

OUTCOMES OF MODIFIED BLALOCK-TAUSSIG SHUNTS PERFORMED IN THE NEONATAL PERIOD; A SINGLE CENTRE EXPERIENCE

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BACKGROUND

Westmead Children's Hospital is the major paediatric cardiac centre for New South Wales Australia servicing a population of approximately 7.5 million people. We perform approximately 500 cardiac operations per year, as well as over 350 catheter based procedures.

OBJECTIVES

We report our single center results of Systemic to pulmonary shunts in neonates with duct dependent pulmonary blood flow and compare this to published data from other institutions.

METHODS

A retrospective review for the period July 2010 through to June 2014 was conducted. All neonates who underwent a systemic to pulmonary shunt during that period were analyzed. Any patient older than 30 days was excluded. Our review focuses on patients with right ventricular outflow tract obstruction (RVOTO) including patients with critical pulmonary valvar stenosis, pulmonary atresia (with or without a ventricular septal defect, Tetralogy of Fallot (TET) with pulmonary atresia. We excluded any complex anatomy, as well as patients with hypoplastic left heart syndrome.

RESULTS

A total of 50 patients (27 male) were identified as meeting the criteria. The 50 patients were stratified to four separate groups based on their cardiac morphology. PA with IVS included 19 patients (38%) (9 male), PA with VSD included 16 patients (32%) (10 male), TET included 12 patients (24%) (5 male), and other with 3 patients (6%) (all male). The average length of admission was 22 days (8-145), average birth weight was 2888g (1470-4090g). Sixteen patients (32%) experienced at least 1 complication related to their surgery. Six patients experienced more than 1 postoperative complication of which 2 had multiple complications. The 30-day mortality was 2% (1 patient with Low Birth Weight (LBW <2500gms) of 1800gms). There were 3 more deaths before second stage surgery, 2 of these were LBW (shunt blockage and arrhythmia), and 1 was not cardiac related. LBW was found to be a risk factor for mortality before second stage surgery with a mortality rate in this group of 23% compared to 3% in normal birth weight babies.

CONCLUSION

In our institution the MBTS has a low 30-day mortality. High morbidity and associated prolonged hospital stay remains a problem in this vulnerable group of patients as well as it being high risk for LBW babies. Less invasive interventional techniques are available and may be more favourable for a selected group of patients. These techniques may also reduce the length of stay and associated morbidity.