INTRODUCTION

- Sickle cell disease (SCD) is a genetic hematologic disorder which results in abnormally configured red blood cells (RBCs).
- Children with SCD are faced with many complications including splenic dysfunction which increases their risk of severe bacterial infections and even death.
- For these reasons, emergency departments (EDs) are usually the first place of contact for children with SCD.
- The National Heart, Lung and Blood Institute (NHLBI) treatment guidelines for febrile illness in children with SCD recommend administration of parenteral antibiotics within 30-60 minutes of arrival at the ED.
- Poor communication between ED providers and hematologists/primary care physicians prior to patient arrival is a notable barrier to prompt treatment.

PRELIMINARY RESULTS

- There were 38 visits where the patient was febrile on presentation or fever was the chief complaint
- Median patient age was 3.5 years, and 27 of the visits involved male patients
- All patients were non-Hispanic, African American
- 20 of the visits involved patients with homozygous sickle cell anemia, 17 involved patients with sickle B+ thalassemia, and one involved a patient with sickle-hemoglobin C disease
- All patients received parenteral antibiotics in the ED, with median time to antibiotic administration (TTA) of 109 minutes
- 17 of the 38 cases had communication between ED providers and pediatric hematologists prior to the encounter, and these cases had shorter TTA (median 77; IQR: 59, 150 min) compared to cases where the communication occurred during the encounter (median 127; IQR: 96, 181)
- Some data collection/analysis is still ongoing, so more results will be added later

HYPOTHESIS

We hypothesized that ED-hematology communication would facilitate increased adherence to the NHLBI guidelines in the management of children with SCD in the ED, particularly with regards to timely administration of parenteral antibiotics.

MATERIALS & METHODS

We performed a retrospective chart review of febrile children age 2 months to 21 years with SCD followed by the ECU pediatric hematology outpatient clinic who presented to the Vidant Medical Center (VMC) ED with fever (>38.5°C) between January 1, 2015 to December 31, 2019.

We then compared their treatment and outcomes according to whether ED providers were able to communicate with pediatric hematologists before or during the ED encounter.

DISCUSSION

- The primary outcome measured in this study was time to administration of parenteral antibiotics and the secondary outcome assessed was the adherence to NHLBI guidelines in the management of febrile children with SCD.
- We determined that the median time to antibiotic administration with pre-encounter communication was 75 minutes versus 131 minutes without, suggesting communication facilitates more timely administration of parenteral antibiotics and adherence to NHLBI guidelines.

REFERENCES & ACKNOWLEDGEMENTS


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