Objectives: To assure the accuracy and reliability of blood pressure measurement by non invasive blood pressure monitor using Datascope Accutorr PlusTM (Paramus, NJ, USA) against mercury manometer, among adult male participants.

Methods: Cross sectional study was conducted among male adult participants of above 30 years at a University Hospital in the Kingdom of Saudi Arabia during January 2008. Both normotensive and hypertensive but free from atrial fibrillation or any sustained arrhythmia were included in the study. The Datascope Accutorr PlusTM (Paramus, NJ, USA) was tested on 80 participants. One hundred and sixty measurements of blood pressure were performed by primary investigator according to BHS technique protocol. Validation analysis was done according to the AAMI and BHS protocol guidelines.

Results: The mean difference ±SD between the Datascope Accutorr PlusTM and observer was 2.7 ± 5.2 mmHg and 1.5 ± 3.26 mmHg for systolic and diastolic blood pressure, respectively. Datascope Accutorr PlusTM obtained A/A grading for both systolic and diastolic blood pressure.

Conclusion: These data show that the Datascope Accutorr PlusTM (Paramus, NJ, USA) satisfies BHS and AAMI validation protocols for both systolic and diastolic BP and may be recommended for everyday use for BP monitoring at home and in clinical use for adult population.

Tracks: Adult Cardiology.

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SHA 23. Myocardial revascularization in patients with severe left ventricular dysfunction: Is on pump beating the preferable technique?

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Objectives: It remains unclear how cardioplegic arrest affects surgical results after coronary artery bypass grafting. This study compares early outcome after on-pump beating-heart coronary revascularization and conventional revascularization in patients with ejection fractions of less than 30%.

Methods: From 2005 to 2008, 167 patients with ejection fraction less than 30% underwent CABG. On-pump beating-heart CABG was carried out in 75 patients (group 1) and 92 patients had the conventional technique (group 2).

Results: Both groups were otherwise similar in their risk on-pump beating-heart CABG group (4% versus 4.3%). Twelve patients in the conventional CABG group required insertion of intra-aortic balloon pump initiated intraoperative or postoperative, whereas only two patients required it in the on-pump beating-heart CABG group. The ventilation time in hours was longer in the conventional group (10 ± 12.3 versus 7.6 ± 11.7). No significant difference was found in morbidity including stroke and renal failure. The incidence of postoperative atrial fibrillation was significantly less in on pump beating group compared to conventional group occurring in 6 versus 21 patients in group 2. The duration of intensive care unit stay and the hospital stay were significantly shorter in on pump beating group compared to conventional group (10 ± 12.3 versus 7.6 ± 11.7). No significant difference was found in morbidity including stroke and renal failure. The incidence of postoperative atrial fibrillation was significantly less in on pump beating group compared to conventional group occurring in 6 versus 21 patients in group 2. The duration of intensive care unit stay and the hospital stay were significantly shorter in on pump beating group compared to conventional group.

Conclusion: On-pump beating-heart CABG can be performed safely in high-risk patients. Use of cardiopulmonary bypass and the elimination of cardioplegic arrest may be of most benefit to hemodynamically unstable patients.

Tracks: Cardiovascular Surgery.

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SHA 24. Edge to edge technique is the simplest and the method of choice for managing mitral valve repair

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Objectives: To present results of the edge-to-edge technique for mitral valve repair as a adjunct procedure to standard repair techniques.

Methods: Medical records examined retrospectively (1991–2009). Demographics and operative variables affecting outcome were analyzed.

Results: Our experience with the edge-to-edge technique for the surgical treatment of bileaflet prolapse in the context of Barlow’s disease includes 648 consecutive patients submitted to mitral valve repair from 1991 to March 2009. Hospital mortality was 0.92% (6/648). Actuarial survival at 5 years was 92 ± 4.5% and freedom from reoperation 91 ± 4.2% with no patients requiring late reoperation for mitral valve stenosis. Echocardiographic follow-ups show good results of the repair, with stable competence and no progression of valve stenosis: the mean mitral valve area, assessed in a subgroup of 82 patients, was 10.2 ± 2.1 cm² preoperatively, decreased to 3.7 ± 0.8 cm² after repair and did not significantly change at follow-up remaining 3.6 ± 0.97 cm² (7)

Conclusion: Almost 20 years after its introduction, the edge-to-edge technique remains an effective and versatile method to treat mitral regurgitation. Its simplicity and reproducibility have led to its clinical application by percutaneous methods opening a new age in the fascinating field of reconstructive mitral valve surgery.

Tracks: Adult Cardiology.

SHA 25. Early outcome of primary arterial switch operation beyond 3 weeks of age

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Objectives: Arterial Switch operation (ASO) in neonatal stage is the standard management for transposition of the great arteries with intact ventricular septum (TGA-IVS). Patients presenting for late ASO are at risk due to possibility of left ventricle involution and deconditioning with inability to handle systemic circulation. The aim of our study is to assess the early post operative course and outcome of children with TGA-IVS presenting for late primary ASO.

Methods: A retrospective study of all cases of TGA-IVS who underwent a Primary ASO between March 2002 and March 2008 was conducted. Cases were divided into two groups. Group (1) included all cases of early ASO repaired before 3 weeks age, while group (2) included all cases of late ASO repaired after 3 weeks of age. We compared demographic, ICU parameters, complications and short-term outcome of both groups.

Results: Ninety-one patients were included. There were 64 Cases (70%) in group (1) and 27 cases (30%) in group (2). Their mean ± SD ages were 11 ± 4 days and (42 ± 32) days, respec-
tively. There were no significant statistical differences in the ICU parameters, complications or mortality between both groups. Hospital mortality of groups 1 and 2 were 4.7% and 7%, respectively.

Conclusion: ASO for patients with (TGA/IVS) can still be tolerated beyond the first month of life. Provided the left ventricle is still conditioned, the age should not be a limitation for surgery.

Tracks: Pediatric Cardiology.

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SHA 26. Venous venous malformation; a common finding after Kawashima operation
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Objectives/Background: It has been reported that systemic venous venous malformation (VVM) can develop in patients with interrupted inferior vena cava (IVC) and univentricular type of congenital heart disease who undergo superior vena cava to pulmonary artery connection (Kawashima operation). These malformations can lead to profound systemic desaturation postoperatively. However, there have been few reports that characterize the prevalence, anatomic details and clinical correlations of these systemic VVM arising after Kawashima operation. In this study, we describe our experience with VVM after Kawashima operation and discuss issues regarding their preoperative evaluation and postoperative management.

Methods: Eight patients (median age 19 months) who underwent Kawashima operation were subjected to postoperative angiography, prospectively. Sites of VVM origin and entry as well as their course were documented. The presence of arteriovenous malformations (AVM) was also documented.

Results: During follow-up (16–72 months), a total of 14 VVM were found in different supra and infradiaphragmatic sites in six patients (75%); two of them had concomitant AVM. The remaining two patients had only AVM.

Conclusion: Our findings suggest that Systemic VVM can occur frequently after Kawashima operation and can produce significant desaturation postoperatively. Performing detailed angiographic studies of the supra and infradiaphragmatic systemic veins in routine assessment of patients with interrupted IVC before Kawashima operation is probably warranted.

Tracks: Adult Cardiology.

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SHA 27. Vacuum-assisted closure as a treatment modality for sternal wound complications after coronary artery bypass surgery
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Objectives: Sternal infections after median sternotomy remain a serious cause of postoperative morbidity and mortality. There is still no consensus regarding the ideal treatment of this complication. The vacuum-assisted closure (VAC) system is a noninvasive therapy based on the application of negative pressure by controlled suction to the wound surface. This method has been proven to be effective in the promotion of granulation tissue proliferation.

Methods: Nine patients (four men, five women) with a mean age of 68.4 years who presented with sternal wound complications (infection/dehiscence) after coronary artery bypass surgery were managed using the VAC system after surgical debridement. The system was used either as a temporary wound care technique prior to muscle flap closure, or covered by a skin graft, or till healing is achieved by secondary intention.

Results: Healing was successful in all patients. Three patients had pectoralis major muscle flap reconstruction, two patients had a skin graft to cover the defect, the wound was left for healing by secondary intention in two patients and two patient with direct closure.

Conclusion: VAC system is an effective and safe device in managing patients with complicated sternal wounds providing wound control so that reconstructive surgery can be electively planned, or may obviate the need for a second closure operation by allowing the wound to contract and rapidly granulate in addition to its stabilizing effect allowing early extubation and mobilization of the patient.

Tracks: Cardiovascular Surgery.

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SHA 28. Hematoma post cardiac catheterization: Focus PDCA quality management project
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Objectives: To observe and monitor hematoma incidence post cardiac catheterization. * Conduct the audits and consider the study as quality management project. Measure the hematoma incidence following focus-PDSA cycle. * Compare the study to the standards of ACC/AHA.

Methods: Hematoma post cardiac catheterization was observed and monitored over 1-year using special observational tool/survey. Retrospective studies were conducted as follows: First Study: January–April 2008, n = 32, Second Study: January–April 2009, n = 267, Third Study: May–August 2009, n = 40 and Fourth Study: September–October 2009, n = 20, setting: Cardiac Cath Lab, KAMC, CR. Instrument: a survey was formulated and conducted to discover all factors associated with hematoma and also to find out the hematoma incidence for the purpose of this study, then to run the indicator as per focus-PDSA.

Results: First Study, the incidence of hematoma January–May 2008 was 3.1% (n = 32). Second Study, the incidence of hematoma January–April 2009 was 1.5% (n = 267) Third Study, the incidence of hematoma May–August 2009 was 2.5% (n = 40). Fourth Study, the incidence of hematoma September–October 2009 was 0% (n = 20).

Conclusion: Reaching 0% hematoma and exceeding the standards is possible. The actual strategic plans implemented in order to achieve the standard of care were: (1) continuous education by teaching the staff about the vascular complications post cardiac catheterization, then to ensure that staff are proficient in removing the sheath out post arterial access. Quality management: the audit was repeated periodically following focus-PDSA cycle. There were departmental policy and procedure implemented and it was revised after each audit. This policy and procedure will help the hospital to set a standard guidelines in apply when we have any patient undergoing cardiac catheterization in order to have a safe discharge with no hematoma which will maximize patient satisfaction.

Tracks: Cardiac Nursing.

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