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A twenty Year Experience of Arterial Switch Repair by Direct Anastomosis Retaining a Normal Position of the Pulmonary Bifurcation

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Objectives: The arterial switch operation (ASO) has become the procedure of choice for correction of transposition of the great arteries (TGA) since its introduction by Jatene in 1976. The Le Compte manoeuvre is the standard technique used to reconstruct the neopulmonary artery, but this has led to reports of a significant incidence of pulmonary artery stenosis (PAS). We have reviewed our experience with anatomic correction of TGA, with direct pulmonary artery anastomosis, avoiding the routine use of the Le Compte manoeuvre.

Methods: From October 1990 to March 2010, 101 patients underwent correction of TGA, using the ASO in our institution. There were 67 males (66.3%). Median age was 12 days (range 2 – 718). Sixty two patients (61.38%) were simple TGA with intact ventricular septum (IVS), and 39 patients (38.61%) were complex TGA. Follow up was 100% complete. Patients were assessed for PAS, aortic incompetence, coronary ischaemia and functional class.

Results: There were 8 early (7.92%) and 2 late (1.98%) deaths. Five patients underwent reoperations. Significant pulmonary artery stenosis has occurred in 5 of 91 surviving patients (5.49 %). Mean pulmonary artery pressure gradient was 14.36 mmHg (range 0- 42 mmHg). Aortic regurgitation was trivial in 27 patients, and mild to moderate in 9 in patients. Eighty eight patients (97%) were in functional class 1 with no symptoms or signs of ischaemia.

Conclusion: The arterial switch repair by direct anastomosis, retaining a normal position of the pulmonary bifurcation is feasible with an acceptable mortality and a low incidence of significant pulmonary artery