Dose-response Analysis of Inhaled Treprostinil in Pulmonary Hypertension Associated with Interstitial Lung Disease and Its Effects on Clinical Worsening

**BACKGROUND**

- **INCREASE** was a multicenter, randomized, double-blind, placebo-controlled, 16-week, parallel-group study.
- The study met its primary endpoint of change in 6-minute walk distance (6MWD) at Week 16.1
- Additionally, patients receiving inhaled treprostinil had a lower risk of clinical worsening than patients receiving placebo (hazard ratio 0.61; log-rank p=0.04).
- Inclusion criteria included confirmed diagnosis of pulmonary hypertension associated with interstitial lung disease (PH-ILD) by right heart catheterization and demonstrated evidence of diffuse parenchymal lung disease on computed tomography imaging.
- The study did not include patients with PH-ILD.

**RESULTS**

- **RESULTS (cont.)**
  - Significantly fewer patients died in the higher dose group compared to the lower dose group (3% vs. 15%, p=0.02).
  - For the other components of the clinical worsening composite endpoint, there were lower incidences of 6MWD decline, cardiopulmonary hospitalization, and lung disease exacerbation in the ≥9 bps group but these differences did not reach significance (Table 2).

**METHODS**

- **METHODS** included post-hoc analyses of data from the INCREASE trial.
- *In this post-hoc analysis, patients in the inhaled treprostinil treatment arm were divided based on maximum dose achieved into two groups, <9 and ≥9 bps per session (bps).*
- Kaplan-Meier estimates were used to evaluate time to clinical worsening. Log-rank test was used to compare overall rates of clinical worsening between groups.
  - Individual components of the clinical worsening definition were compared between groups using Fisher exact test.

**RESULTS**

- Among the 163 patients in the inhaled treprostinil arm, 41 patients were in the <9 bps group and 122 patients were in the ≥9 bps group. The two dose groups had similar demographics, hemodynamics, and lung function at baseline (Table 1).
- The median doses in the <9 and ≥9 bps groups were 6 and 12 bps, respectively. Kaplan-Meier estimates were used to evaluate time to clinical worsening. Log-rank test was used to compare overall rates of clinical worsening between groups.
  - Individual components of the clinical worsening definition were compared between groups using Fisher exact test.

**REFERENCES**