A Continued ASCENT to Week 8: Safety and Exploratory Efficacy Data on LIQ861 Dry Powder Inhaled Treprostinil in PH-ILD Patients

Poster #1037

Liquidia®

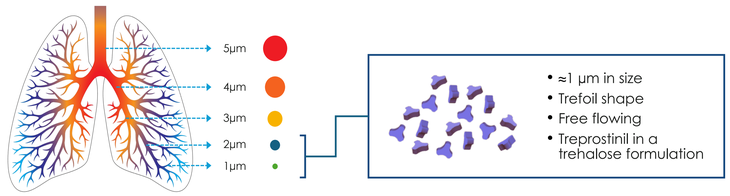
Stephen Sallee,[1] Ashwin Ravichandran,[1] Christy Ma,[2] John Ryan,[2] Marjorie P. George,[3] Susanne McDevitt,[4] Savan Patel,[5] Ashley Galloway,[5] Rajeev Saggar,[5] Melisa Wilson[6]

[1]Ascension St. Vincent Hospital, Indianapolis, Indiana; [2]University of Utah Health, Salt Lake City, Utah; [3]National Jewish Health, Denver, Colorado; [4]University of Michigan, Ann Arbor, Michigan; [5]Liquidia Technologies, Morrisville, North Carolina; [6]AdventHealth Cardiovascular Institute, Orlando, Florida

Rationale

- Pulmonary hypertension (PH) is a frequent complication of interstitial lung disease (ILD), and PH-ILD is associated with reduced exercise capacity and substantially increased morbidity and mortality[1]
- Nebulized treprostinil has demonstrated improvements in 6-minute walk distance (6MWD), especially at doses above 9 breaths per session (54 mcg)[2]
- LIQ861 (YUTREPIA™) is an investigational dry powder inhaled formulation of treprostinil developed by Liquidia Technologies (**Figure 1**)
  - LIQ861 particles are designed to enhance deep-lung delivery[3, 4]
  - PRINT® technology produces uniformity of particle size, shape, and composition, for deep-lung delivery[4-6]

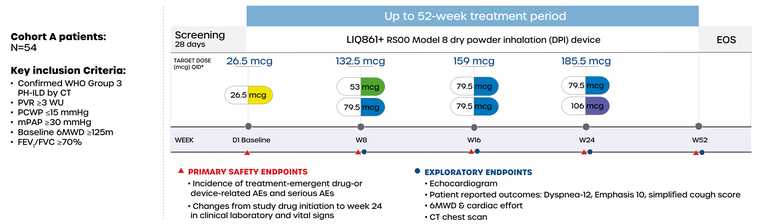
Figure 1. LIQ861 particles



Methods

- ASCENT (NCT06129240) is a prospective, multicenter, open-label study evaluating the safety and tolerability of LIQ861 in patients with PH-ILD, including combined pulmonary fibrosis and emphysema (CPFE; **Figure 2**)
- Here, we present data for the 6MWD exploratory endpoint and the Dyspnea-12,[7] EmPHasis-10,[8] and simplified cough score[9] patient-reported outcome questionnaires from patients who completed their Week 8 visit, including only data collected up to that timepoint

Figure 2. Study Design (Cohort A)



*Target dose based on tolerability and clinical response (**Figure 3**).
Abbreviations: 6MWD, 6-minute walk distance; AE, adverse event; CT, computed tomography; D, day; EOS, end of study; FEV_1, forced expiratory volume in 1 second; FVC, forced vital capacity; mPAP, mean pulmonary arterial pressure; PH-ILD, pulmonary hypertension associated with interstitial lung disease; PCWP, pulmonary capillary wedge pressure; PVR, pulmonary vascular resistance; QID, 4 times daily; W, week; WU, Wood units

Figure 3. Dose Comparison Between TYVASO® and LIQ861

Number of TYVASO® (nebulized) QID breaths	LIQ861 QID dose (mcg)	LIQ861 capsule combination
≤5	26.5	1 Yellow (26.5 mcg)
6 to 8	53	1 Green (53 mcg)
9 to 11	79.5	1 Blue (79.5 mcg)
12 to 14	106	1 Purple (106 mcg)
15 to 17	132.5	1 Green (53 mcg) + 1 Blue (79.5 mcg)
≥18	159	2 Blue (79.5 mcg)
≥21	185.5	1 Blue (79.5 mcg) + 1 Purple (106 mcg)
≥24	212	2 Purple (106 mcg)

Abbreviation: QID, 4 times daily.
Tyvaso® is a registered trademark of United Therapeutics Corporation.

Results

- The average age was 68.5 years, and 48.1% of the cohort was male (**Table 1**)
- The mean (SD) duration since diagnosis of PH and ILD was 0.5 (0.80) years and 5.1 (5.70) years, respectively
- ILD etiology included idiopathic interstitial pneumonias (48.1%), autoimmune ILDs (35.2%), and CPFE (9.3%), and other (5.6%)
- Baseline mean (SD) pulmonary arterial pressure, pulmonary vascular resistance, and pulmonary capillary wedge pressure were 33.4 (8.39) mm Hg, 6.0 (2.87) Wood units, and 8.6 (3.30) mm Hg, respectively

Table 1. Baseline Demographics and Clinical Characteristics

Characteristic	Overall (N=54*)
Age, y	68.5 (8.88)
Sex, n (%)	
Male	26 (48.1)
Female	28 (51.9)
Duration of PH diagnosis, y	0.5 (0.80)
Duration of ILD diagnosis, y	5.1 (5.70)
ILD type, n (%)	
Idiopathic interstitial pneumonias	26 (48.1)
Autoimmune ILDs	19 (35.2)
Chronic fibrosis with emphysema	5 (9.3)
Other ILDs	3 (5.6)
Hypersensitivity pneumonitis	1 (1.9)
Pulmonary function tests	
FEV_1, L	1.7 (0.57)
Percent FEV_1 predicted	69.7 (20.0)
FVC, L	2.1 (0.77)
Percent FVC predicted	65.9 (20.7)
Corrected DLCO, mmol/min/mmHg	8.0 (4.0)
Percent DLCO predicted	36.2 (13.9)
PIFR, min-max, L/min	39-120
Hemodynamics	
mPAP, mm Hg	33.4 (8.39)
PCWP, mm Hg	8.6 (3.30)
PVR, Wood units	6.0 (2.87)
Oxygen treatment, n (%)	
No	8 (14.8)
Yes	46 (85.2)
Background antifibrotics, n (%)	
Nintedanib	19 (35.2)
Pirfenidone	4 (7.4)
Background PH drugs, n (%)	
PDE5 inhibitor	7 (13.0)

Data are mean (SD) unless otherwise noted.
*Two patients had protocol violations and were excluded from the exploratory analyses.
Abbreviations: DLCO, diffusing capacity of the lung for carbon monoxide; FEV_1, forced expiratory volume in 1 second; FVC, forced vital capacity; ILD, interstitial lung disease; mPAP, mean pulmonary arterial pressure; PCWP, pulmonary capillary wedge pressure; PDE, phosphodiesterase; PH, pulmonary hypertension; PIFR, peak inspiratory flow rate; PVR, pulmonary vascular resistance.

- At week 8, the median dose of LIQ861 was 132.5 mcg 4 times daily (QID), ranging from 79.5 mcg to 238.5 mcg QID (**Figure 4**)
- The mean (SD) 6MWD increased from 300.4 (73.4) m at baseline to 324.7 (76.6) m at week 8, with a mean change of +24.3 (30.5) m (**Figure 5A**)
  - The median (min-max) 6MWD increased from 307.5 (148-502) m at baseline to 324.0 (157-513) m at week 8, with a median change from baseline of +21.5 m
- The mean (SD) Dyspnea-12 score improved from 11.7 (6.9) to 10.5 (7.5) (**Figure 5B**), and the mean (SD) EmPHasis-10 score improved modestly from 24.9 (9.8) to 24.1 (10.5)
- Importantly, the mean (SD) simplified cough score remained stable at 1.3 baseline through week 8 (**Figure 5C**)

Figure 4. LIQ861 Dose at Week 8

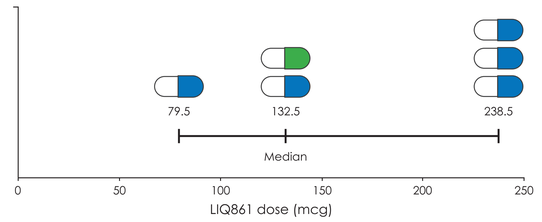
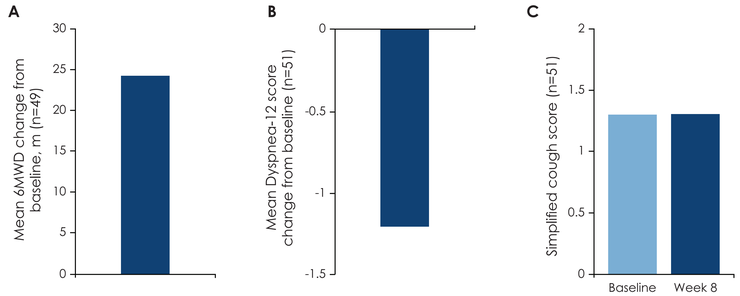


Figure 5. Change in Exercise Capacity, Dyspnea-12 Score, and Simplified Cough Score in Response to LIQ861 Treatment



Abbreviation: 6MWD, 6-minute walk distance.

- Treatment-related treatment-emergent adverse events (TEAEs) were reported in 64.8%of patients (**Table 2**)
  - The most common treatment-related TEAEs were cough (42.6% [n=22, 95.6% mild; n=1, 4.3% moderate]) and headache (n=7, 13.0%)
  - 1 patient had severe respiratory tract irritation
  - No treatment-related serious adverse events were observed
  - No patient discontinued the study drug due to cough
- Only one patient (1.9%) discontinued the study on or before their week 8 visit (lung neoplasm)

Table 2. Summary of TEAEs

	Overall (N=54)
Patients with ≥1 TEAE, n (%)	48 (88.9)
Patients with ≥1 treatment-related TEAE, n (%)	35 (64.8)
Treatment-related TEAEs occurring in >2 patients, n (%)	
Cough	23 (42.6)
Headache	7 (13.0)
Dry throat	3 (5.6)
Oropharyngeal pain	3 (5.6)

Abbreviation: TEAE, treatment-emergent adverse event.

Conclusions

- Inhaled LIQ861 was well tolerated for the first 8 weeks in patients with PH-ILD
- The median dose was 132.5 mcg QID, and 31.4% of patients achieved a dose of ≥159 mcg QID. The highest dose achieved was 238.5 mcg QID (comparable to ≥27 breaths of TYVASO®)
- Improvements in patient-reported outcome measures and exercise capacity were also observed
- The mean simplified cough score at week 8 was unchanged from baseline
- Early safety, dosing, and exploratory efficacy data in the ASCENT Cohort A study are encouraging
  - Further long-term follow-up is warranted to validate the observed findings

References
1. Waxman AB, et al. *Eur Respir Rev.* 2022;31(165):210220; **2.** Waxman A, et al. *N Engl J Med.* 2021;384(4):325-334; **3.** Hill NS, et al. *Pulm Circ.* 2022;12(3):e12119; **4.** Rosciglo RF, et al. *Vascul Pharmacol.* 2021;138:106840; **5.** Garcia A, et al. *J Drug Deliv.* 2012;2012:941243; **6.** Henao MP, et al. *Int J Environ Res Public Health.* 2020;17(19); **7.** Yorke J, et al. *Chest.* 2011;139(1):159-164; **8.** Yorke J, et al. *Eur Respir J.* 2014;43(4):1106-1113; **9.** Wang Z, et al. *J Thorac Dis.* 2019;11(10):4379-4388.

Acknowledgment and Funding
This study was funded by Liquidia Technologies, Inc. Medical writing and editorial support were provided by Jennifer Ayala, PhD, CMPP, from Citrus Health Group (Chicago, Illinois) and were funded by Liquidia Technologies, Inc.

Author Disclosures
SS: Received compensation for advisory roles, advisory board participation, and speaker programs from Gossamer Bio, Johnson & Johnson, Liquidia, and United Therapeutics. **AR:** Received speaking fees from United Therapeutics and consulting and speaking fees from Janssen Pharmaceuticals. **CM:** Consultant for Actelion, Gossamer Bio, and Liquidia. **JR:** Received compensation for advisory board participation for Johnson & Johnson, Liquidia, Merck, and United Therapeutics. **MPG:** Received compensation for advisory board participation from Gossamer, Janssen, Liquidia, Merck, and United Therapeutics; for steering committee participation from Liquidia and United Therapeutics; for consulting from Liquidia; and for speaking from Bayer, Janssen, and United Therapeutics. **SM:** Served as a scientific consultant or sub-investigator for Gossamer Bio, Janssen, Liquidia, Merck, and United Therapeutics. **SP, AG, and RS:** Employees of Liquidia Technologies, Inc. **MW:** Received compensation for speaker bureau participation and consulting from Johnson & Johnson, Liquidia, Merck, and United Therapeutics; for speaker bureau participation from Bayer; for principal investigator roles from Merck and United Therapeutics; and for sub-investigator roles from Liquidia and Merck.

Presented at Pulmonary Hypertension Professional Network Symposium | September 18-20, 2025 | Seattle, Washington