1512. Treatment of Staphylococcus aureus Bacteremia in a Pediatric Population: A Retrospective Cohort Analysis
Sarah G. Gunter, PharmD; Kayla R. Stover, PharmD; Katie Barber, PharmD; Jamie Wagner, PharmD; Mary Joyce Wingler, PharmD*; David A. Cretella, PharmD; University of Mississippi Medical Center, Jackson, Mississippi; University of Mississippi School of Pharmacy, Jackson, Mississippi; University of Mississippi Medical Center, Jackson, Mississippi

Disclosures. All authors: No reported disclosures.

1513. Management of Children with Blood Cultures (BC) Positive for Nonpathogenic Organisms After the Introduction of Polymerase Chain Reaction (PCR) Technology
Julianne Hughes, MD; Stephen Barone, MD; Northwell Health, new hyde park, New York

Disclosures. All authors: No reported disclosures.

Philadelphia, Philadelphia, Pennsylvania; 1University of Padua, NA, Baslicata, Italy; 2University of Utah, Salt Lake City, Utah

Session: 159. Pediatric Bacterial Diseases: Diagnosis and Management
Friday, October 4, 2019: 12:15 PM

Background. Children with osteomyelitis transitioned to oral step-down therapy experience similar outcomes to those treated with outpatient parenteral antibiotic therapy (OPAT). Compared with OPAT, oral therapy has lower costs and avoids catheter complications. However, few studies have specifically compared patient outcomes between those receiving oral therapy vs. OPAT for osteomyelitis with associated bacteria caused by MRSA.

Methods. We performed a retrospective cohort study comparing early oral therapy (EOT), defined as transition to oral therapy at or prior to discharge vs. use of OPAT at discharge. We identified hospitalized children <19 years of age with MRSA osteomyelitis with bacteremia between 2007 and 2014 from three children’s hospitals. The primary outcome was treatment failure within 6 months of discharge, defined as unplanned change in antibiotic after discharge, development of chronic osteomyelitis, need for an operative procedure after discharge, or recurrence of bacteremia. The secondary outcome was treatment-related events, defined as documented adverse drug events in the medical record and/or central venous catheter complications. Between-group comparisons were made using Fisher exact test for binomial distributions and t-test for continuous variables.

Results. We included 61 patients with MRSA osteomyelitis with bacteremia. Twenty-five patients (41%) received EOT and 36 (59%) received OPAT. Duration of bacteremia and hospital length of stay was similar between groups (Table 1). Clindamycin was the most commonly used antibiotic in both the EOT (24/25, 96%) and OPAT (22/36; 61%) groups. Clinical failure occurred in 1/25 (4%) children receiving EOT and in 5/36 (14%) in the OPAT group (95% CI of difference: −29 to 6%; P = 0.38, Table 1). Treatment-related adverse events occurred in 1/25 (4%) children receiving EOT compared with 9/36 (25%) receiving OPAT (95% CI of difference: −49 to 6%; P = 0.04, Table 1).

Conclusion. Children receiving EOT for MRSA osteomyelitis with bacteremia did not experience higher rates of clinical failure and had fewer treatment-related complications compared with OPAT. Oral step-down therapy can be considered for children with MRSA osteomyelitis with bacteremia.

Table 1. Baseline characteristics and outcome

| Characteristic                  | EOT (n=25) | OPAT (n=36) | P-value |
|--------------------------------|------------|-------------|---------|
| Age, years (median, IQR)       | 7 (4.5, 12) | 6 (3.5, 10) | 0.86    |
| Male, n (%)                    | 21 (84%)   | 20 (56%)    | 0.13    |
| Race, n (%)                    |             |             |         |
| White, n (%)                   | 7 (28%)    | 12 (33%)    | 0.08    |
| Black, n (%)                   | 11 (44%)   | 11 (31%)    | 0.11    |
| Comorbidities, n (%)           | 7 (28%)    | 9 (25%)     | 0.33    |
| Duration of bacteremia (median, IQR) | 3 (2.5, 7) | 3 (2.5, 6) | 0.17    |
| Duration of fever (median, IQR) | 6 (5.5, 9) | 6 (5.5, 8) | 0.95    |
| Initial CBC, mg/dL (median, IQR) | 13 (2.6, 25) | 15 (9.9, 25) | 0.15 |
| Surgical drainage procedure, n (%) | 19 (76%) | 12 (33%) | 0.01    |
| Length of stay, days (median, IQR) | 9 (5, 12) | 10 (7.5, 15) | 0.58    |
| Intensive Care Unit admission, n (%) | 6 (24%) | 7 (19%) | 0.76    |
| Duration of IV days (median, IQR) | 9 (6, 11) | 35 (26.5, 45) | 0.001  |
| Total antibiotic duration (median, IQR) | 40 (35,50) | 46 (39.5, 56.75) | 0.1    |

| Outcomes                        |          |
|---------------------------------|----------|
| Failure, n (%)                  | 1 (4%)   |
| All treatment-related adverse events, n (%) | 1 (4%)   |
| Adverse drug event, n (%)       | 0 (0%)   |
| Central venous catheter event, n (%) | 0 (0%)  |
| Readmission, n (%)              | 0 (0%)   |
| ED visit, n (%)                 | 0 (0%)   |

P = 0.0022. The proportion of patients who had a repeat BC was significantly lower in the post-PCR group (70%, 48 of 69) compared with the pre-PCR group (45%, 30 of 67), P < 0.01. Of those who received antibiotics, the proportion of patients who received more than 1 dose was significantly lower in the post-PCR group (43%, 9 of 21) compared with the pre-PCR group (73%, 27 of 37), P < 0.025. The proportion of patients who had a repeat BC was significantly lower in the post-PCR group (58%, 40 of 69), compared with the pre-PCR group (82%, 55 of 67), P = 0.0022. The proportion of patients who were asked to return to the emergency department significantly decreased in the post-PCR group (59%, 16 of 27), compared with the pre-PCR group (88%, 23 of 26), P = 0.016.

Conclusion. With the addition of PCR technology, patients with BC positive for nonpathogenic bacteria have received less antibiotics, less repeat BCs and were less frequently asked to return for evaluation.

Disclosures. All authors: No reported disclosures.

1514. Factors Associated with an Infectious Diseases Consultation for Pediatric Staphylococcus aureus Bacteremia
Tara E. Curley, BS; Emily Ansusinha, BA, MA; Rana F. Hamdy, MD, MPH, MSCE; George Washington University, Washington, DC; Children’s National Health System, Washington, DC; Children’s National Medical Center, Washington, DC

Session: 159. Pediatric Bacterial Diseases: Diagnosis and Management
Friday, October 4, 2019: 12:15 PM

Background. Staphylococcus aureus bacteremia is associated with substantial morbidity in children. An infectious diseases consultation is associated with decreased mortality in adults with S. aureus bacteremia, but this has not yet been shown in a pediatric population.

Methods. This was a retrospective cohort study of children <18 years old hospitalized at Children’s National Medical Center with S. aureus bacteremia between January 1, 2012 and December 31, 2016. We excluded children with polymicrobial infections, those with a concurrent culture-proven infection, and those transferred with incomplete records. Structured manual chart review was used to collect demographic information, underlying comorbidities, type of admission (ICU or non-ICU), inpatient LOS, treatment, and methicillin resistance (MRSA or MSSA). A multivariable logistic regression analysis was performed to identify factors associated with having an infectious diseases consultation.

Disclosures. All authors: No reported disclosures.
Results. We identified 171 episodes of *S. aureus* bacteremia; 27.5% occurred in infants <12 months old, 65.5% occurred in males, 38% occurred in ICU patients, and 18.1% were methicillin-resistant *S. aureus* (MRSA). The most common primary sources of infection were musculoskeletal (38%), catheter-related (18.1%), and skin/soft-tissue infections (17%). The majority (70.2%) received an infectious diseases consultation. In univariable analysis, ID consultation was more frequent among infections with the following characteristics: non-neonates (74.2% vs. 45.8%; \(P = 0.007\)), community-acquired (78.7% vs. 45.5%; \(P < 0.01\)), no underlying comorbidities (97.0% vs. 53.3%; \(P < 0.001\)), musculoskeletal (98.5%) or endovascular (100%) source of infection, and MRSA (100%). In a multivariable logistic regression analysis, musculoskeletal infections, endovascular infections, and MRSA had significantly higher odds of receiving an infectious diseases consultation.

Conclusion. Children with *S. aureus* bacteremia were more likely to receive an infectious diseases consultation if presenting with musculoskeletal infections, endovascular infections, or MRSA.

Disclosures. All authors: No reported disclosures.