Clinical Pathway Translates to Best Practice in the Pediatric ED

Sinai Hospital of Baltimore – Department of Emergency Medicine

Program Description and Goal

The pediatric emergency department (ED) at Sinai Hospital sees up to 200 patients, age 0-22 years with sickle cell disease annually. These patients typically present with fever, vaso-occlusive crisis or both. In the past, these patients often experience long wait times in our triage area leading to delays in treatment. Prolonged wait times lead to poor pain control, antibiotic delays, decrease patient/family satisfaction and may increase their risk for bacteremia and sepsis. Our ED-Pediatric Multidisciplinary Committee (MDC) developed a process where these patients can be rapidly evaluated and prompt treatment provided immediately upon arrival to our pediatric ED.

Process

The combined Pediatric ED-Peds MDC membership includes physician and nurse leaders from Emergency Medicine and Department of Pediatrics, pharmacist, and performance improvement. Consultation was made to the chief of pediatric hematology and oncology service who developed a clinical pathway for the ED management of sickle cell fever and pain crisis. The pathway includes parental involvement by notifying their hematologist prior to coming to the ED. Collaboration with Information Services (IS) and pharmacy was needed to design an electronic order set to complement the clinical pathway as well and that medications needed were readily available.

Solution

The pathway was developed based on evidence-based practices for ED management of sickle cell fever and pain crisis. Parents were strongly encouraged to call the on-call hematologist prior to their ED visit. This allowed for direct consultation between the hematologist and the ED attending physician advising them of the patient’s arrival and to discuss a plan of care.

The ED team designed a pediatric sickle cell disease electronic order set to complement the clinical pathway. This allows for incorporation of the pathway into the Computerized Physician Order Entry (CPOE) process. The ED physician can then trigger the order set when the patient arrives in the triage area if a bed is not available.

Treatments for some of these patients include the immediate availability of medication. Initiation of the order set which is flagged for rule out sepsis rapidly alerts the pharmacist to the need for prompt medication verification and delivery. In addition, pharmacy provided several premixed doses of the most common antibiotic choice for sickle cell fever so it is readily available upon patient arrival.

Education was provided to the ED nursing staff, pediatric ED providers, residents and nurse practitioners on the sickle cell clinical pathway and the use of the order set.
Measureable Outcomes

Performance indicators we were determined to meet on a monthly basis include:

1. door to IV antibiotic ≤ 60 minutes
2. door to IV pain medications ≤ 30 minutes

Both goals were set at > 90% for all sickle cell patients. Prior to implementation, we were below 80% for both indicators in 2010. Implementation of the new process began in January 2011 and data revealed immediate improvement by meeting our goal of >90%.

Sustainability

In order to sustain positive results, monthly chart reviews are performed by the director of the pediatric ED and the ED clinical nurse specialist (CNS) to identify delays and recommend improvements to the process. The sickle cell pathway is reviewed for current evidence based practice by the pediatric hematology and oncology service every 2 years. ED staff is frequently educated on pathway content and implementation to assure consistency in best practices for our sickle cell patients. Furthermore these practices were added to the ED orientation process as well as their annual assessment of pediatric core knowledge and competency for all new ED staff. A clear process outlining best practices and education has enabled sustainability for over 3 years at 94% or greater for our goals.

Role of Collaboration and Leadership

Success of this program would not have been possible without the engagement and genuine collaboration of physician and nursing leaders from both departments of Emergency Medicine and Pediatrics. Operationalizing the process included close collaboration with our IS and Pharmacy departments as well as frontline nurses who are able to outline their workflow in caring for their patients. Improved communication and teamwork of all individuals involved in the implementation of the clinical pathway from the moment these patients arrive at triage resulted in fast, streamlined and efficient patient care.

Innovation

The process contributed to patient safety through improvement in the timeliness of care in our pediatric sickle cell patients with fever and pain crises. Prompt treatment and adequate control of pain and discomfort during crises can significantly reduce the likelihood of life threatening complications in this vulnerable patient population. Unique to this process was the desire and ability to include the family/parent into the plan of care. Their willingness to collaborate with our team allowed for early notification prior to arrival and keep them informed of the treatment plan. Clinical effectiveness and patient/family centered care was translated into best practice thus promoting positive patient outcomes.

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