

## **PULMONARY ENDARTERECTOMY: 18 YEARS FOLLOW UP**

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### **Introduction**

The treatment of choice for chronic thromboembolic pulmonary hypertension is pulmonary endarterectomy (PEA). Its survival outcomes are better than those of medical treatment or bipulmonary and cardiopulmonary transplantations.

### **Objective**

To report our 18-years follow-up (F/U) of patients (p) with PEA.

### **Material and Methods**

Retrospective analysis of 41 consecutive PEAs between 11/1992 and 08/2010; p were in New York Heart Association functional classes (FC) II (n=4), III (n=19), and IV (n=18). Selection criteria: mean pulmonary arterial pressure (MPAP) >30mmHg, pulmonary vascular resistance (PVR)>300 dinas/seg/cm<sup>-5</sup> and surgical accessible disease. Right heart catheterization was performed to confirm pulmonary hypertension, pulmonary angiography to assess PEA feasibility and coronary angiography in p older than 40 years old. Greenfield filter was implanted before surgery. F/U is 98% complete. Median F/U is 5.7 years (0.2-18).

Kaplan-Meier survival curves were calculated and compared using log-rank test and  $p \leq 0.05$  was significant.

### **Results**

P in FC IV had more right heart failure (RHF), required diurectics and/or inotropes previous to PEA, and thus more days of hospitalization. After PEA, pulmonary hemodynamics (PH) changes were significant:  $p < 0.001$  (95% CI), MPAP  $53 \pm 2$  vs.  $29 \pm 2$  mmHg; PVR  $857 \pm 65$  vs.  $245 \pm 25$  dinas/seg/cm<sup>-5</sup> and CI  $2,3 \pm 0,1$  vs.  $3 \pm 0,1$  l/m<sup>2</sup>. Twelve p (29%) developed lung reperfusion injury and one p required ECMO. Early mortality (EM), in-hospital and 30-day mortality, was 17% (7/14), 4% (1/23) FC II-III and 33% (6/18) in FC IV ( $p=0.01$ ). Unvaried analysis shows that ascitis, pre-op MPAP>50 mmHg and FC IV are predictors ( $p=0.05$ ) of EM. No predictors were found in multivariate analysis, but there was a tendency towards FC IV. Late mortality (m) was 12% (4/34) with no predictors. During F/U 93% of p were in FC I-II. Survival at 1, 2, 5, 8 and 10 years: 85%, 82%, 75% and 71% respectively. FC survival analysis at 1 and 5 years showed significant differences ( $p=0.02$ ) between FC II-III 95% and 95%, IV 72% and 54%.

### **Conclusion**

In our experience, the first reported in Argentina, PH and FC improved significantly. Survival decreased in p with FC IV due to an increase EM because of a tendency

towards increase  $m$  in CF IV. The number of PEA for a 40-million population is low, and  $p$  are frequently referred with advanced RHF.