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**Dobutamine stress echocardiography in the assessment of postoperative left ventricular function in children after arterial switch operation for transposition of great arteries.**

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Background: Dobutamine stress echocardiography (DSE) is an established indirect method of assessing coronary circulation. It is used to diagnose coronary artery disease and coronary circulatory disorders in the course of congenital and acquired pathology.

Aim: The aim of this study was to evaluate the usefulness of DSE in the assessment of postoperative left ventricular function in patients after arterial switch operation (ASO) for transposition of great arteries (TGA).

Material and methods: The study group consisted of 70 patients (51 boys, 25 girls) who underwent neonatal arterial switch operation. 53 pts (70%) had TGA with an intact ventricular septum, 17 (22%) - TGA with ventricular septal defect, 6 - with the pathology of the aortic arch. 34 children (48%) had unusual coronary patterns or coursing. Patients were assessed at the age of 3 to 16 years (mean  $7.9 \pm 2.69$ ). All patients underwent DSE according to the established protocol. Dobutamine was infused in 3-minutes stages with doses of 5 to 40mcg/kg/min and atropin at 0.01mg/kg when needed.

Echocardiographic images were obtained in 4 views using 17-segmental model. A positive test response was defined as a new or worsened wall motion abnormalities. All patients underwent at least one selective coronary angiography.

Results: 53 (69.7%) of 76 studies were normal, 7 were non diagnostic (in 5pts the test was interrupted). In 16 pts DSE was positive (4 with abnormal coronary angiography) without clinical symptoms. All studies were performed without major complications. Adverse events occurred in 25 children (headache, abdominal pain, arrhythmia). None of the patients required treatment and resolved after discontinuation of drug infusion.

Conclusions: DSE is an useful, safe and capable of repeating method of postoperative evaluation of TGA patients after arterial switch operation. It may be helpful in targeting patients with increased risk of coronary events in the long-term postoperative period after arterial switch operation.