

ASO for TBA: Are the results any different from TGA & Large VSD

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Objective: An arterial switch operation(ASO) is considered the treatment of choice for double-outlet right ventricle with subpulmonic ventricular septal defect (VSD) and also TGA & VSD. The clinical results of an ASO with VSD closure for this Taussig—Bing anomaly (TBA) were retrospectively studied and compared with the group of patients with TGA & large VSD undergoing ASO in the same time period.

Methods: From January 2008 through June 2013, 30 patients with TBA and 54 of TGA with large VSD underwent ASO at the Escorts Heart Institute New Delhi.

Median age at surgery for TBA 3 months; and for TGA with VSD it was 2 months. Weight of the patients for TBA was 4.1 ± 2.6 kg and TGA VSD group was 4.4 ± 2.5 kg. Great arteries relationship was side by side in 30%, 20% ; Non type1 coronary arteries arrangement was present in 23%, 13%; associate aortic arch obstruction (AAO) was 33% , 11%; cleft in AML was 17% ,3% respectively. 46.7% patients in TBA and 30% patients in TGA presented with sepsis secondary to pneumonitis. 13% of TBA and 5.5% of TGA patients were on intermittent positive pressure ventilation (IPPV) which continued up to surgery.

Results: Anatomical & surgical complexity was higher in the TBA group due to statistical significant higher incidence of side by side great arteries ($p<0.0001$); AAO($p<0.01$); MR ($p<0.03$). Despite this difference in complexity the mortality was not different between the groups. The only factors in both groups contribute to mortality was presence of preoperative sepsis ($p<0.019$) and preoperative mechanical ventilation ($p<0.001$). Freedom from reoperation was 100% at 5 years. Hospital mortality was 23.3% (7 of 30) for TBA and 11.1% (6 of 54) for TGA with Large VSD. Among the patient who had no preoperative sepsis and IPPV the mortality was 0%. Actuarial survival was 85% at 5 years. Follow-up was 92% completed from July to November 2013 with a mean follow-up 4.1 years (range 6 months to 5.9 years).

Conclusions: In our experience preoperative conditions (recent sepsis/ IPPV) of this patient is the only determinant factor for mortality and morbidity but not the underlying disease per se.