

# CHRONIC THROMBEMBOLIC PULMONARY HYPERTENSION. RESULTS OF PULMONARY ENDARTERECTOMY. 15 YEARS OF EXPERIENCE

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**INTRODUCTION:** Chronic thromboembolic pulmonary hypertension (CTEPH) is a very rare consequence of acute pulmonary embolism. If untreated CTEPH has very bad outcome and very often leads to right ventricular failure. The treatment of choice in CTEPH is pulmonary endarterectomy (PEA).

**MATERIALS AND METHODS:** We have analyzed the results of 151 consecutive patients operated due to chronic thromboembolic pulmonary hypertension in the years 1996-2012. The age of the analyzed group was between 25 and 79 years (mean age 53,01). Most of them were male (109). In 107 patients pulmonary embolism in the past was confirmed. Before the operation they were mostly in group III and IV according to NYHA classification. All of them were referred for surgical treatment on the base of pulmonary arteriography and computed tomography. Before the operation mean cardiac index was 2,0 l/min/m<sup>2</sup>, pulmonary vascular resistance – 788 dyn · s · cm<sup>-5</sup> and mean pulmonary artery pressure – 49 mm Hg.

**RESULTS:** All patients were operated in extracorporeal circulation (mean time 173 min), deep hypothermia (19-20 °C) and circulatory arrest (mean time 36,8 min). The mean stay at ICU was 6 days and time of mechanical ventilation – 3 days.

Postoperative complications included: renal failure – 20 patients (13,24%), respiratory failure – 42 patients (27,81%), heart failure – 19 patients (12,58%), bronchial bleeding – 9 patients (5,96%), cardiac tamponade – 15 patients (9,93%) and other complications – 37 patients (24,5%). After the operation MPAP dropped to 30 mm Hg, PVR to 278 dyn · s · cm<sup>-5</sup>. Ten patients (6,62%) died after the operation. It is observed that the mortality decreased considerably after year 2005 [between 1996 and 2005 five of 57 patients (8,77%) died, but from 2006 only five patients of 94 (5,31%)]. Very good result was obtained in 88 patients (PVR < 200 dyn · s · cm<sup>-5</sup>), satisfactory result in 45 patients (PVR 200-500 dyn · s · cm<sup>-5</sup>).

## CONCLUSIONS:

1. Pulmonary endarterectomy is the treatment of choice in patients with chronic thromboembolic pulmonary hypertension.
2. The result of the operation depends on complete pulmonary endarterectomy.