

OPIOID CLASS SWITCHING IN MECHANICALLY VENTILATED PEDIATRIC PATIENTS

Sara Hyatt¹

¹ Baylor College of Medicine, Department of Pediatrics, Critical Care

Keywords: Opioid, continuous infusion, total dose exposure, critically ill, child

Background: Opioids are commonly used in the pediatric intensive care unit (ICU) to alleviate pain, minimize the stress response and provide sedation for procedures and mechanical ventilation. While it is the goal to use adequate doses of analgesia, it has been shown that prolonged use of opioids leads to high total dose exposure leading to tolerance, hyperalgesia and even iatrogenic withdrawal syndrome. This sequela can prolong mechanical ventilation, ICU admission and overall hospital stay. The high exposure from prolonged opioid use makes the emphasis on judicious use important. One way to reduce total dose exposure is to target different mu receptors. Opioid class switching has been shown to be beneficial in the reduction of total opioid dose and more effective pain and/or sedation response.

Materials/Methods: This retrospective, descriptive study will be conducted at a single center pediatric intensive care unit. The study will undergo review from the IRB prior to initiation of the project. Participants will include those admitted during a two-year period (June 2018 to July 2020) with a primary diagnosis of acute or acute on chronic respiratory failure requiring mechanical ventilation for at least five days. The total opioid dose exposure will be compared for patients with and without opioid class switch/es. Descriptive and inferential statistics will be performed. Mann Whitney U test will be used to compare the total dose exposure among the two groups (switch versus no switch).

Results: There are 243 mechanical ventilation events, 227 hospitalizations, and 218 patients. Opioid doses, length of stay and days on mechanical ventilation are totaled over all hospitalizations during the study period. Patient who underwent class change had more total opioid dose exposure.

Conclusions: Complex patient populations have increased opioid dose exposure.

Images / Graph / Table: No image uploaded