Abstract S122 Table 1 First year post PEA haemodynamics and exercise capacity predict long term risk of death

Predictor value	Value	Hazard ratio	95% confidence intervals
6 minute walk distance (m)	110	3.03	1.82–5.04
	230	1.74	1.35–2.24
	350	Reference	
	470	0.57	0.45–0.74
	590	0.33	0.20–0.55
Mean pulmonary artery	15	0.67	0.55–0.83
pressure (mmHg)	25	Reference	
	35	1.49	1.21–1.83
	45	2.21	1.46–3.36
	55	3.29	1.76–6.16
Cardiac index (L/min/m^2)	1.5	1.60	1.00–2.56
	2	1.26	1.00–1.60
	2.5	Reference	
	3	0.79	0.62–1.00
	3.5	0.63	0.39–1.00
	4	0.49	0.24–1.00
Pulmonary vascular resistance	50	0.51	0.37–0.70
(Dynes/sec/cm^5)	250	Reference	
	450	1.95	1.43–2.67
	650	3.81	2.03–7.14
	850	7.44	2.90–19.08

were in WHO functional class 1 or 2 and there was a reduction in the mean mPAP to 27 ± 9 mmHg and PVR to 286 ± 198 dynes/sec/cm^5 by 12 months (p).

Conclusion There was prolonged haemodynamic improvement but targeted therapy was used in 23% of patients with a mean follow-up of 4.3 years. The 10-year survival was 72% with mortality predominantly in the peri-operative period and later due to causes unrelated to CTEPH.

Novel approaches to rehabilitation and exercise therapy in COPD

S123 DOES EXERCISING WITH DOMICILIARY NON-INVASIVE VENTILATION (NIV) IMPROVE QUALITY OF LIFE (QOL) IN PATIENTS WITH SEVERE CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)?

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Introduction and objectives Patients with severe COPD experience breathlessness leading to exercise limitation impacting on QoL. Pulmonary rehabilitation (PR) can improve QoL, but those with the severest disease are frequently hospitalised and cannot readily access PR. Previous studies have trialled positive pressure as a means of relieving ventilatory load, allowing more severe COPD patients to exercise.[1] Studies have assessed mixed pathology or stable COPD patients.[2,3] In this study, we have assessed patients with severe COPD admitted to hospital with Type 2 respiratory failure and acidosis treated with acute NIV.

Methods 18 patients (11 female), recruited during admission were randomised into 3 groups. Group 1 received standard hospital physiotherapy care; Group 2 exercised on NIV (Trilogy 100, Philips-Respironics) with a mean pressure support of 10 cmH_2O twice weekly during admission; Group 3 exercised on NIV twice weekly during hospital admission and continued this at home for 3 months post-discharge. Exercising included weights, pedal cycling and walking. QoL was assessed using the St Georges Respiratory Questionnaire (SGRQ) and the London Chest Activities of Daily Living Questionnaire (LCADL). Mean changes in total scores for SGRQ and LCADL were compared between baseline and at 3 months (M3). Data are mean±SD or mean (range).

Abstract S123 Table 1 Results for SGRQ and LCADL from baseline to M3

Group		1 (n = 6)	2 (n = 5)	3 (n = 4)
	Baseline	81.06 ± 9.27	74.27 ± 20.94	69.54 ± 14.35
SGRQ	M3	73.89 ± 16.20	80.11 ± 13.15	50.25 ± 24.55
Mean Change		-7.17	-5.84	-19.29
	Baseline	53.00 ± 13.07	47 ± 9.49	49.83 ± 15.69
LCADL	M3	51.67 ± 7.65	56.6 ± 5.50	40.75 ± 13.94
Mean Change		-1.33	+9.6	-9.08

Results The group (n = 18) age was 66.5 years [46–97], FEV_1: 25% predicted [9–51%] and MRC score 3 [1–4]). 3/18 patients died during the study. The results are presented in Table 1.

Conclusion Patients exercising with NIV, in hospital and at home twice weekly (Group 3) showed the greatest improvement in QoL, compared to the other two groups. The use of NIV during exercise at home may assist patients unable to access pulmonary rehabilitation.

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S124 EFFECTS OF TWO ADAPTED PHYSICAL ACTIVITY TRAINING PROGRAMS ON PULMONARY FUNCTIONALITY AND EXERCISE CAPACITY IN PATIENTS AFFECTED BY CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Introduction It has been reported the efficacy of adapted physical activity (APA) in exercise capacity improvement.[1] Nevertheless, there is still no consensus on training modalities and intensities to be prescribed in patients affected by chronic obstructive pulmonary disease (COPD). The aim of the study was to assess the effects of two 16 weeks APA training programs (endurance vs endurance +strength) on respiratory parameters (FVC%, FEV1%, FEV1/FVC %) and exercise capacity (V'O_2 peak) immediately after APA training program (first follow up: FU1) and after six months (second follow up: FU2)

Methods Sixty five COPD patients were randomly assigned to endurance training (ET) or to endurance + strength training (EST). All Patients underwent 3 sessions per week. For ET, as upper intensity training limits were considered 40–50% heart rate reserve; for EST training limits were considered 40–50% heart rate reserve and 50% 1RM.[2] Before training programs, at FU1 and at FU2, all patients underwent: clinical assessment, respiratory functionality tests, maximal cardiopulmonary test. Repeated measures ANOVA