From Other Journals

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Over the period 1990–1999, 11 patients entered a protocol for septation of a single ventricle. 9 of the 11 had double-inlet left ventricle. 6 patients had septation in 1 stage, at a median age of 2 years. 5 patients had the first stage of a planned 2-stage septation, at a median age of 7 months (partial septation with pulmonary artery banding). Eight of the 11 patients (73%) survived; seven of the 8 survivors have undergone complete septation. Complications included complete heart block in 1, and significant residual VSD in 1. Left ventricular function by echocardiography is normal in all patients.

- Septation of a single ventricle into 2 functioning ventricles provides an alternative to the Fontan operation. This alternative has been rarely used, due to previously unacceptable morbidity and mortality. This report provides a recent experience for comparison to the extensively documented experience with the Fontan procedure. It recommends limiting septation to patients with a morphologic left ventricle, a large, volume-loaded heart, 2 well-functioning atrioventricular valves, and absence of severe outlet tract obstruction.


From 1986 through 2001, 23 children underwent 25 reoperations for failure of a cryopreserved aortic allograft in the aortic position. The mean age at reoperation was 12 years, and the mean interval to reoperation 6 years. Significant allograft insufficiency was present in 24 of the 25 cases. 4 of the reoperations were complicated by cardiac injury. Extensive allograft calcification required complete excision and repeat replacement of the entire aortic root (as opposed to simple replacement of the valve) in all cases. The allograft was replaced with another aortic allograft (11), a pulmonary autograft (9), or a mechanical valve (5). There were 2 operative deaths (8%). There were 2 late deaths (non-valve related) and 2 repeat valve failures (requiring a third root replacement) in the aortic allograft group. 2 of the 9 pulmonary autografts failed early. There were no late deaths or valve failures in the pulmonary autograft or mechanical valve groups at a mean follow-up of 5.5 years.

- This report is unique in reporting an experience with repeat aortic root replacement in children who have undergone previous aortic root replacement with an aortic allograft. It nicely details the magnitude and technical challenge of this undertaking. In midterm follow-up, a pulmonary autograft or mechanical valve appeared to provide better outcome than a repeat aortic allograft.


From 1983–2000, 53 patients with a single coronary artery underwent an arterial switch operation. These patients comprised 6% of the total undergoing arterial switch. 35 patients had a single right, and 18 a single left coronary. Early mortality was 5/53 (9%), with the last death in 1991. Survival at 5 and 10 years was 87%. Survival was lower for patients with a single right coronary with the left main coronary passing behind the pulmonary artery. Reintervention was
most commonly for right ventricular outflow tract obstruction. Freedom from reintervention was 82% at 10 years, and was lower for patients with a single left coronary with right coronary passing anterior to the aorta.

◆ A single coronary artery can present technical challenges during an arterial switch procedure, and has been previously identified as a risk factor for operative mortality. This report details an extensive experience with single coronary arterial switches. It shows that in the current era, operative risk has become very low. The expanded version of this article provides an excellent discussion of the history, anatomy and surgical approach in patients with transposition and a single coronary (Scheule AM, Jonas RA. Management of transposition of the great arteries with single coronary artery. Pediatric Cardiac Surgery Annual of the Seminars in Thoracic and Cardiovascular Surgery 2001;4:34–57).


30 children undergoing closure of atrial septal defects underwent measurement of nitric oxide in end-tidal expiratory gas before and after closure. Fifteen children had surgical closure utilizing cardiopulmonary bypass, and 15 had device closure in the catheterization laboratory. There was no significant difference between the 2 groups in age, weight, or ASD size. After surgical closure, exhaled nitric oxide levels decreased by 21%, while after device closure, levels increased by 23%.

◆ Previous work by this group has demonstrated that exhaled nitric oxide levels decrease after surgical closure of left-to-right intracardiac shunts. This decrease may reflect either endothelial cell injury caused by cardiopulmonary bypass, or decreased pulmonary blood flow due to the closure of the shunt. The current study indicates that the decrease in pulmonary blood flow following ASD closure is not primarily responsible for decreased nitric oxide production. Instead, decreased exhaled nitric oxide levels may be a marker of pulmonary vascular injury, with decreased endogenous nitric oxide production, in children undergoing surgical closure of left-to-right intracardiac shunts.


A consecutive series of 115 infants underwent stage 1 palliation (Norwood procedure) from 1992–2001. 77% of the patients had hypoplastic left heart syndrome. Compared to patients operated from 1992 to 1996, patients operated in the current era (1996–2001), had improvements in hospital survival (93% vs. 53%), survival to stage 2 palliation (81% vs. 44%), and actuarial survival to 5 years (72% vs. 41%). By multivariate analysis, continuous superior vena cava oximetry was associated with improved hospital survival. Larger size of the ascending aorta, and perioperative use of phenoxybenzamine were associated with improved survival to stage 2 palliation. In the current era, shorter duration of circulatory arrest was associated with improved survival to stage 2 palliation.

◆ This report documents the outstanding results currently achieved for stage 1 palliation of hypoplastic left heart syndrome and its variants at the Children’s Hospital of Wisconsin. Over the period of the study, several new perioperative strategies were introduced, including continuous monitoring of mixed venous oxygen saturation, modified ultrafiltration, parenteral phenoxybenzamine, aprotinin, and low-flow cerebral perfusion with limited circulation arrest. Other factors not included in the analysis, but likely contributing to the results, were changes in personnel, such as surgeons and intensivists. The paper clearly details the components of an innovative approach which yields excellent results.


A retrospective review was performed of all pacemakers implanted in children between 1982 and 2001. Infections were classified as superficial cellulitis, or deep pacemaker pocket infection. A total of 385 pacemakers (224 epicardial and 161 endocardial) were implanted in 267 patients at a mean age of 8.4 years. There were 19 (4.9%) superficial infections, and 9 (2.3%) deep pocket infections. Eight of the 9 deep infections occurred following pacemaker revisions. All superficial infections were successfully treated with intravenous antibiotics alone. Two patients who