10. Hybrid aortic surgery our early experience

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We report our early experience of hybrid aortic arch and descending thoracic aortic surgery with without concomitant cardiac procedures.

Between December 2010 and October 2012, 7 patients underwent hybrid aortic surgery with 4 patients requiring concomitant cardiac procedures (AVR-1, CABG-2 and ascending aortic replacement + CABG-1). There were 6 males:1 female patient. The operations were performed electively in 5 patients, and as an emergency in 2 patients. All patients underwent relocation of innominate and right carotid arteries to the proximal ascending aorta using a 4 side armed Dacron graft, either as a patch or a tube graft. The left subclavian artery was closed in all cases either surgically or percutaneously with an anastomotic vascular occlusion device. Following relocation of the head and neck vessels, the aortic arch and descending thoracic aorta were stented with either a Medtronic Thoracic Valiant Aortic Stent (4 cases) or the Jotec Open E Vita Stent (3 cases). The procedures were carried out as a one stage operation in 6 cases and as a 2 stage operation in 1 case. Morbidity includes acute renal failure (1 patient) and left hemiplegia (1 patient). None developed paraplegia. 1 patient died 2 weeks postoperatively from perforated duodenal ulcer.

This technique enables endovascular stenting of the aortic arch and descending thoracic aneurysms with concomitant cardiac procedures. The relocation of the carotid arteries prior to endovascular stenting of the arch may protect against cerebral embolisation from atheroma dislodged during antegrade deployment of the endovascular stent. This technique also allows antegrade cerebral and coronary perfusion during circulatory arrest.

Hybrid aortic surgery is a feasible alternative treatment for patients with extensive aortic arch and descending thoracic aneurysms with concomitant cardiac pathologies.

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11. Damus–Kaye–Stansel operation versus bulboventricular foramen enlargement for the management of univentricular heart with systemic outflow obstruction: 17 years experience, a retrospective study

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Background: Subaortic stenosis in a single ventricle morphology can be managed by a Damus–Kaye–Stansel procedure or by direct bulboventricular foramen (BVF) resection. We report our results with both techniques in our center emphasizing pros and cons of either technique.

Methods: 34 cases with univentricular heart and BVF obstruction undergoing surgery for subaortic stenosis during the period between April 1997 and June 2014 were retrospectively reviewed. Group A (n = 15), receiving a Damus–Kaye–Stansel procedure and Group B (n = 19), receiving BVF enlargement.

Results: Median age and median weight at surgery were 34 months (range 7–84 months) and 11 kilograms (range 4–22 kilograms) respectively. There were two early deaths in Group A (13.3%) and one in Group B (5.3%). No patient had heart block in the Group A, while two patients had heart block in Group B (10.5%). One patient had residual left ventricular outflow obstruction after BVF enlargement that needed early re-intervention. New atrio-ventricular valve regurgitation (AVVR) occurred in one patient of Group A (moderate) and in 8 patients of Group B (mild n = 1, moderate n = 5, severe n = 2). The median length of hospital stay in Group A and Group B were 12.5 and 15 days, respectively. The mean follow up period was 72 ± 56 months (range 1–199 months). Fontan completion was achieved in 13 patients. No surgical intervention for residual systemic ventricular outflow obstruction was needed in the follow up period in either group.

Conclusion: Although both procedures effectively relieve the obstruction in the systemic outlet chamber, direct BVF enlargement carries higher risk of heart block and new AVVR than the Damus–Kaye–Stansel procedure.

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12. Percutaneous balloon angioplasty for critical aortic coarctation in newborns and infants: Is it still a valid option?

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Background: Coarctation of aorta may present as severe heart failure in infants and may lead to myocardial dysfunction. Current evidence supports surgical management of neonatal coarctation. However, it can be precarious in critically sick infants.

Aim and objective: To investigate the safety, efficacy, immediate and mid-term outcome of percutaneous balloon angioplasty (BAP) for infantile aortic coarctation in critically sick patients.

Methods and patients: Data of all patients under age of 6 months who underwent balloon angioplasty for coarctation were reviewed.

Results: Between January 2008 and April 2014, 15 infants were identified with coarctation with a mean weight of 3.4 kg (1.4–5 kg) and median age of 54 days (4–142 days).