Epoprostenol Dosing Regimens in the PROSPECT Registry

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PURPOSE: Information about symptom-driven up titration among centers experienced in dosing IV prostanoids is limited. This study assessed longitudinal titration patterns of prostanoid-naïve patients with pulmonary arterial hypertension (PAH) and those transitioned from one synthetic prostacyclin (PGI₂) formulation to another, using the largest cohort of patients with PAH studied to date.

BACKGROUND: The PROSPECT Registry is a multicenter, observational, US registry evaluating the use of epoprostenol for injection with arginine (Veletri®, Epo-A), offering expanded storage capacity and prolonged room temperature stability in patients with PAH. PROSPECT includes patients currently receiving, being initiated on, or transitioning from other PGI₂ analog therapy to Epo-A, with follow-up at 1 year from enrollment.

METHOD: PROSPECT followed 354 patients (from up to 50 treatment centers) for ≥1 year from enrollment. Chronic Epo-A up titration was required until PAH treatment goals were reached or dose-limiting events occurred. Data lock was September 17, 2012, and 331 WHO Grp I PROSPECT patients are included in this analysis. Patients were categorized as either PGI₂ “transitioned” or “naïve” according to whether they had received synthetic PGI₂ or a PGI₂ analog during the 30 days prior to Epo-A initiation. The titration patterns are described according to median dose at 1, 3, 6, 9, and 12 months from Epo-A initiation and stratified by underlying PAH etiology.

FINDINGS: The median dose for PGI₂-naïve patients (n=139) at 1 month was 10.5 ng/kg/min and was steadily uptitrated to 25 ng/kg/min by 12 months (Figure 1). Among transitioned patients (n=192), the median dose remained stable over the 12 months: 27 ng/kg/min at 1 month and 30 ng/kg/min at 12 months. When segregated by underlying PAH etiology, the dosing pattern with naïve and transitioned patients was similar to that seen in the overall group; patients with PAH other than idiopathic PAH (IPAH) or connective tissue disease-associated PAH (CTD-APAH) received higher doses of Epo-A throughout the study (Figure 2).

IMPLICATIONS: These findings provide much needed information about symptom-driven up titration of IV prostanoids doses from a large PAH patient sample. Longitudinal outcomes correlated to dosing will be presented in the future.

**Figure 1. Epoprostenol for Injection Dosing Regimens: Synthetic Prostacyclin Naïve vs Transitioned**

**Figure 2. Epoprostenol for Injection Dosing Regimens by Etiology: Synthetic Prostacyclin Naïve vs Transitioned**

*The authors are saddened to report the passing of Robyn J. Barst, MD in April 2013. She was an esteemed physician, investigator, and colleague. Her research focused extensively on pulmonary hypertension and she was a distinguished leader in the field of pediatric pulmonary hypertension. Dr Barst’s contributions to the field are invaluable.

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