

the patch. Patients were examined using trans-thoracic echocardiography consecutively at discharge from the hospital, and at 3–6 months and yearly after discharge. The mean follow up time was 78 months. The early mortality was 5.19% (17 patients), and there were no late mortality. The highest mortality was reported during the beginning of the pediatric surgical program. The mortality for the last 100 patients was 1%. The pressure gradient across the pulmonary valve in 249 patients (87%, was less than 20 mmHg. Mild pulmonary stenosis (pressure gradient of 20–40 mmHg) was present in 32 patients (11.14%) and moderate pulmonary stenosis with gradient 40–60 mmHg was manifested in 4 patients (1.39%). Reconstruction of the new Pulmonary artery during the ASO, using the quadrangular autologous fresh pericardial patch, is effective and reproducible in reducing the incidence of post-operative pulmonary stenosis.

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## 8. Are nurse-led prosthetic valve anticoagulation clinics effective?

F. Obeid<sup>a</sup>, R. Odeh<sup>b</sup>, R. Sirriyeh<sup>a</sup>, S. AL-Refaei<sup>c</sup>, S. Alshnaikat<sup>c</sup>, B. Bdeir<sup>c</sup>, I. Farah<sup>c</sup>  
<sup>a</sup>National Guard Health Affairs, Riyadh, Saudi Arabia; <sup>b</sup>KACC, Riyadh, Saudi Arabia; <sup>c</sup>NGHA, Riyadh, Saudi Arabia

Valvular heart disease is a major and serious health-care issue. There is an increasing evidence that Nurse-led anticoagulation clinics may improve patients' management and care. This is a retrospective comparison study that included the first 94 patients enrolled in the Nurse Led Prosthetic Valve Anticoagulation Clinic (PVATC) in King Abdul-Aziz Cardiac Centre between April and June 2013, and received Warfarin by General Cardiology Clinics for one year pre enrollment in PVATC, and one year after. Time in Therapeutic Range (TTR) of the International Normalized Ratio (INR) was calculated and compared between pre and post PVATC enrolment. Other data including demographics and comorbidities were collected and analyzed. Mean age of patients was 53 ± 12.5 years and males were 56%. Atrial fibrillation was found in 37%, Diabetes Mellitus in 28% and Hypertension in 34%. Mean TTR was 72% pre enrollment in PVATC as compared to 78.9% after ( $P < 0.006$ ). Median TTR was 75% pre, and 81.5% after attending the PVATC ( $P < 0.0001$ ). 56% of patients pre enrollment had TTR values above 70% threshold, compared to 75% after enrollment. Nurse-Led PVATC has significant impact on the care provided to patients receiving anticoagulation treatment.

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## Abstract Session 2

### 9. Incidence of tricuspid valve regurgitation following pacemaker/defibrillator lead extraction

A. AlFagih<sup>a</sup>, A.W. Al-Johar<sup>b</sup>, A. Aljasser<sup>b</sup>, H. AlOnazi<sup>a</sup>, A. Ahmed<sup>a</sup>, Y. Al Hebaishi<sup>a</sup>  
<sup>a</sup>Prince Sultan Cardiac Center, Cardiology, Riyadh, Saudi Arabia; <sup>b</sup>King Saud University, College of Medicine, Riyadh, Saudi Arabia

Despite advanced sterile techniques in cardiac device implantations, long-term complications such as wound infections and/or lead-induced endocarditis can develop mandating lead and device extraction. It has been suggested that lead extraction carries a risk of new-onset Tricuspid Regurgitation (TR), or a deterioration of a formerly known regurgitant valve. Yet, there is no enough scientific evidence to our knowledge to back this claim. In this study we aim to explore the risk of TR following lead extraction. We conducted a retrospective chart review in 113 patients whom underwent lead extraction at Prince Sultan Cardiac Center in Saudi Arabia during the period of Jan, 2002 to Jul, 2015. Six patients underwent lead extraction twice, making the total number of extractions to be 119. Of this study cohort, we include 52 cases who had Tricuspid valve function evaluation via Transthoracic Echocardiography (TTE) prior to and after device and lead extraction. TR severity was assessed using a grading system as the following; normal, mild, mild-to-moderate, moderate-to-severe, and severe. Worsening or improvement by more than 1 grade was considered clinically significant. TR following lead extraction was examined over a median of 5 months. Of the 52 cases included in this study, 37 (71.2%) were males and 15 (28.8%) were females, with a mean age of 46 (SD = 18) years. Eleven patients (21.2%) experienced worsening of TR (3 had normal functioning valves before extraction, and 8 were known to have TR prior to extraction), 2 (3.8%) had improvement, and the majority (75.0%) did not experience any significant changes. Compared with those who had no change, average lead duration was higher in the worsening TR group (67.2 vs. 27.9 months). A lead-attached vegetation was detected in 4 out of the 11 patients with TR. Lead type (High-voltage vs. Pacing) was not predictive of TR, 5 (45.5%) of the patients in the worsening group had high-voltage leads, while the remaining (54.5%) had pacing leads across the valve. Our study being a simple descriptive study could not find overwhelming evidence to support the claim that there is an elevated risk of new onset TR or deterioration of a regurgitant valve following pacemaker/defibrillator lead extraction. However, our study being a simple observational study with a considerably small sample size may influence the findings. Lack of appropriate control group in this study is a limitation in appraising the hypothesis. As there is scarcity of data in this important area of cardiac research, our findings should

prompt motivation for larger and well controlled cohort studies.

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## 10. Effect of pacemaker/defibrillator lead extraction on pulmonary artery systolic pressure

Y. Al Hebaishi<sup>a</sup>, A.W. Al-Johar<sup>b</sup>, A. Aljasser<sup>b</sup>,  
H. AlOnazi<sup>a</sup>, A. Ahmed<sup>a</sup>, A. AlFagih<sup>a</sup>

<sup>a</sup>Prince Sultan Cardiac Center, Cardiology, Riyadh, Saudi Arabia; <sup>b</sup>King Saud University, College of Medicine, Riyadh, Saudi Arabia

As the number of cardiac device implantations are on a rise, there is a parallel increase in their long-term complications including device-related infection that will require lead extraction. As the detachment of fibrosed debris reaching the pulmonary trunk can occur during the extraction, the risk of developing new-onset Pulmonary Hypertension (P. HTN) increases with every extraction. Yet, there is paucity of evidence to support such claim. Given the clinical significance of such findings, we sought to determine the risk. A chart review of 113 patients whom underwent lead extraction at Prince Sultan Cardiac Center in Saudi Arabia during the period of Jan, 2002 to Jul, 2015 was carried out. Six patients had lead extraction twice, making the total number of extractions to be 119. Of this study cohort, only 45 cases had Pulmonary Artery Systolic Pressure (PASP) measurement via Transthoracic Echocardiography (TTE) prior to and after device extraction. PASP measurements were obtained as reported whether a single measurement or a range between two readings, and an average was calculated in case of two readings. A difference of 10 mmHg or more in the PASP, whether progression or improvement, was considered clinically significant. Median follow up of TTE after lead and device extraction was 5 months. Out of 45 patients, 31 (68.9%) were males and 14 (31.1%) were females. Average age was 46.5 (SD = 17) years. Eleven patients (24.4%) experienced a significant increase of PASP after lead extraction (10 had normal pressure readings before extraction, and only one had progression to a more severe form of the disease), 9 patients (20.0%) showed improvement, and the remaining (55.6%) did not show any significant change in PASP. Average implantation-to-extraction duration of the leads was higher among those who had no pressure difference (50.6 vs. 23.3 months). When looking through potential predictors that may increase the likelihood of developing P. HTN, there was no association with a pre-existing lead-attached vegetation (2 patients only), nor the type of lead (6 high-voltage vs. 5 pacing leads across the tricuspid valve). In patients who developed P. HTN, 8 (72.7%) had their devices extracted as a result of a complicated infection (wound infections and/or infective endocarditis), as opposed to 3 (27.3%) whom underwent device extraction for other indications. Our

simple descriptive study showed that the risk of developing P. HTN following lead and device extraction is negligible. However, our findings should be interpreted in the light of the limitations such as a small sample size and lack of comparable control group. Paucity of data and evidence on the long-term complications subsequent to device and lead extractions will be a subject of further exploration given the potential connection to patient outcomes and management.

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## 11. Prevalence of psychiatric symptoms among patients with recurrent vasovagal and unexplained syncope

A.W. Al-Johar<sup>a</sup>, A. Aljenedil<sup>a</sup>, A. AlHuzaimi<sup>b</sup>, A. AlHadi<sup>c,d</sup>, A. Hersi<sup>b</sup>

<sup>a</sup>King Saud University, College of Medicine, Riyadh, Saudi Arabia; <sup>b</sup>King Saud University, Department of Cardiac Sciences, King Fahad Cardiac Centre, College of Medicine, Riyadh, Saudi Arabia;

<sup>c</sup>King Saud University, Department of Psychiatry, College of Medicine, Riyadh, Saudi Arabia; <sup>d</sup>SABIC Psychological Health Research & Applications Chair (SPHRAC), College of Medicine, King Saud University, Riyadh, Saudi Arabia

Syncope is defined as a transient loss of consciousness and absence of postural tone followed by spontaneous recovery. Neurally mediated syncope (vasovagal) and idiopathic unexplained syncope (US) are the most common causes of syncope. Syncope is a very limiting disease that, if recurrent, affects the patients' physical and psychological health. Our objective from this study is to measure the prevalence of psychiatric symptoms among patients with US. All patients (>12 years) with vasovagal or US who were evaluated in King Khalid University Hospital were identified. Echocardiography and table tilt test reports were reviewed and patients who had cardiac syncope (due to arrhythmia or structural heart disease) were excluded ( $N = 18$ ). Ninety-four patients were included for further psychiatric assessment. The patients were contacted to fill the Symptoms Checklist-90-Revised (SCL-90-R), which is a self-reporting questionnaire used to evaluate traits of depression, anxiety, somatization disorder and phobia. SCL-90-R scale has been translated to Arabic and validated in previous studies. Of the included cohort, 43 responded to fill the assessment scale, and 51 were excluded due to failure of communication ( $N = 41$ ) or refusal to participate ( $N = 10$ ). A control group was recruited with a case: control ratio of 1:3 matching for age, gender, and chronic illnesses. There were 43 patients and 129 control subjects, with predominance of females (67.4%) and an average age of 33.8 (SD = 16). There was no difference in average scores of depression (13 vs. 14.53,  $P = 0.31$ ), anxiety (11.3 vs. 10.4,  $P = 0.51$ ), or phobia (5.4 vs. 5.2,  $P = 0.88$ ). How-