Describing the transition from parenteral treprostinil to oral treprostinil or selexipag in patients with pulmonary arterial hypertension: Case series

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**Background:** Parenteral prostacyclin analogues have been standard of therapy of PAH in patients with advanced symptoms. Parenteral treprostinil is a prostacyclin analogue that has been shown to improve exercise capacity and hemodynamic parameters in patients with PAH. However, intravenous treprostinil is commonly associated with severe complications, including line infections, bloodstream infections, and venous thrombosis. Also, subcutaneous treprostinil has been associated with significant site pain and skin and soft tissue infections. Additionally, parenteral treprostinil requires continuous infusion via a portable pump, which may be another barrier for patients who either do not have access to or prefer not to use such a device. Oral treprostinil, a prostacyclin analogue, and selexipag, a selective prostacyclin receptor (IP) agonist, are oral formulations approved for PAH that have emerged as treatment options to potentially improve patient quality of life, convenience, and ease of administration.

**Methods:** An Institutional Review Board reviewed retrospective study was conducted in patients with PAH who transitioned from parenteral to oral treprostinil or selexipag during the period between 12/31/2013 and 12/31/18 at Indiana University Health Academic Health Center. Clinical and safety outcomes were measured before and after the transition at the first clinic follow up (3 - 12 months). Clinical outcomes included six-minute-walking-distance (6MWD) and functional class (FC), and safety outcomes included adverse events experienced during and after the transition.

**Results:** A total of six patients (mean age 51 years [range 42 - 77 years]; all female) with PAH FC II transitioned to oral treprostinil or selexipag. Five patients transitioned from subcutaneous treprostinil to oral treprostinil therapy using a rapid cross-titration approach within three to five days in the inpatient setting. One patient transitioned from intravenous treprostinil to selexipag therapy within approximately seven weeks in the outpatient setting. All patients tolerated the transition to oral therapy without significant clinical deterioration. Adverse events experienced during and after transition included headache, nausea, diarrhea, abdominal pain, jaw pain, bloating, weight gain, dyspepsia, night sweats, and fatigue.

**Conclusions:** Six patients with stable PAH successfully transitioned to oral treprostinil or selexipag without clinical deterioration.