

**Dobutamine stress echocardiography in children after anatomical correction of transposition of the great arteries - this method is safe or not?**

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**Objectives:** Anatomic correction of transposition of the great arteries is associated with risk of coronary complications in the postoperative period. Dobutamine stress echocardiography is non-invasive method for detection of coronary abnormalities after arterial switch operation. The aim of the study was to evaluate the safety dobutamine stress echocardiography in children after anatomical correction of TGA.

The study group consisted of 76 patients after anatomical correction of transposition of great arteries in the neonatal period (89% of patients). The age of patients ranged from 3 years to 16 years (mean 8 years). There were 51 (67%) boys and 25 (33%) girls. In the group of 53 children with simple transposition of the great arteries, in 23 cases, it was a complex transposition (with ventricular septal defect or pathology of the aortic arch).

**Methods:** All patients underwent dobutamine stress echocardiography to assess left ventricular function compared with the result of coronary angiography. The test was performed according to the approved protocol ( with atropine in selected cases). We analyzed the course of the test and the frequency and type of side effects associated with the administration of dobutamine.

**Results:** The negative result of dobutamine stress echocardiography (without induced wall motion abnormalities) was in 54 patients, positive in 15 (20%) and non-diagnostic in 3 (4%). The test interrupted because severe discomfort or arrhythmia in 4 cases (5%).

Twenty four (32%) of the 76 patients developed side effects during dobutamine infusion that included headache (5), abdominal pain (4) with or without nausea and vomiting (2), nonspecific chest pain (2) and arrhythmia (11). These side effects were transient and resolved spontaneously with discontinuation of the infusion. Gender and age of the patients, type of the TGA, abnormalities of the coronary arteries and atropine-protocol did not affect the incidence of side effects during the test (NS). Arrhythmia occurred more frequently in patients with complex type of the TGA ( $p=0.02$ ) and non-negative test result ( $p=0.02$ ).

**Conclusions:** Dobutamine stress echocardiography is a safe diagnostic method in children. Side effects during dobutamine infusion are transient and reversible without treatment.