

Outcomes of Pulmonary Endarterectomy and Long-Term Recurrence of Pulmonary Artery Thrombosis in Patients with Antiphospholipid Syndrome: a UK National Cohort Study

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INTRODUCTION

- Antiphospholipid syndrome (APLS) is a recognised risk factor for chronic thromboembolic pulmonary hypertension (CTEPH), with an estimated prevalence of 12% among CTEPH patients.¹
- Early re-thrombosis rates and mortality are equivalent in APLS-positive vs negative patients (limited to intensive care stay).²

OBJECTIVE: To review long term outcomes after PEA surgery in APLS positive patients – from the CURATE registry.

RESULTS

- Among 1751 patients undergoing PEA, 54% were male; mean age at PEA was 59 ± 15 years. APLS status was available for 98% (n=1,719), with 5% APLS-positive (n=85).
- BMI, NT-proBNP, patient-reported outcomes, and age-adjusted comorbidities were similar between groups (p non-significant; all).
- Post-operative improvement in haemodynamics, NYHA class, 6MWD, NT-proBNP and patient-reported outcomes were similar across groups (p non-significant; all).
- Median follow-up was 8.1 years.

Table 1: Baseline characteristics of patients

	APLS negative N = 1657	APLS positive N = 85	P value
Male – n (%)	908 (55)	34 (40)	0.011
BMI – median (range)	29 (8)	30 (9)	0.079
Age at PEA (years) – mean ± SD	59 ± 15	43 ± 16	<0.001
6MWD (m) – median (range)	300 (205)	386 (123)	<0.001
Duration of bypass (minutes) – mean ± SD	317 ± 58	316 ± 46	0.838
Duration of cardiac ischemia (minutes) – mean ± SD	70 ± 27	65 ± 26	0.129
mPAP (mmHg) – median (range)	45 (16)	44 (18)	0.308
PVR (dyn.sec.cm⁻⁵) – median (range)	664 (486)	592 (465)	0.014
Cardiac index (L/min/m²) – median (range)	2.1 (0.8)	2.2 (0.8)	0.085

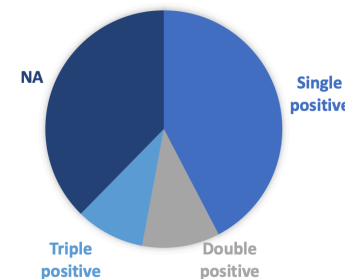
METHODS

- We reviewed consecutive patients undergoing PEA between April 2007 and June 2021 at Royal Papworth Hospital.
- Standardized 3-6-month follow-up included functional, imaging and hemodynamic assessment.
- Follow-up was censored at 23rd December 2025.

Table 2: Post-PEA outcomes

	APLS negative N = 1657	APLS positive N = 85	P value
Days in ICU – median (range)	4 (4)	3 (2)	0.005
Days in hospital – median (range)	13 (8)	11 (8)	0.1
Days of mechanical ventilation – median (range)	1 (1)	1 (0)	0.013
Intra-cranial hemorrhage – n (%)	47 (3)	8 (9)	0.002
Ischemic stroke – n (%)	12 (<1)	1 (1)	0.479
30-day mortality – n (%)	54 (3.3)	3 (3.5)	0.213
Change in 6MWD (m) – median (range)	+ 56 (119)	+ 30 (140)	0.109
Change in mPAP (mmHg) – median (range)	– 16 (17)	– 16 (18)	0.844
Change in PVR (dyn.sec.cm⁻⁵) – median (range)	– 329 (446)	– 300 (359)	0.262
mPAP ≤ 25 mmHg post-PEA – n (%)	736 (53)	48 (69)	0.014
Recurrence of PE – n (%)	44 (2.7)	4 (4.7)	0.289
5-year survival	83.3%	86.9%	0.335
Age at death (years) – mean ± SD	71 ± 13	52 ± 19	0.001

FIGURE 1: APLS SUBTYPE



CONCLUSION

- We demonstrated comparable long-term outcomes between APLS-positive and non-APLS patients, including similar 30-day mortality and 5-year survival rates.
- Despite their elevated thrombotic risk, APLS-positive patients do not exhibit increased long-term re-thrombosis rates following surgery.

REFERENCES

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