

Open saphenous vein technique is the standard of care in patients undergoing coronary artery surgery (CABG) worldwide and in Saudi Arabia. Endoscopic vein harvest (EVH) is an innovative technique that have been recommended by the international society of minimally invasive surgery. Our aim in the current study is to review our preliminary data about endoscopic vein harvest. Would endoscopic vein harvest decrease the incidence of leg wound infections? This is a retrospective study of a single tertiary care center of 94 consecutive patients who underwent CABG with EVH. Preoperative associated risk factors were assessed. Postoperative follow up includes leg wound infection and patient satisfaction with EVH by using a telephone and/or a paper questionnaire. We had 94 consecutive patients who underwent CABG with EVH between October 2014 and October 2015, mean age was 56.7 (33–77) years, 91.5% were male, mean euro score II was 2.47%. The most common presentation was NSTEMI (39.4%) followed by STEMI (26.6%), unstable angina (11.7%) and stable angina (5.3%). Our cohort had the following characteristics: 85.1% were diabetic, 84% were hypertensive, 46.8% had dyslipidemia, 2.1% had CVA, 7.4% had Carotid artery disease, 2.1% had Congestive heart failure, 4.3% had any renal disease and 4.3% had previous PCI. Most of our patients received 3 grafts (44.7%) followed by 4 grafts (42.6%) of which only one leg was used for EVH (94.1%). Leg wound infection occurred in one patient only and in this case EVH was converted to open technique. A written and/or telephone questionnaire resulted in a high patient-satisfaction with the cosmetic outcome of EVH as well as very low grade of leg wound pain. EVH is a very promising innovative technique in patient undergoing CABG. Our patients were highly satisfied with their leg wound cosmetic outcome. In this single center experience, in Saudi Arabia, EVH is a promising innovative technique for saphenous vein harvest. It is highly recommended that cardiac centers in Saudi Arabia embrace such less invasive technology.

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SURGICAL THERAPY FOR VALVULAR HEART DISEASE

57. Aortic valve replacement with sutureless valve and mitral valve repair in patient with infected aortic homograft

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The approach of implanting aortic sutureless valve inside the calcific homograft is suitable in redo surgery especially if associated with mitral valve surgery. Aortic

valve replacement in patients who have undergone previous aortic root replacement with an aortic homograft remains a technical challenge because of homograft degeneration and the need for a redo Bentall operation. We report a case of redo aortic valve replacement (valve in valve) with a sutureless valve and mitral valve repair by miniband annuloplasty in a female patient aged 64 years old who underwent aortic valve replacement with homograft 14 years ago and presented by severe aortic valve regurgitation and severe mitral valve regurgitation because of infective endocarditis. This technique allows rapid aortic valve replacement in a heavily calcified aortic root. It also avoids aortic valve size affection after mitral valve repair by ordinary methods especially in patients with small aortic annulus. This technique is particularly suitable in redo procedures for homograft degeneration, it avoids performing a redo Bentall operation with its known problems as well as to avoid patient prosthesis mismatch.

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58. Predictors for the outcome of aortic regurgitation after cardiac surgery in patients with ventricular septal defect and aortic cusp prolapse in Saudi patients

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Aortic valve (AV) prolapse and subsequent aortic regurgitation (AR) are two complications of ventricular septal defects (VSD) that are located close to or in direct contact with the AV. This finding is one of the indications for surgical VSD closure even in absence of symptoms in order to protect the AV integrity. Goal of our study was to assess the outcome, and to identify the predictors for improvement or progression of AR after surgical repair. A retrospective study of all children with VSD and AV prolapse who underwent cardiac surgery at King Abdulaziz Cardiac Center in Riyadh between July 1999 till August 2013. A total of 41 consecutive patients, operated for VSD with prolapsed AV, with or without AR, were reviewed. The incidence of AV prolapse in the study population was 6.8% out of 655 patients with VSD. Thirty-six (88%) patients had a perimembranous VSD and 4 had doubly committed VSD. Only one patient had an outlet muscular VSD. Right coronary cusp prolapse was found in 38 (92.7%) patients. Preoperative AR was absent in 5 patients, mild or less in 25 patients, moderate in 7 and severe in 4 patients. Twenty six patients showed improvement in the degree of AR after surgery (Group A), 14 patients showed no change in

the degree of AR (Group B) while only one patient showed progression of his AR after surgery. Those with absent AR before surgery remained with no AR after surgery. Improvement was found more in those with mild degree of AR preoperatively compared to those with moderate and severe AR. Female gender also showed tendency to improve more as compared to male. Early surgical closure is advisable for patients with VSD and associated AV prolapse in order to achieve a better outcome after repair and to prevent progression of AR in future.

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SURGICAL TREATMENT OF HEART FAILURE, TRANSPLANTATION, AND ARRHYTHMIAS

59. Early and late results of routine leaflet augmentation for complete atrio-ventricular septal defect repair

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Complete AVSD (CAVSD) is characterized by the presence of a common atrio-ventricular (AV) orifice, an inter-atrial communication, and a ventricular septal defect (VSD). Results of surgical correction of atrio-ventricular septal defects (AVSDs) have improved over the last decades; however, the need for reoperation for left atrio-ventricular valve regurgitation, after primary AVSD repair remains a major concern. The aim of our study is to assess the outcome of the routine leaflet augmentation technique in CAVSD repair. A retrospective database and chart review analysis of all patients who underwent AV canal repair at King Abdul-Aziz Cardiac Center during period from 1999 to September 2014 was conducted. Demographic data, associated anomalies, operative data, ICU and hospital course were reviewed. Early outcomes were reviewed for postoperative complications (Chylothorax, complete AV block, Arrhythmias, early mortality) and late outcomes were reviewed for Left AV valve regurgitation requiring for re-intervention and late mortality. Two hundred and sixty patients underwent leaflet augmentation technique to repair complete AVSD, between January 1999 and September 2014. The mean age was (131.5 months), and mean weight (6.06 kg). A variety of concomitant procedures were performed at the time of repair of the CAVSD, including a total of 49 patients (18.8%) who underwent PDA ligation. Repair of TV (Right AV valve) was performed in 11 patients (4.2%), 9 patients (3.46%) required RVOTO resection, in 5 patients (1.92%), PA plasty was done and 2 patients (0.76%) required ECMO after CAVSD repair.

Regarding reoperations, a total of 17 patients (of 260) required reoperation after initial CAVSD repair. The most common indication for reoperation was left AV valve regurgitation in 16 patients (6%) in the follow up period up to 15 years. One patient (0.38%) required diaphragmatic plication. The overall mortality was 3 patients (1.1%). Leaflet augmentation for the repair of the complete AVSD, represent a good surgical alternative technique, allows for good exposure, good LAVV reconstruction and close to anatomical repair and results in reduced incidence of late Left atrio-ventricular valve regurgitation.

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DISEASE MANAGEMENT, QUALITY OF CARE, AND CLINICAL OUTCOMES

60. Mid-term outcome of cardiac resynchronization therapy in pediatrics: single institution experience

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Cardiac resynchronization therapy (CRT) has become an increasingly important therapeutic option for patients (pts) to treat dyssynchrony associated moderate and severe heart failure. Few reports however, determined the beneficial effects of CRT in pediatrics and midterm outcome following this therapy. Our aim is to assess the mid-term outcomes of CRT in children with evidence of dyssynchrony associated heart failure. Cardiac resynchronization therapy is beneficial in treating congenital heart disease patients who have evidence of dyssynchrony associated heart failure. Retrospective review of 18 consecutive pediatric patients who underwent CRT at our institution between January 2002 and August 2011 Cardiac resynchronization pacemaker was implanted in 18 pts the majority of pts (14) with congenital heart disease. Fourteen pts had preexisting complete heart block and chronic right ventricular pacing. Epicardial left ventricular leads were implanted in all pts while the atrial and right ventricular leads approach varied according to the pt size and anatomy. Indication for CRT was symptomatic dilated cardiomyopathy with evidence of electrical and/or mechanical dyssynchrony demonstrated by M-mode, 3-D echo, or tissue Doppler. The median age of this cohort was 14 years (range 6 months–16 years), the median follow-up time was 7.2 years (range 1–10 years). Subjectively, 16 out of 18 pts reported symptomatic improvement with decreased hospitalizations. The left ventricular ejection fraction improved from mean of 27% (SD 13%) to mean of 50% (SD 13%) (*P* value <0.001). Additionally, cardiomegaly