

**Long term outcome of arterial switch operation performed in neonates with the transposition of the great arteries.**

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**INTRODUCTION:** Arterial switch operation is nowadays the treatment of choice for children with transposition of the great arteries. Although the good early and mid-term postoperative results are well described, long term fate of patients still remains uncertain. The major complications occurring after surgery are supravalvular pulmonary stenosis, neoaortic regurgitation, and coronary artery insufficiency.

**THE AIM OF THE STUDY** was to assess the long term outcomes after switch operation performed in neonatal period.

**METHODS:** Between years 1992-2011 611 patients with transposition of the great arteries have had a arterial switch operation in Cardiosurgery Department of Polish Mother's Memorial Hospital with total mortality 6,7%. From this group 172 consecutive patients were qualified for this study. The inclusion criteria were: switch procedure performed in the first 30 days of life, over 10 years of follow up in our institute and at least one full echocardiographic examination performed over 10 years after surgery. Patients with two stage operation (pulmonary artery banding prior to the switch procedure) were excluded from this study.

**RESULTS:** Early and late mortality of arterial switch operations performed between years 1992-2000 was 9,7%. Mean follow up was 13,5 years(SD±2,4). Significant pulmonary stenosis(PG over 25mmHG) occurred in 13 patients(7,5%). Independent risk factors for pulmonary stenosis were patch reconstruction (OR=14,04;CI95%:4,7-41,7;p=0,001) and non-facing commissures (OR=3,96;CI95%:1,18-12,03;p=0,009). Pulmonary valve insufficiency was observed in 147 patients(85%) but in majority of cases it was trivial or mild(92,5%). Neoaortic regurgitation increase with follow up to the 76% of patients(27%-trivial; 42%-mild; 7%-moderate; 0,6%-severe) at the end of observation. Significant factors for neoaortic insufficiency development were non-facing commissures(OR=4,05;CI95%:1,34-11,9;p=0,01) and pulmonary and aortic valves discrepancy(OR=2,05;CI95%:1,04-4,02;p=0,031). Coronary anomalies were observed in 58 patients(34%) – this was mostly Cx inverted(54%). Three patients(1,7%) had LCA stenosis in routine coronarography, two of them had myocardial perfusion disturbances in exertion scintigraphy. 4 patients required reoperations(2,3%): because of recoarctation of aorta(2), LVOTO(1), and mitral insufficiency(1). In 7 patients (4,1%) percutaneous interventions was necessary because of supravalvular pulmonary stenosis(9 procedures) and recoarctation of aorta(2 procedures).

**CONCLUSIONS:** Arterial switch operation performed in neonatal period ensures good postoperative effect, however because of possible complications all patients still need to be followed.