

Pulmonary Endarterectomy for Chronic Thromboembolic Pulmonary Hypertension: A 16-Years Experience

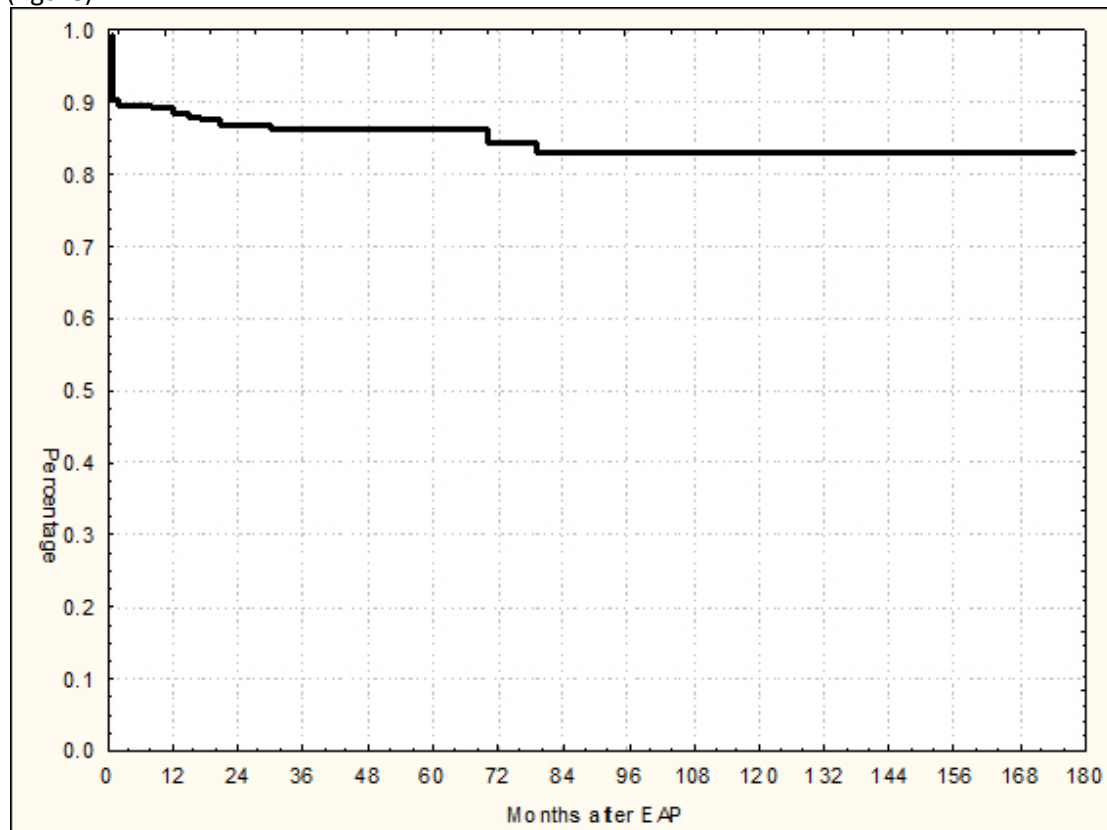
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Background: Chronic thromboembolic pulmonary hypertension (CTEPH) is a progressive and lethal disease due to the incomplete resolution of pulmonary emboli, leading to right heart failure. Even if appropriate medical therapy is promptly started, progression into chronic thromboembolic pulmonary hypertension (CTEPH) occurs in 0.1 – 4.0% of cases. Moreover, small emboli would not be noticed or cause problems unless there were many of them showered into the pulmonary circulation at once or over a period of time. Pulmonary endarterectomy (PEA), when indicated, has been largely recognized as the treatment of choice.

Methods: From April 1994 to November 2010, 321 PEAs were performed at our Center. As our referral increased substantially over years, we became more confident to the procedure and, since July 2003, we perform more distal PEA, even in pts previously deemed as inoperable. Thus, operability rate rose from 74% (year 2004) to 89% (year 2009). Preoperative variables are shown in table.

Results: Early postoperative results were all significant ($p < 0.001$): pulmonary vascular resistance (PVR) drop, cardiac output (CO) improvement, severe tricuspid regurgitation (TR) reduction and arterial oxygen pressure (PaO₂) increase. Hemodynamic results were excellent in both younger and older than 70 years pts. Overall operative mortality was 9.4% but it changed substantially according to the preoperative WHO functional class. Overall survival after PEA is 89%, 87%, 86%, 83%, 79% and 79% at 1, 3, 5, 7, 10 and 15 years respectively (figure).



Conclusions: As shown by our results, PEA is a highly effective procedure. Hemodynamic and respiratory results are remarkable and durable. Mortality rate after the first postoperative year is comparable with that of the age-matched general population. Patients diagnosed with CTEPH, even if older than 70 years or in WHO functional class II, should be referred early to Centers experienced in PEA to achieve the best results.