

## MP1-14

### **The left ventricular outflow tract after arterial switch operation: the benefit of geometry preservation**

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**Basics:** The arterial switch operation (ASO) is the standard operation for transposition of the great arteries (TGA). Pulmonary stenosis remains the most frequent late complication, beside potential early and late coronary artery problems. The evolution of the left ventricular outflow (LVOT) tract is less frequently analyzed. The aim of this report is to examine the long-term outcome of the LVOT after ASO.

**Methods:** We retrospectively studied 271 patients who underwent ASO between January 1985 and December 2008 in our institution. Anatomic data and surgical procedure details were collected. The aim of the surgery was to preserve the neo-aorta sino-tubular junction and to use direct coronary reimplantation, whenever possible. The geometry of the neo-aortic root was as a result, mostly preserved. Echocardiographic data, and when available, MRI or CT-scan follow-up data were collected and analyzed.

**Results:** Median age at time of ASO was 10 days (1-497). 75,6 % (n= 205) were male. Follow up reached 12,12 +/- 6.62 years (maximum 29,82 years). Direct reimplantation without any trap door technique was done in 60% of the cases. Two deaths from cardiac causes (0,7%) were encountered. Mean Valsalva sinus diameter Z-score was +3,72 (42.4 mm for adults). An aortic root z-score > 3 or diameter > 40 mm (in adults) was found in 57 patients (22,7%). Length of follow-up and male gender were significantly associated with aortic dilatation. Moderate aortic insufficiency was seen in only 5 patients and none had severe regurgitation. No significant risk factor for aortic insufficiency could be identified. There were no aortic or coronary events and only one patient required an elective LVOT surgery (subvalvar stenosis).

**Conclusion:** Our results, when compared to other literature data, show a very low incidence of significant aortic regurgitation or dilatation of the neo-aortic root, with no re-intervention. Our hypothesis is that this results from a deliberate effort to conserve geometry during coronary reimplantation. This effort at the time of neonatal surgery is probably part of the way to lower the incidence of root dilation and aortic insufficiency and is possible without increasing coronary risk.