Sickle cell disease affects close to 100,000 persons in the United States. The hallmark of the disease is intense, unpredictable pain crises. Patients often seek care in the emergency department (ED) in order to treat their pain.

The Duke ED provides intensive treatment of sickle cell pain crisis with the goal of first dose opioid administration within 60 minutes of presentation. This goal is guided by the sickle cell disease Expert Panel Report from 2014. A barrier to meeting this metric is the inability to move patients quickly from the waiting room to the treatment area due to lack of bed availability. One of the strategies created to overcome this barrier has been to administer opioids via the subcutaneous (SC) route to sickle cell patients in painful crisis regardless of bed availability in the treatment area.

Objective

- To assess the safety and efficacy of waiting room administration of subcutaneous opioids in patients with sickle cell pain crisis.

Background

Sickle cell disease affects close to 100,000 persons in the United States. The hallmark of the disease is intense, unpredictable pain crises. Patients often seek care in the emergency department (ED) in order to treat their pain.

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Methods

- This is a single center, retrospective chart review.
- This study has been approved by the Institutional Review Board at Duke University Hospital.

Patients will be included if they are ≥18 years old and presented to the Duke ED with a diagnosis of sickle cell pain crisis between 7/1/2013 – 6/30/2016

Patients will then be screened to see if they were administered a SC dose of opioid, and then returned to the waiting room

Patients will be excluded if they received an opioid by any route other than SC, or if they received their first dose after a treatment bed was assigned

Primary Efficacy Outcome

- Decrease in Numeric Pain Rating Scale (1-10) by 30% within 90 minutes of SC opioid administration

Primary Safety Outcome

Major Adverse Events
- Event requiring administration of naloxone, CPR, or intubation
- Respiratory depression
- Hypotension
- RASS score <-1

Minor Adverse Events
- Nausea
- Vomiting
- Pruritus
- Dizziness
- Drowsiness/somnolence

Significance

- The decision to administer parenteral opioids to specific patients in the Duke ED was made based on collective experience with the sickle cell population due to the lack of evidence based literature. This research will help describe the safety and efficacy of administering opioids in the ED waiting room to the sickle cell pain crisis population. Ultimately, findings from this research may guide the care of sickle cell pain crisis in emergency settings.

Statistics

- All continuous variables will be summarized using means/medians, standard deviations and ranges. All categorical variables (e.g. race, gender, adverse events, etc.) will be described using frequencies and percentages.
- Group difference will be assessed by Chi-square test for categorical variables and non-parametric Wilcoxon rank sum test for continuous variables. All statistical analysis will be performed using SAS 9.4 [SAS Institute Inc., Cary, NC]

References


Disclosures

- Authors have no conflicts of interest regarding personal or financial relationships with commercial entities that may have influenced the content or subject matter of this presentation.