calcification was performed. Transesophageal echocardiography (TEE) was done if needed.

**Results:** 32 patients were selected with mean age of 78.7 ± 9.3 y, 18 males, and 14 females. The mean AVA was 0.5 ± 0.12 cm², mean PG was 86.7 ± 22.1 mm Hg, mean MG was 50.9 ± 13 mm Hg, mean aortic annulus was 21.9 ± 1.5 mm, and mean EF was 48.6 ± 12.2%. Mild, moderate, and severe MR was found in 10, 9, and 3 patients, respectively. From the CT data, the distance of the aortic annulus to the left main (LM) was 12.8 ± 2.4 mm except in one patient who developed latter LM obstruction by the bioprosthesis was 6 mm. Porcelain aorta was found in 3 patients. According to peripheral vessel CT measurements, trans-apical approach was performed in 20 pat, and trans-femoral in 12 pat. TEE was needed in 3 patients to measure aortic annulus.

**Conclusion:** Comprehensive cardiac imaging assessment is mandatory to select patients for TAVI, and choose the appropriate operative approach. TAVI should be avoided in patients with LM to AA distance of <8 mm.

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**SHA 007. Calisthenic exercise-induced changes in myocardial oxygen consumption in normotensive healthy subjects**

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**Background and objective:** The product of heart rate (HR) and systolic blood pressure (SBP) provides a convenient estimate of myocardial oxygen consumption (MVO2). This study aimed to explore calisthenic exercise-induced changes in MVO2 in healthy normotensive subjects.

**Method:** Eleven college-female students were recruited for this study from College of Applied Medical Sciences, King Saud University. They performed one upper-extremity and one lower-extremity one-minute calisthenic exercise. Each exercise was practiced with slow, moderate and fast cadences. Values of pre- and post-exercise HR and SBP were used to calculate pre- and post-exercise rate pressure product (RPP) (RPP = HR × SBP).

Percentage of change between pre- and post-exercise RPP (%ΔRPP) was used to estimate the calisthenic exercise-induced changes in MVO2 (%ΔMVO2 = [(post-exercise RPP – pre-exercise RPP) / pre-exercise RPP] × 100).

**Results:** One-minute calisthenic exercise resulted in modest increase in post-exercise RPP estimating minimal increase in MVO2 demand. This increase was influenced by the three selected exercise cadences (P value was 0.029 for upper-extremity and 0.0001 for lower-extremity). Results observed that more MVO2 was required with lower-extremity calisthenic exercise than with upper-extremity exercise. Progressive increase in the %ΔRPP was found through the three cadences and it was of no significance in upper-extremity exercise (P = 0.208) and was significance in lower-extremity exercise (P = 0.023).

**Conclusion:** One-minute calisthenic exercise revealed minimal exercise-induced changes in MVO2 for normotensive healthy female college-students especially with upper-extremity. If convalescing cardiac patient would show the same response, 1-min calisthenic exercise with its three cadences would be supported as a low-intensity and safe exercise for Phase I cardiac rehabilitation.

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**SHA 008. Impact of a nurse-led heart failure program on all cause mortality in Saudi Arabia**

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**Background:** Nurse led heart failure (HF) clinics have been shown to reduce readmissions and improve medication adherence rates. However, its impact on survival is not well demonstrated. The aim of this study is to evaluate the impact of a nurse-led HF clinic on all cause mortality.

**Methods:** We included 425 consecutive patients who were admitted with HF exacerbations in 2008 and 2009. All patients were invited to follow-up in a nurse led HF clinic; 199 (48%) patients agreed. All patients were followed up for all cause mortality which was confirmed by national death index. The independent predictors of outcomes were identified using multivariable Cox regression.

**Results:** The 199 patients who agreed to follow up in the HF clinic were younger, more often men and had lower ejection fraction, BUN and systolic blood pressure. After a median follow-up of 15 months (range 6–30 months), 55 patients died; 14 patients in the clinic group (7%) compared to 41 patients (19%) in the regular care group. Using multivariable Cox regression, the participation in the HF clinic was independently associated with two and a half folds reduction in all cause mortality (HR 0.4, 95% CI 0.2–0.8, p = 0.008).

**Conclusions:** Nurse led HF clinic is independently associated with improved survival among patients with decompensated heart failure.

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**SHA 009. Impact of a cardiac diabetic nurse in reducing the incidence of hypoglycaemic events in cardiac patients with type 2 diabetes mellitus at King Abdulaziz Cardiac Centre**

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**Introduction:** Hypoglycaemia is a potential lethal complication of hypoglycaemic medications for patients with diabetes mellitus (DM), as was demonstrated in the Diabetes Control and Complication Trial (DCCT). United Kingdom Prospective Diabetes Study (UKPDS) reported an annual incidence of major hypoglycaemic events of 2.3% in that receiving insulin therapy.

**Objective:** To evaluate the effectiveness of the Cardiac Diabetic Nurse in Reducing the Incidence of Hypoglycaemic Events in Cardiac Patients with Type 2 DM at KACC.

**Methodology:** This prospective study will implement two interventions. The first will focus on an intensive educational strategy for approximately 100 cardiac nurses, and facilitate delivery of the latest evidence based guidelines over a six week period. A pre-test evaluation will be obtained from the cardiac nurses on hypoglycaemia management and this will be repeated after the education intervention is complete. The second intervention will address timing of patient snacks and a pre and post audit will be instigated to evaluate any improvement in deficit areas.

**Results:** In September and October, 2010 in KACC, 40 patients had documented hypoglycaemic events. After the intervention phase we will conduct an observation to detect the number of
Conclusion: Cardiac diabetic nurse is effective in reducing the incidence of hypoglycaemic events in cardiac patients with Type 2 DM at KACC through focused educational interventions.

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SHA 010. The early outcome of coronary artery bypass surgery in hemodialysis-dependent chronic renal failure patients
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Objective: Coronary artery bypass grafting (CABG) in hemodialysis-dependent patients is associated with high mortality and morbidity rates. This retrospective study was undertaken to identify the risk factors for the 30 days mortality for hemodialysis-dependent patients.

Methods: Subjects included 85 consecutive hemodialysis-dependent patients (63 men and 22 women), aged 50–87 years (mean age, 68 years), who underwent CABG.

Operative procedures included CABG alone (n = 52) and CABG with valve replacement, repair, or others (n = 33). A series of peri-operative risk factors were subjected to univariate and multivariate analyses to identify the risk factors for the early mortality.

Results: The overall 30 days mortality rate was 14.1% (12/85). Univariate analysis showed the following 4 risk factors to be statistically significant predictors of hospital death: a concomitant cardiac procedure, left ventricular ejection fraction <30%, emergency/urgent surgery, and anemia (hemoglobin <10 mg/dl) (p < 0.05 for each predictor). Multivariate logistic regression analysis however confirmed that a concomitant cardiac procedure (χ² = 15.090, p = 0.013) is the only statistically significant independent risk factors for hospital death.

Conclusion: A concomitant cardiac procedure was identified as significant independent risk factors for hospital mortality after CABG in our population for hemodialysis-dependent patients. Therefore, these pre-operative risk factors may help in predicting operative risks and improving clinical outcomes in hemodialysis-dependent patients undergoing CABG.


SHA 012. Transcutaneous aortic valve implantation “TAVI” experience at PSCC: 1 year follow up
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Objective: To assess the results of (TAVI) at one year at PSCC, Riyadh.

Methods: From April 2009 till October 2010, 31 patients with severe AS were enrolled for TAVI technique using Edwards Sapien aortic valve. 27 patients had TAVI and 4 were excluded. Transapical technique was performed in 20 patients (74%) and Transfemoral in 7 patients (26%). The mean age was 79.6 years, the mean Euroscore was 23, 12 female (44.4%) and 15 male patients (55.6%) done, the mean EF 50.3%, and PAP 49.7 mm Hg. 26% of patients had COPD, 37% renal impairment, 14.8% CVA, 66.6% PVD, 7.5% Porcelain aorta, 48.1% CAD or PCI, and 22.2% had CABG. The mean AVA 0.55 cm², mean peak aortic gradient 91.3 mmHg, and mean AV annulus 23.2 mm.

Results: The mean Hospital stay was 12.5 days, and median 7 days. The overall 1 month mortality was 11.1% and 1 year survival 88.9%. 44.5% of patients had grade-I paravalvular leak, 7.5% had grade-ii, and 48% of patients had no leak. The mean peak aortic gradient was 19.8 mmHg, EF 48.8%, pap 47.5 mm Hg. Cardiac tamponade in 2 patients (7.4%), apical tear in 1 patient (3.7%), exploration for bleeding in 3 patients (11.1%), coronary occlusion in 1 patient (3.7%), CVA in 1 patient (3.7%), dialysis in 4 patients (14.8%), reintubation in 3 patients (11.1%), vascular complications in 1 patient (3.7%), wound infection in 2 patients (7.4%), 0% PPM insertion.

Conclusion: TAVI is a feasible technique for high risk AVR with good outcome.