

**Assessment of the pulmonary artery banding in patients with congenitally corrected transposition of the great arteries**

*Stohova O. (1), Klymyshyn Y. (1), Rudenko N. (1,2), Yemets I. (1)*  
*Ukrainian Children's Cardiac Center, Kyiv, Ukraine (1)*  
*Shpyk National Medical Academy of Postgraduate Education, Kyiv, Ukraine (2)*

**Objective:** To assess by echocardiography the effectiveness of pulmonary artery banding in patients with congenitally corrected transposition of the great arteries (CCTGA).

**Patients and Methods:** From 2003 to 2017 93 patients with CC-TGA from neonatal period to 68 years old were observed. Pulmonary artery banding (PAB) was performed in 22 patients with mean age of  $2,72 \pm 24,56$  (0,1-84) months, and mean weight of  $8,5 \pm 5,1$  (3,2-22) kg. Patients were assessed by intraoperative transesophageal echocardiography (ITEE) and transthoracic echocardiography (TEE) after the operation.

**Results:** Indications for PAB were: unrestricted ventricular septal defect in 14 patients (63,6%); severe tricuspid valve insufficiency with intact ventricular septum in 3 patients (13,6%); training of the left ventricle with intact ventricular septum or restrictive ventricular septal defect in 5 (22,7%) patients. Intraoperative left ventricular pressure consisted in average of  $52,3 \pm 13,73\%$  (35%-80%) from systemic pressure. Peak pressure gradient across the pulmonary artery measured by the TTE was in average  $47,9 \pm 15,9$  (20-70) mmHg in early postoperative period. The next operation stage was performed in 10 (45,5%) patients. The double switch operation was performed in 8 (36,4%) patients in average of  $70 \pm 53,2$  months (9-144) after PAB. Peak pressure gradient across the pulmonary artery measured by the TTE was in average of  $70,1 \pm 13,9$  (50- 92) mmHg. The bidirectional cavopulmonary anastomosis was performed in 2 patients (9%) in 10 months in the first patient and 54 months in the second patient. Peak pressure gradient across the pulmonary artery in patients with bidirectional cavopulmonary anastomosis was in average of  $79,5 \pm 7$  mmHg by TEE data.

**Conclusions:** PAB is commended as a stage operation for patients with CCTGA with wide spectrum of indications. Transthoracic echocardiography is a primary method for the assessment of the pulmonary artery banding effectiveness and method for defining indications to the next stages of operation in patients with CCTGA.