Sickle cell disease (SCD) is an inherited disorder resulting in splenic dysfunction, which increases risk of serious bacterial infection. NIH/NHLBI SCD guidelines state that patients and clinicians should be taught that a temperature over 38.5°C represents an emergency and should provoke a "rapid and intense evaluation... and lower threshold for empiric therapy than in a general population." A recent retrospective study found a 0.8% incidence of bacteremia with true pathogens in an emergency department setting. La Rabida Children’s Hospital’s (LRCH) is home to a multidisciplinary SCD program for approximately 450 patients. When patients develop fever, they are instructed to go immediately to the ED at Comer Children’s Hospital (CCH) or LRCH for blood cultures and empiric antibiotic therapy with ceftriaxone. Based on prior data demonstrating that well-appearing, low-risk patients can be safely managed as outpatients, lower-risk patients are instructed to return to LRCH for two subsequent days to receive antibiotics while awaiting blood culture results. A prospective study of pediatric blood cultures yielding true pathogens showed that a positive blood culture resulted within 48 hours in 95% of cases; those that were positive for so-called "critical" pathogens were often detected within 24 hours.

- Review antibiotic, blood culture, and follow-up data from febrile SCD patients at our institution.
- Determine whether there is an added benefit to a third dose of ceftriaxone in the outpatient management of the febrile SCD patient.

Blood cultures obtained from febrile SCD patients presenting to EDs at LRCH or CCH between 6/1/11 and 5/31/13 were reviewed. Exclusion criteria: Age ≥19 years at time of culture, initial culture obtained at another institution, follow-up to be completed at another institution, cultures drawn within 7 days of prior culture. Collected information on disposition (admission vs. outpatient), number of outpatient visits completed, and blood culture status (including time to positivity and speciation, if applicable). Chart review approved by University of Chicago IRB.

- 80% of patients presenting with SCD and fever returned for three doses of antibiotics as recommended, speaking to high compliance in this patient population.
- We can extrapolate that the majority of families will return if they receive a call instructing them to return to LRCH for management of a positive blood culture.
- In addition, our data is congruent with prior findings that pathogens of concern grow in blood cultures within 48 hours (with the only pathogen resulting in a positive culture at 13 hours). All positive cultured resulting at >48 hours were later determined to be contaminants.
- Given that the rate of positive blood cultures is low and that clinically significant pathogens grow within 48 hours, a third dose of antibiotics appears unnecessary for the febrile SCD patient who is deemed appropriate for outpatient management.

Follow-up for the febrile SCD patient treated on an outpatient basis should be shortened from three visits to two visits.

Aims

Methods

Blood cultures obtained from febrile SCD patients presenting to EDs at LRCH or CCH between 6/1/11 and 5/31/13 were reviewed. Exclusion criteria: Age ≥19 years at time of culture, initial culture obtained at another institution, follow-up to be completed at another institution, cultures drawn within 7 days of prior culture. Collected information on disposition (admission vs. outpatient), number of outpatient visits completed, and blood culture status (including time to positivity and speciation, if applicable). Chart review approved by University of Chicago IRB.

Aim: Review antibiotic, blood culture, and follow-up data from febrile SCD patients at our institution.

The Background section provides context on the high risk of bacterial infections in SCD patients and the importance of prompt and appropriate management.

The Results section details the study design, methods, and findings, including the percentage of positive cultures and the time to positivity. A diagram is included to illustrate the disposition of febrile SCD patients and the frequency of positive cultures.

The Discussion section delves into the implications of the findings, emphasizing the clinical relevance of the study results and their impact on outpatient management practices. It also highlights the need for further research and the potential benefits of a shorter follow-up regimen for febrile SCD patients.

The Implications for Practice section suggests clinical guidelines for managing febrile SCD patients, emphasizing the importance of prompt antibiotic treatment and the reduction in the number of follow-up visits based on the study's findings.

The References section cites various studies and guidelines supporting the clinical practices discussed in the paper, ensuring that the recommendations are evidence-based.

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