

# Analysis of Real-world Pharmacovigilance Data of Parenteral Treprostinil for Pulmonary Arterial Hypertension (PAH) in the Pediatric Versus Adult Population

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## BACKGROUND

- Pulmonary arterial hypertension (PAH) is a rare and progressive disease
- Remodulin® (treprostinil) Injection is indicated for treatment of PAH (WHO Group 1) to diminish symptoms associated with exercise<sup>1</sup>
- Pediatric PAH patients are treated with parenteral (SC or IV) prostacyclin similar to adult PAH patients
- The pediatric safety profile is not well established (there are limited data available in patients <18 years of age to determine whether the pediatric safety profile differs from adults)
- Providing real-world safety data on Remodulin use in the pediatric versus adult PAH populations may assist clinicians seeking additional safety information in their management of PAH in pediatric and adult patients

## METHODS

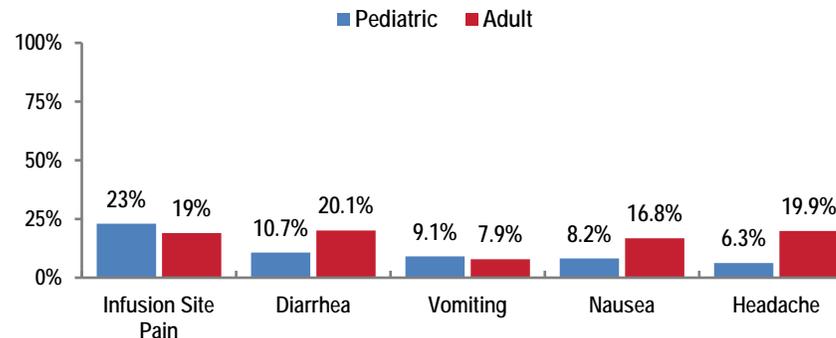
- This retrospective study compared United Therapeutics' pharmacovigilance data of pediatrics (<18 yo) versus adults (≥18 yo) to determine any significant difference between the two populations
- The database search ranged from 03Feb1998 to 01Sep2020 and included postmarketing surveillance and unblinded serious clinical trial reports of patients with PAH
- The adverse drug reactions (ADRs) compared are listed events for Remodulin
- For each ADR, the % of patients who experienced the ADR in each group, the difference in ADR % for pediatrics versus adults, the 95% confidence interval of the difference, and ADRs occurring at frequency of ≥4% (incidence of ADRs reported in pharmacovigilance database with a frequency of at least 4% in either group) were analyzed

## RESULTS

- A total of 6,128 adults and 338 pediatric patients were analyzed
- Infusion site pain, diarrhea, vomiting, nausea, and headache were the most frequently experienced ADRs in pediatric and adult populations
- Infusion site pain had the greatest incidence in the pediatric population
- Diarrhea had the greatest incidence in the adult population

## RESULTS (cont.)

Figure 1: Overall Most Frequently Experienced ADRs



- Excluding ADRs occurring <4%, the pediatric population more frequently experienced infusion site pain, infusion site erythema, infusion site swelling, diarrhea, and dyspnea
- Excluding ADRs occurring <4%, the adult population more frequently experienced dyspnea, diarrhea, headache, infusion site pain, and nausea
- A fatal outcome of progressive disease (death) was 5.7% and 17.5% in pediatrics versus adults respectively

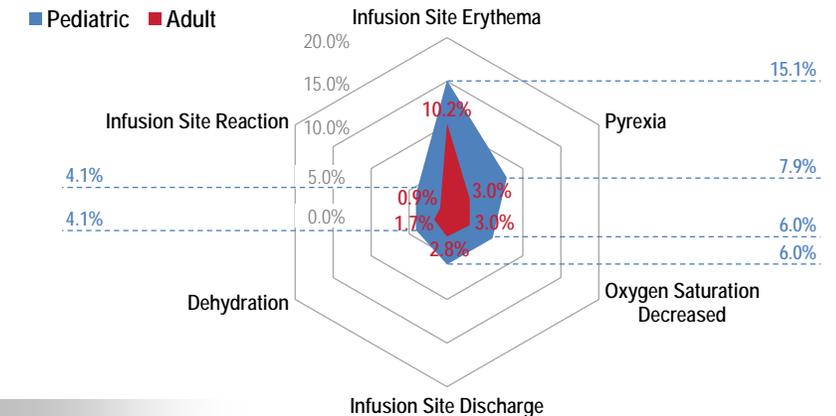
Table 1. Most Frequent ADRs Occurring ≥4%

	ADR ≥4% Pediatric		ADR ≥4% Adult
Infusion Site Pain	23%	Dyspnea	20.4%
Infusion Site Erythema	15.1%	Diarrhea	20.1%
Diarrhea	10.7%	Headache	19.9%
Infusion Site Swelling	10.4%	Infusion Site Pain	19.0%
Dyspnea	7.6%	Nausea	16.8%

## RESULTS (cont.)

- Infusion site erythema, pyrexia, oxygen saturation decreased, infusion site discharge, dehydration, and infusion site reaction were ADRs more frequently experienced in the pediatric vs. adult population (the lower bound of 95% CI of the difference for pediatrics versus adults is > 0)

Figure 2: Overall ADRs More Frequently Experienced by Pediatrics



## LIMITATIONS

- Retrospective review of postmarketing surveillance and clinical trial data may not be representative of the clinical population
- The clinical trials included for analysis were not primarily intended to assess any significant difference in ADR frequency between pediatrics and adults
- Remodulin SC and IV formulations were not delineated in the analysis of ADRs, future analyses will determine any additional differences in ADR frequencies between SC and IV use

## CONCLUSION

- This study provides a better understanding of the pediatric safety profile of Remodulin
- Remodulin PAH therapy in pediatrics demonstrates a safety profile consistent with use in adults
- Local reactions were observed more in pediatrics

## REFERENCES:

1. Remodulin (treprostinil) injection, US package insert. United Therapeutics Corporation, Research Triangle Park, NC. February 2021.