital stay were 2,8 and 11,7 days, respectively. Postoperative bleeding complications were not observed. Deep sternum infection occurred in 2 patients (2,8 %). None of the patients had to be reoperated for prosthetic valve dysfunction or endocarditis. The hospital mortality rate was 5,7 %.

Conclusions:
AVR through a partial upper sternotomy in octogenarians is a safe and effective technique with less invasivity resulting in satisfying postoperative morbidity and mortality.
CLINICAL CORRELATES AND OUTCOMES AMONG PATIENTS WITH LBBB AND ACUTE CORONARY SYNDROME: A SUBSTUDY OF THE GULF RACE-2 REGISTRY

TAREK SEIFAW KASHOUR
TAREK KASHOUR, AHMED HERSI, KHALID ALHABIB, HUSAM ALFALEH,

Background:
LBBB prevalence in patients with acute MI is 6-9% in Western countries and it is associated with increased morbidity and mortality. We set to evaluate the prevalence of LBBB, its clinical correlates and relation to outcomes among patients presenting with acute MI in the Gulf countries.

Methods:
The study population consisted of 7929 consecutive patients enrolled in the Gulf-RACE registry. Patients were divided into two groups according to presence or absence of LBBB. Comparisons between the two groups were carried out using chi-square test for categorical variables and Wilcoxon's rank test for continuous variables using the SPSS software.

Results:
Only 225 (2.8%) patients had LBBB. These patients were older (65±11.8 vs. 56±12.4 years p=0.013) and were more likely to be females (40% vs. 20.7%, p<0.001). History of angina, MI, CHF, renal impairment, prior revascularization and cardiac risk factors were more prevalent among the LBBB patients. LBBB patients were less likely to receive beta-blockers (61.8% vs. 74.7%, p<0.001), thrombolytic therapy (22.9% vs. 51.1%, p<0.001), and undergo coronary angiography (24.4% vs. 32.7%, p=0.009) and PCI (8.9% vs. 14.6%, p=0.014). Inhospital, 30-days and one-year mortality was higher in LBBB patients (8%, 14.4% and 21% vs. 4.5%, 8% and 12.3%, p=0.014, 0.002 and <0.001 respectively). Furthermore, more LBBB patients developed in-hospital CHF (37.8% vs. 12.4%, p<0.001) and cardiogenic shock (10.2% vs. 5.6%, p=0.026).

Conclusion:
LBBB is less prevalent among ACS patients in the Gulf-RACE registry. Patients with LBBB were less likely to receive thrombolytic therapy, beta-blockers or undergo angiography and had higher mortality.
PROGNOSTIC SIGNIFICANCE OF HIGH SENSITIVITY C-REACTIVE PROTEIN IN PATIENTS WITH ANGINA PECTORIS UNDERWENT PERCUTANEOUS CORONARY

TAYEB ALI BAFADHL
TAYEB BAFADHEL, YEHIA KISHK, AMR YOUSEF

Background:
C-reactive protein is an easily measurable acute phase reactant synthesized by hepatocytes in response to pro-inflammatory cytokines. Elevated CRP has been identified as a strong predictor of prognosis in healthy individuals, in patients with stable angina, in unstable angina and in patients after acute myocardial infarction. The prognostic significance of high sensitivity CRP level in percutaneous coronary intervention is unclear.

Methods:
We prospectively studied 41 patients with chronic stable angina (28 patients) and unstable angina (13 patients) who underwent elective coronary stenting. All patients had normal troponin level before the procedure. Blood samples for hs-CRP were obtained before the procedure, 24 hours after the procedure. Patients followed up at 1 month and after 2 years.

Results:
Mean hs_CRP before the procedure in all patients underwent PCI was 2.38±2.21μg/ml. The mean hs_CRP 24 hours post procedure was 7.43±10.6 μg/ml. There was significant difference between pre procedural hs-CRP and 24 hours post procedural (P= 0.007) At follow up period (1 month), No major adverse cardiac events (MACE) have occurred. However, 24 patients complain of chest pain. There was no significant correlation between either pre-procedural, or 24 hours post procedure hs-CRP and chest pain (r=0.13, 0.2 respectively). At follow up period (2 years), 7 cases missed; MACE has occurred in 13 patients.

Conclusion:
Mechanical disruption of atherosclerotic plaque during elective coronary stent implantation causes a systemic inflammatory response. Measuring of hs-CRP either pre-procedural or post procedural in low risk patients is not useful for predicting of either early or late cardiovascular events.
We report a complex case of a 35-year-old gentleman who presented with large anterior myocardial infarction. Coronary angiography showed multiple coronary aneurysms of all proximal major coronaries with a total occlusion of the LAD artery. A diffuse form of supravalvular aortic stenosis was discovered incidentally upon aortic root injection and was confirmed with CT aortogram. Echocardiography revealed akinesia of the anterior wall with preserved thickness and depressed left ventricular function (EF=25%). Aortic valve was competent with normal leaflet structure. The patient underwent Bentall procedure with LIMA to LAD coronary bypass grafting with the use of cardiopulmonary bypass utilizing the right axillary artery for arterial cannulation and routine right atrial venous cannulation. The post-operative course was uneventful. The patient was discharged home after 7 days and came back for follow up after 6 months in good condition.
TOTAL OCCLUSION, BASIC EQUIPMENTS FOR LESION INTERROGATION, EVALUATION, VISUALIZATION AND ENDOLUMINAL REOPENING STUDY

WALEED YASIN KADRO
WALEED Y. KADRO, MAYA TURKMANI, HUSSAM RAHIM, OWAIS ALTISHEH,

Background:
Chronic total occlusion (CTO) is a challenging dilemma for the interventional cardiologist. The success rate ranges between 30% and 80% depending on the tools used and the patience of the interventional cardiologist who should always be ready for the unexpected. We report our results for CTO intervention using simple and economic tools.

Method:
our group did 472 consecutive cases of CTO intervention over the past seven years using the simple approach. The tools consist of one guiding catheter, one stiff hydrophilic glide wire, one balloon and one stent in most cases unless the lesion is too long requiring more than one stent. Contra lateral injection to assess the collaterals was not allowed in this basic equipments protocol for CTO intervention. 57% of the cases were turned down for PCI by other cardiologists (group1). CTsurgeons turned down 37% of the patients for CABG (group2). 20.42% of the cases failed attempted PCI by another cardiologists (group3).

Results:
Overall Angiographic success with TIMI II-III flow and no significant residual stenosis was achieved in 91% of the cases. There were no death or emergency CABG during hospital stay or one month after PCI. Protocol violation (usage of more than one wire or more than one balloon) was done in 10 cases. Perforation occurred in 5 (1.12%) cases, two of them required pericardial window. In hospital MI occurred in 6 cases (1.24%). There was no need for GP IIb/IIIa inhibitors in any case. Success rate were 87%, 91%, 100% in groups 1,2,3 respectively. One month follow up results were: 0% mortality, 0% CABG, 0% reintervention, 2% rehospitalization for CHF, 1.4% rehospitalization for ACS.

Conclusion:
CTO requires endless patience from the cardiologist. There is no need to abuse the resources of the cath lab if we follow the protocol of TO BELIEVERS.Excellent results can be obtained if CTO intervention done by using these basic equipments.
STATIN AND EZETIMIBE IN SILENT AMBULATORY MYOCARDIAL ISCHEMIA (SESAMI TRIAL)

WALEED YASIN KADRO
WALEED Y. KADRO, MAYA TURKMANI, HUSSAM RAHIM,
OWAIS ALTISHEH, ALI DEBS

Background:
Cholesterol lowering is associated with a reduction in cardiovascular morbidity and mortality. Statins are the main drugs for cholesterol lowering. Ezetimibe when added to statins gives further reduction in cholesterol but its long-term effect on cardiovascular morbidity and mortality and ischemic events is not known. This study sought to determine whether further cholesterol lowering with ezitimibe will also results in a reduction of myocardial ischemia during daily life.

Methods:
We enrolled 50 patients with proven stable coronary artery disease (CAD) and at least one episode of ST-segment depression on ambulatory ECG monitoring. All of them were receiving optimal therapy for CAD including statin therapy for cholesterol reduction. 25 patients were randomized to continue their statin therapy (Statin only group) and 25 to receive statin plus Ezitimibe 10mg/day (ezitimibe group). Serum cholesterol and LDL cholesterol levels and ambulatory monitoring were repeated after 4 to 6 months of therapy. The two groups were comparable with respect to baseline characteristics, number of episodes of ST-segment depression, and baseline serum cholesterol levels. Holters were read by a blinded cardiologist.

Results:
The ezitimibe group had lower mean total and LDL cholesterol levels at study end and experienced a significant reduction in the number of episodes of ST-segment depression compared with the statin only group. ST-segment depression was completely resolved in 13 of 25 patients (52%) in the ezitimibe group versus 3 of 25 (12%) in the statin only group. The ezitimibe group exhibited a highly significant reduction in ambulatory ischemia (P<.001). By logistic regression, treatment with ezitimibe was an independent predictor of ischemia resolution.

Conclusions: Further cholesterol lowering with ezitimibe can result in reduction or resolution of myocardial ischemia recorded as episodes of ST-segment depression in ambulatory monitoring of the ECG.
TROPONIN LEVEL BEFORE CORONARY ARTERY BYPASS GRAFT SURGERY IS ASSOCIATED WITH INCREASED MORTALITY RATE

WALID ABDULKARIM ABDUKHUDAIR
WALID ABUKHUDAIR, MASSIMO PORQUEDDO, NAZIR AHMED, AHMED HAFED, ABDULLAH ASHMEG, THAMER BIN YOUSEF

Objective:
Cardiac troponin level indicate extend of miocardial injury. Coronary artery bypass graft surgery early post myocardial infarction is associated with high mortality, trying to find a quantitative piameter to determine the high risk patients.

Method:
Prospective data collection of troponin level and outcome of coronary artery bypass graft surgery was collected over 3 years (30 days mortality).

Result:
A total of 550 patients who had CABG over 3 years was collected, the patients were divided into 3 groups. Group 1 patient with troponin less than 3. Group 2 patient with troponin between 3 and 5. Group 3 patient with troponin above 5. The 30 days mortality was proportionally correlated to the troponin level. Group 1 had a mean mortality of less than 2%, group 2 had a mean mortality of 3.5%, and group 3 had a mean mortality rate of 10%.

Conclusion:
Preoperative 30 days mortality post CABG is proportionally related to the extend of myocardial damage which is reflected by trop in level. When possible it is better to wait and delay surgery until troponin level below 3.
CUSTOMIZE PAIN KILLER POST CARDIAC SURGERY EFFECTIVELY REDUCE PAIN

WALID ABDULKARIM ABUKHUDAIR
WALID ABUKHUDAIR, KHALED RADWAN

Context:
Pain levels after Cardiac Surgery are often severe and undertreated. Acute pain can keep patients from participating in activities that prevent postoperative complications especially respiratory complications.

Method:
All postoperative patients are given regular doses of both acetaminophens and opioid. Pain management is adjusted according to each patient using the numeric pain score with a treatment strategy that includes the use of Paracetamols, NSAIDs and opioids. The type and dose of analgesic administered in the first 4 days after surgery and the effectiveness of pain management were determined and compared to a control group.

Results:
The number of pain-free patients increased from …15 % to 28…% on day 1, and from 25…% to 35…% on day 4.
While Average pain score at rest dropped from 5… to …3. On day 1, and from 4… to 2… on day 4.

Conclusions:
Continues monitoring of pain in patients after cardiac surgery with adjustment of the standard pain management protocol has significantly reduced post operative pain.
Objective:
Diabetes is a major risk factor for infection post CABG and is associated with increase risk of infection.

Method:
Prospective observational study. Prospective data collection of hemoglobin A1C result where collected over 3 years, for patients booked for CABG. Patient were followed up for wound infection and other infections.

Result:
Hemoglobin A1C above 10 was observed in 20% of the diabetic patients and out of those 20% had a form of infection. HBA1C between 6 and 10 had a risk of infection of 15% and patient with HBA1C less than 6 had 6% risk of any form of infection.

Conclusion:
HBA1C above 6 was associated with increase risk of postoperative wound infection and a higher trend of post operative mortality.
PROPER METHOD FOR PREOPERATIVE CHEST PREPERATION OF PATIENTS LISTED FOR CARDIAC SURGERY

WALID ABDULKARIM ABUKHUDAIR

Context:
Postoperative pulmonary complication (PCCs) after cardiac surgery are a major source of morbidity and mortality, and increase length of hospital stay and resource utilization. The preoperative including prehospitalization period before CARDIAC surgery maybe used to improve a patients pulmonary condition. The efficacy of preoperative non invasive CPAP and BIPAP machine use, chest physiotherapy (CPT) and postural drainage, frequent nebulization plus inspiratory muscle training (IMT) in reducing the incidence of PPCs in high-risk patients undergoing CARDIAC surgery has not yet been determined.

Objective:
To evaluate the prophylactic efficacy of our new preoperative chest preparation strategy (strategy A) on the incidence of PPCs in high risk patients scheduled for elective CARDIAC surgery compared with classic routinely used one (Strategy B)

Design, Setting, and Patients:
A single blind, randomized clinical trial conducted at the Cardiac Center of Kind Fahad Armed forces Hospital, Jeddah, Saudi Arabia, with the enrollment between November 2011 an October 2012. Of 500 patients referred for elective CARDIAC surgery, 100 (20%) met criteria for high risk of developing PPCs, of whom were enrolled and followed up until discharge from hospital after dividing him to two groups, our new preoperative chest preparation strategy group (group A) and classic routinely used group (group B).

Intervention: Patients were randomly assigned to receive either preoperative strategy (n=50) or usual care B strategy (n=50). Both groups received the postoperative physical therapy.

Main Outcome Measures:
Incidence of PPCs especially pneumonia, duration of postoperative intubation and invasive ventilation, Intensive Care Unit (ICU) stay and hospitalization incidence of requiring re-intubation and impact of both strategies on postoperative patient compliance to respiratory therapy.

Results:
Both groups were comparable at baseline. After CARDIAC surgery, PPCs were present in 10(20%) of patients in the A group and 25(50%) of patients B group. Pneumonia occurred in 5(10%) of patients in the A group and in 7 (14%) of patients in the B (OR 95% CI). Median days range 6-18 days in the B group. Finally, postoperative patients compliance to respiratory therapy was significantly improved.
**Conclusion:**
Preoperative A strategy reduced the incidence of PPCs an duration of postoperative hospitalization in patients at high risk of developing pulmonary complication undergoing CARDIAC surgery. Also, postoperative patient compliance to respiratory therapy was significantly improved
CURRENT OUTCOMES OF THE GLENN BIDIRECTIONAL CAVOPULMONARY CONNECTION FOR SINGLE VENTRICLE PALLIATION

WHEED AREESH RAEDI
DR.WAHEED RAEDI, DR.MAJID AL FAYYADH, DR.MOMDOUH AL AHMADI, DR.BAHAA ALSOUFI

Abstract:

Objectives: The Glenn bidirectional cavopulmonary connection (BCPC) is an established procedure in multi-stage palliation of various single ventricle anomalies. We aimed to report current outcomes following BCPC and to examine risk factors affecting survival and progression to next palliation stage.

Methods: 227 consecutive children with variable single ventricle pathologies underwent BCPC from 2002-07. Competing risks analyses were performed to model events after BCPC (death and transition to Fontan) and subsequently after Fontan (death and cardiac reoperation); and to examine associated risk factors for poor outcomes.

Results: There were 139 males (61%) with median age of 7.6 months (interquartile range (IQR) 6.0-10.8) and median weight of 6.2 kg (IQR 5.2-7.4). Fortythree patients (19%) had primary BCPC and 184 (81%) had prior palliation: aortopulmonary shunt (n=83), Norwood (n=55), pulmonary artery band (n=48), atrial septectomy (n=25), pulmonary artery reconstruction (n=14), anomalous pulmonary venous connection repair (n=7), other (n=8). Predominant ventricle was left morphology (n=122, 54%), right morphology (n=95, 42%), two equally developed ventricles (n=10, 4%). Twenty-six patients (12%) had bilateral SVC. Concomitant surgery included atrioventricular valve repair (n=18), pulmonary artery augmentation (n=80), percutaneous Fontan preparation (n=34), other (n=24). Competing risks analysis showed that 5-years following BCPC, approximately 17% have died, 76% have undergone Fontan and 7% were alive awaiting or not qualifying for Fontan. On multivariable analysis, risk factors for death prior to Fontan were PVRI >3 WU/M2 (HR 3.9, p=0.001), dominant right ventricle (HR 2.1, p=0.03), prior palliation other than aortopulmonary shunt (HR 0.4, p=0.03). Competing risks analysis showed that 3-years following 172 Fontan operations, approximately 10% have died, 6% have undergone further cardiac surgery and 84% were alive and free from reoperation. Overall, 8-year survival following BCPC was only 74%.

Conclusions: Despite established selection criteria and improved surgical technique and medical management, there is a continuous failure and attrition risk following BCPC. Outcomes are influenced by underlying cardiac anomaly; patients with dominant left ventricle (i.e. tricuspid atresia, DILV) having the best survival while those with dominant right ventricle (i.e. HLHS, DORV with heterotaxy) having the worst survival. Increased pulmonary vascular resistance remains a significant factor affecting mortality.
ROLE OF BIOMARKERS TO IDENTIFY INDIVIDUALS WITH SILENT CARDIAC DISEASE TO HELP IMPROVE PRIMARY PREVENTION

YAHIA MOHAMAD ELRAKSHY
YAHIA M. ELRAKSHY, , AKRAM M. FAYED

ROLE OF BIOMARKERS TO IDENTIFY INDIVIDUALS WITH SILENT CARDIAC DISEASE TO HELP IMPROVE PRIMARY PREVENTION
Yahia M. Elrakshy, Cardiology Department, Alexandria University Hospital .
Akram M. Fayed, Critical Care Department ,Faculty of Medicine , Alexandria, Egypt .

Objectives:
The aim of this study was to evaluate power of identification of silent cardiac target organ damage (TOD) in population receiving primary prevention with the use of biomarkers.

Background:
Primary prevention of cardiovascular events could be improved by identifying patients with silent cardiac TOD (i.e., myocardial ischemia, systolic dysfunction, diastolic dysfunction, left ventricular hypertrophy or left atrial enlargement). Biomarkers used for screening included high sensitive CRP [hs-CRP], high sensitivity cardiac troponin T [hs-cTnT], or B-type natriuretic peptide [BNP].

Methods:
The study included 271 asymptomatic individuals already receiving primary prevention therapy, they had their biomarkers evaluated. Identification of silent cardiac TOD was done by transthoracic echocardiography, stress echocardiography, and/or myocardial perfusion imaging. Carotid–femoral pulse wave velocity.

Results: showed that ninety six (35%) patients had evidence of cTOD. Left ventricular hypertrophy evaluated by LV mass index showed the highest prevalence (32.7%), followed by left ventricular diastolic dysfunction (28.9%), left atrial enlargement (19.1%), systolic dysfunction (10.6%), ischemia (7.1%) and the lowest was PWV (2.7%). The discrimination power as evaluated by area under the curve [AUC] for BNP to identify any form of silent cTOD was 0.79 overall and 0.83 in men, while for hs-cTnT it was 0.70 and 0.74 in women. The combined AUC for BNP and hs-cTnT together was 0.81 and 0.82 in men. Week discrimination power existed for other biomarkers, with AUCs of 0.61 for microalbuminuria, 0.60 for hs-CRP, and 0.58 for eGFR.

Conclusions:
Asymptomatic patients treated for primary prevention, existing silent cTOD could be identified by BNP screening. The results of hs-cTnT was weaker than that of BNP. Combining BNP plus hs-cTnT together showed best results. Primary prevention could be improved by Prescreening with BNP ± cTnT followed by phenotyping.
EFFECT OF CIRCADIAN RHYTHM OF BLOOD PRESSURE ON ARTERIAL WALL STIFFNESS AND ON LEFT VENTRICULAR DIASTOLIC DYSFUNCTION

YAHIA MOHAMAD ELRAKSHY
YAHIA M. ELRAKSHY, AKRAM M. FAYED, MAHMOOD M. HASSANEIN

Background:
Arterial stiffness is a risk factor for cardiovascular morbidity and mortality. Variability of blood pressure has been reported to be related to worse cardiovascular outcome. The relationship between the arterial stiffness and the circadian rhythm of blood pressure (BP) has been controversial. The objective was to examine impacts of BP variability on left ventricular diastolic function and arterial stiffness in the hypertensive patients.

Methods:
Ambulatory BP monitoring, pulse wave velocity, and echocardiography were performed in 268 patients (153 males, 47±11 years) with HTN and pre-HTN. BP was measured at the outpatient clinic and 24-hour ABPM was performed. Using carotid femoral applanation tonometry, PWA was performed for evaluation of systemic arterial stiffness expressed as augmentation index. Echocardiograms were performed and an average of 3-6 cardiac cycles was done for all measurements including the left ventricular mass index (LVMI), relative wall thickness (RWT), trans mitral flow propagation velocity (Vp), TDI, and midwall shortening fraction (MWSF). Nocturnal dipping was defined as a reduction of diastolic BP (DBP) by >10% of systolic BP (SBP) when compared with the daytime values. Isolated systolic nondipping, is reduction of <10% in the SBP, When compared with the daytime values. Isolated diastolic non-dipping is reduction of <10% in the DBP. Both systolic and diastolic non-dipping is reduction of <10% in both SBP and DBP.

Results:
Among groups, the clinic SBP and DBP, daytime mean BP of 24-hour ABPM, gender and body mass index were not statistically different. Augmentation pressure (AP), augmentation index (AI) showed statistically significant difference (p=0.008, and 0.021, respectively). Multivariate analysis showed that isolated diastolic non-dipping was correlated with arterial stiffness expressed as AI only in young group (
FEASIBILITY OF USING IVABRIDINE IN ADULT CONGENITAL HEART DISEASE PATIENT

ZAKARIYA HUSSAIN ALBINMOUSA
ZAKARIYA ALBINMOUSA, KHALID ALNAJASHI, KHALID DAGRIRI, AHMED ALFAGIHI, SALEH ALGHAMDI

Background:
Beta blockers have been the main agent to control the heart rate in Fontan patients. Ivabradine which is a selective SA node inhibitor has been used in adult cardiac patient with successful result in controlling heart rate for those who did not respond to beta blockers alone. This agent has not been reported to be used in adult congenital heart disease patients.

Objective:
to determine the feasibility of using ivabradine in patient with adult congenital heart disease and inappropriate sinus tachycardia who failed to respond to beta blockers.

Methods:
3 patients all with single ventricle physiology were on maximum tolerable dose of Beta Blockers, with inappropriate sinus tachycardia started on ivabradine. Average follow up was 52 weeks with regular holter monitor. Pro-BNP, 6 minute walk test, and echocardiography at baseline and 24 weeks of follow up. Physical examination and interrogation for any detected side effect was done on each visit.

Result:
At baseline the average heart rate was 100 +_ 4 BPM, ivabradine started on with target dose 7.5 mg BD. The mean average heart rate at 12 weeks was 83 BPM, 78 BPM on 24 weeks, and 85 BPM on 52 weeks. There was no reported side effect by the patients or an effect on single ventricle function.

Conclusion:
ivabradine can be used in single ventricle patients to reduce the heart rate in conjunction with beta blockers. However larger study is needed to assess its isolated long term effect on a diseased sinus node.
IDENTIFICATION OF A NOVEL HOMOZYGOUS NEXN MUTATION IN RECESSIVELY INHERITED DILATED CARDIOMYOPATHY

ZUHAIR NASSER AL-HASSNAN
ZUHAIR N. AL-HASSNAN, ABDULRAHMAN ALMESNED, SAHAR TULBAH, WALEED AL-MANEA, MAJID AL-FAYYADH,

Familial dilated cardiomyopathy (DCM) is genetically heterogeneous. Mutations in more than 30 genes have been identified in familial cases; mostly inherited as autosomal dominant. Defective genes in isolated recessive DCM are rarely observed. Recently, heterozygous mutations in NEXN gene, which encodes a cardiac Z-disc protein, have been identified in patients with dominantly inherited dilated and hypertrophic forms of cardiomyopathy. Through our Cardiovascular Genetics Program, we have conducted genome-wide analysis in 43 consanguineous Saudi families with recessive forms of cardiomyopathy. The analysis detected a region of homozygosity (ROH) on chromosome 1p31 in one family who has two affected infants with severe DCM. The index case presented at the age of 1 month with severely dilated left ventricle with ejection fraction of 21%. The identified ROH in this family was found to be shared by the 2 affected siblings and was not found in their parents and unaffected sibling. Direct sequencing of 6 candidate genes within the identified ROH revealed a novel homozygous deletion (c.1582-1584delGAA) in NEXN gene in both affected siblings. This mutation leads to a deletion of glutamate, at position 528, which is a highly conserved amino acid. To our knowledge, this is the first study identifying a homozygous mutation in NEXN gene in association with recessive cardiomyopathy. This finding could be utilized to prevent the recurrence of DCM through preimplantation genetic diagnosis and carrier screening for at-risk family members. Our work also illustrates the importance of homozygosity analysis in identifying genetic causes of familial cardiovascular disorders in our highly consanguineous population.