

Changes in Cardiac Effort in Pulmonary Hypertension-Interstitial Lung Disease: Insights from the ASCENT Trial

Poster #82

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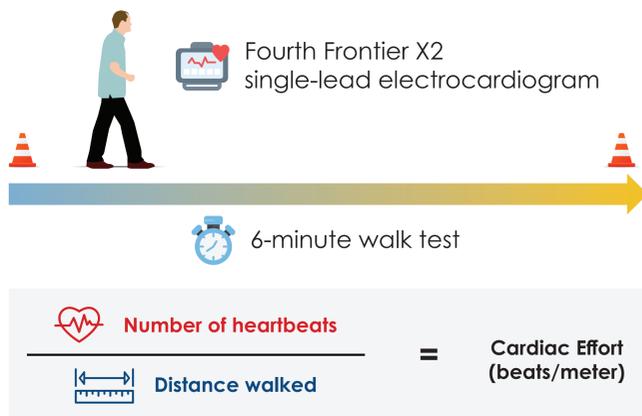
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Rationale

- Cardiac Effort (**Figure 1**) is a novel, noninvasive endpoint to characterize physiologic limitations during exercise in patients with pulmonary hypertension-interstitial lung disease (PH-ILD)

Figure 1. Cardiac Effort



- Cardiac Effort:
 - is less variable than 6MWD (less dependent on effort, mood, pain, etc.)
 - tracks with physiologic improvement
 - correlates with stroke volume in patients with Group 1 pulmonary hypertension¹

Objective

- To describe changes in Cardiac Effort for patients with PH-ILD over 16 weeks of treatment with LIQ861 (YUTREPIA™) developed by Liquidia Technologies

Methods

- ASCENT (NCT06129240) is a prospective, multicenter, open-label study evaluating the safety, tolerability, and efficacy of LIQ861, a dry powder inhaled formulation of treprostinil, in **patients with PH-ILD, including combined pulmonary fibrosis and emphysema**
 - Cohort A includes 54 patients (**Table 1**)
 - Eligible patients receive open-label LIQ861 with dose titration based on tolerability and clinical response for 52 weeks
- Heart rate monitoring during all 6MWTs was performed using the Fourth Frontier X2, a single-lead, dry-electrode electrocardiogram device
- Baseline 6MWD and Cardiac Effort were calculated as the average of screening and baseline

Disposition/Follow-up

- 51 patients completed the week 8 visit
- 43 patients completed the week 16 visit
- No patient deaths at week 16

Results

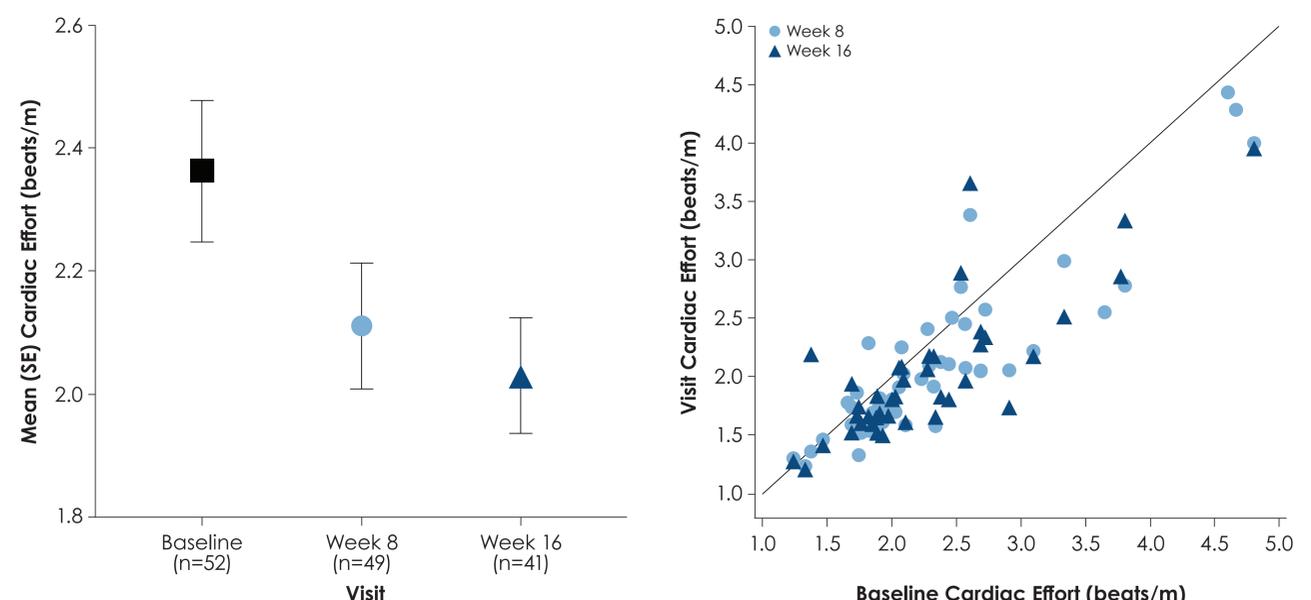
Table 1. Baseline Demographics and Clinical Characteristics (N=54*)

Age, median (range), y	69 (29-80)	Pulmonary function tests	
Sex, n (%)		FEV ₁ , L	1.7 (0.6)
Male	26 (48)	Percent FEV ₁ predicted	70 (20)
Female	28 (52)	FVC, L	2.1 (0.8)
Duration of PH diagnosis, y	0.5 (0.8)	Percent FVC predicted	66 (21)
Duration of ILD diagnosis, y	5 (6)	Corrected DLCO, mmol/min/mmHg	8 (4)
ILD type, n (%)		Percent DLCO predicted	36 (14)
Idiopathic interstitial pneumonias	26 (48)	Hemodynamics	
Autoimmune ILDs	19 (35)	mPAP, mmHg	33 (8)
Chronic fibrosis with emphysema	5 (9)	PCWP, mmHg	9 (3)
6MWD, m	298 (80)	PVR, Wood units	6 (3)

Data are mean (SD) unless otherwise noted. *Two patients had protocol violations and were excluded from the exploratory analyses. Abbreviations: 6MWD, 6-minute walk distance; DLCO, diffusing capacity of the lung for carbon monoxide; FEV₁, forced expiratory volume in 1 second; FVC, forced vital capacity; ILD, interstitial lung disease; mPAP, mean pulmonary arterial pressure; PCWP, pulmonary capillary wedge pressure; PH, pulmonary hypertension; PVR, pulmonary vascular resistance.

- Median LIQ861 dose at weeks 8 and 16 was 132.5 and 159 mcg 4x daily, respectively
- Median 6MWD increased from **308 m → 324 m** at week 8 (n=51); median +21.5 m
- Median 6MWD increased from **312 m → 340 m** at week 16 (n=43); median +31.5 m
- Median Cardiac Effort dropped from **2.1 → 1.9 beats/m** at week 8 (n=49)
- Median Cardiac Effort dropped from **2.1 → 1.8 beats/m** at week 16 (n=41)
- Mean (SD) Cardiac Effort dropped by 10% at week 8 and 11% at week 16

Figure 2. Change in Cardiac Effort in Response to LIQ861 Treatment



Reference

1. Lachant DJ, et al. *Pulm Circ.* 2020;10(4):2045894020972572.

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Author Disclosures

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Conclusions

- Cardiac Effort detects early improvement with LIQ861 in patients with PH-ILD
- Integrating physiologic monitoring during the 6-minute walk test provides deeper insight into functional limitation and treatment response
- Cardiac Effort may help identify responders and optimize dose titration in PH-ILD and other pulmonary vascular diseases