Medication Use Evaluation of Lung Surfactant in the NICU: Beractant & Poractant Alfa

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Background: Respiratory distress syndrome (RDS) poses a significant mortality threat to preterm and term infants who fail to produce adequate amounts of lung surfactant. The mainstay of treatment for RDS is exogenous surfactant replacement therapy which has been shown to significantly improve clinical outcomes and reduce mortality. Beractant and poractant alfa are both FDA-approved for the treatment of RDS and are available in several product sizes which can be used to create patient-specific doses.

Objectives: To evaluate dosing appropriateness and inventory utilization of beractant and poractant alfa with the goal of identifying opportunities relating to drug purchasing, prescribing, and utilization.

Method(s) or Procedure(s): A retrospective chart review was conducted on neonates that received either beractant or poractant alfa for the treatment of RDS between May 2019 and April 2020. Dosing appropriateness was evaluated by comparing prescribed doses against recommending dosing published in the drug monograph. Surfactant inventory utilization was evaluated by assessing the use of product vial sizes and their associated costs.

Result(s): We identified that 86.2% of beractant orders and 73.6% of poractant alfa orders were within 10% of the recommended dosing per patient weight. We additionally identified a cost-savings opportunity with 25% of beractant orders and 42% of poractant alfa orders, potentially saving the facility up to thirty-thousand dollars in a nine-month period.

Conclusion(s): Pharmacy-driven initiatives and education represent an opportunity to improve dosing appropriateness within the facility. Implementation of the beractant dosing chart and updated informatics technology can be used to improve surfactant inventory utilization.

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