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Title: Pulmonary endarterectomy for chronic thromboembolic pulmonary hypertension with distal lesions

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Body: Background As there are no well-defined criteria to discriminate proximal from distal obstructive lesions in chronic thromboembolic pulmonary hypertension (CTEPH), the operability assessment for pulmonary endarterectomy (PEA) remains the major concern. Aim The intraoperative classification of CTEPH describes different types of arterial obstruction, based on anatomy and location. We describe our experience with the more distal disease (type 3). Methods From 1994, 458 PEAs were performed at our center. From 2005 onward, the operability assessments and the operations were carried out by one surgeon. Into the cohort of 313 consecutive patients (pts) operated from 2005 to 2012, 88 (28%) presented with type 3 CTEPH, and 225 (72%) with type 1 or 2. Results The comparison between the 2 groups is shown in table. Thirty-three (37.5%) pts with type 3 disease were younger than 60 years and were severely symptomatic, and would otherwise have been included in lung transplantation (LTx) waiting list.

	Type 1 or 2 (225)	**Type 3 (88)**
Age (years)	60±15	60±14
Female	51%	67%
Intracardiac catheters	1%	7%
History of deep venous thrombosis	62%	47%
Preoperative PVR (dyn•s•cm-5)	854±422	930±360
Extracorporeal circulation (min)	325±81	353±69
Total circulatory arrest time (min)	76±34	97±30
Postoperative PVR (dyn•s•cm-5)	248±146	302±168
Hospital stay (days)	13[10-17]	13[10-17]
Hospital mortality	6%	10%

(PVR = pulmonary vascular resistance)

Conclusion In experienced centers, PEA is a successful and safe operation even when performed in pts presenting with distal CTEPH. Pts should not be considered inoperable unless they have been referred to an experienced surgeon, as they could benefit from conservative surgery instead of LTx.