

**Atrial switch operation: our experience in the last decade**

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Introduction: Surgical results of D-Transposition of the great vessels (TGV) are a good quality marker of a neonatal intensive care unit, because TGV is a prevalent pathology with reproducible surgery, and comparable between Hospitals. We present our surgical results and follow-up during the last 10-years.

Methods: Retrospective analysis of 94 infants with biventricular heart and TGV operated with arterial switch operation (ASO) during the period 2007-16. We excluded patients with pulmonary stenosis needing other techniques different than ASO. Statistical study was done with SPSS-15.0

Results: Mean age:  $0,4\pm 0,4$  months, mean weight  $3\pm 0,6$  kg, 69% were males. Prenatal diagnosis was made in 63%, and 13% were premature. TGV was associated with ventricular septal defect (VSD) in 32%, and coarctation in 6%. Rashkind was performed in 77%, and intravenous Prostaglandin was retired in 57% before surgery. Preoperative respiratory assistance was needed in 25%, and neurological anomalies were detected in 11%. Anomalous coronary pattern was present in 14% with high correlation with echocardiography findings (95%). Three patients had previous surgeries: two received pulmonary band, and one a modified Blalock Taussig shunt. All patients were repaired with an ASO, 24% had their VSD closed, 6% had a coarctation resection with selective cerebral perfusion, and 79% had delayed sternal closure. Coronary buttons were transferred with trap-door in 81%. Mean extracorporeal and aortic-clamp times were  $208\pm 66$  and  $139\pm 33$  minutes respectively. Hospital mortality was 8,6%. Complicated postoperative stay ( $p:0,05$ ), VSD closure ( $p:0,04$ ) and coarctation ( $p:0,008$ ) were risk factors of mortality. Hospital morbidity was (64%), with arrhythmia, reoperation, pleural/peritoneal drainage, infection, phrenic nerve palsy and low cardiac output as the more frequent complications. Median intubation time was 120 hours (IQR 92-168), and postoperative stay was 21 days (IQR 15-35). Mean follow-up is  $40\pm 31$  months. Percutaneous reintervention was needed in 15 patients and reoperation in 10 patients during follow-up. Nowadays all patients are alive in good clinical condition and 91% have no cardiac medication.

Conclusions: Surgery and postoperative management of TGV are a challenge. Preoperative echocardiogram accurately defines the anomalous coronary patterns and helps the surgeon to plan the operation. Our results show acceptable mortality but moderated morbidity.