PULMONARY ENDARTERECTOMY IN SYMPTOMATIC PATIENTS WITH CHRONIC TROMBOEMBOLIC DISEASE AND BORDERLINE PULMONARY HYPERTENSION


Background:
Chronic thromboembolic pulmonary hypertension (CTEPH) is defined by precapillary pulmonary hypertension (PH) with a mean pulmonary artery pressure (mPAP) ≥25 mmHg in patients with multiple chronic/organised occlusive thrombi in the pulmonary arteries. Pulmonary endarterectomy (PEA) is the treatment of choice for symptomatic patients with proximal CTEPH. However, there is a group of patients with exertional dyspnoea, proximal chronic thromboembolic disease (CTED) and a resting mPAP of ≤25 mmHg in whom PEA may be considered. The outcome of PEA in these patients has not been previously assessed.

Objectives:
To assess the post PEA functional and haemodynamic outcomes in patients with symptomatic CTED and borderline PH.

Methods:
Retrospective data were collected on patients who underwent PEA at the UK and Ireland national referral centre between 2002 and 2010 with baseline mPAP of ≤25 mmHg. Patients were reassessed 3 and 12 months after surgery. Right heart catheterisation was performed at baseline and 3 months post PEA.

Results:
PEA was performed in 15 patients with symptomatic operable CTED and mPAP of ≤25 mmHg. All survived surgery and are currently alive at follow up.
Results are displayed in mean ± standard deviation. Mean age was 46 ± 18 and 66 % were female.

**TABLE 1**

<table>
<thead>
<tr>
<th></th>
<th>Baseline (n=15)</th>
<th>3 months post PEA (n=15)</th>
<th>12 months post PEA (n=9)</th>
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</thead>
<tbody>
<tr>
<td>6MWT distance (m)</td>
<td>398 ± 108</td>
<td>406 ± 106</td>
<td>433 ± 95 *</td>
</tr>
<tr>
<td>6MWT min SatO2 (%)</td>
<td>87 ± 7</td>
<td>91 ± 8 *</td>
<td>93 ± 4 *</td>
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<tr>
<td>mPAP (mmHg)</td>
<td>22 ± 3</td>
<td>17 ± 3 *</td>
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<tr>
<td>Cardiac Index (l/m/m2)</td>
<td>2 ± 0.5</td>
<td>2.5 ± 0.4</td>
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<tr>
<td>PVR (dynes.s.cm-5)</td>
<td>246 ± 116</td>
<td>128 ± 34 *</td>
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</tbody>
</table>

6MWT: six minute walking test
* p < 0.05

Results expressed as median

WHO: World Health Organisation functional class
CAMPHOR: Cambridge Pulmonary Hypertension Outcome Review quality of life questionnaire

**Conclusions:**
In this small series of patients with CTED and borderline PH, there was a significant functional and symptomatic benefit from PEA at 1 year. The prognostic benefit remains unknown despite significant symptomatic improvement.

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