Pediatric Infectious Disease Specialists' Management of Acute Staphylococcal Osteomyelitis: An IDSA/EIN Survey

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Abstract

BACKGROUND: Optimal antimicrobial management of acute hematogenous osteomyelitis (AHO) is controversial. OBJECTIVE: To determine the current management strategies of methicillin-susceptible (MSSA) and methicillin-resistant Staphylococcus aureus (MRSA) AHO by pediatric infectious disease (ID) specialists.

DESIGN/METHODS: Survey of Pediatric ID members of the Emerging Infections Network (EIN)

RESULTS: 167 of 244 (68.4%) members replied to the survey. They saw a median of 15 (range 0-76) AHO cases in the preceding year. 89% of respondents ranked MSSA and MRSA as the first or second most common etiologies observed. The most common complication of staphylococcal AHO was subperiosteal abscess (76%); thrombophlebitis and pneumonia were second and third respectively. For MRSA AHO, clindamycin was the intravenous (IV) drug of choice for 57% and vancomycin for 39%. Linezolid was the third line IV agent chosen (47%).

CONCLUSIONS:AHO therapy is not standardized. Clinical and lab features to guide timing and duration of therapy are used. Treatment failures seen with both IV and oral therapy are frequent. Alternative agents are frequently used in cases where initial therapy fails. Research is required to better define the following:

• Optimal empiric and definitive therapies, IV and oral
• Optimal management of complications
• Complicated AHO is described frequently
• MRSA AHO is seen frequently

AHO is a common problem in pediatric ID practices

Background

• On January 12, 2007 a query was posted to the Emerging Infections Network (EIN) regarding oral stepdown therapy in pediatric osteomyelitis
• Responses to the posting were highly varied reflecting the lack of consensus for optimal management of AHO hindered by lack of randomized trials of treatment duration or oral stepdown therapy

Objective

• To determine the current epidemiology of pediatric AHO in pediatric infectious disease practices throughout the EIN

Materials & Methods

• Survey designed for pediatric ID member of the EIN
• Demographic variables collected
• Members queried regarding:
  1. How often do they manage AHO and whether they are seeing MRSA
  2. Antibiotic management (choice of antibiotic, durations of IV and oral therapy)
  3. Criteria used to guide management
• Invitation to complete the survey sent to 244 Pediatric EIN members and posted on the EIN website
• Results descriptive and hypothesis generating

Discussion

• AHO is a common problem in pediatric ID practices
• MRSA AHO is seen frequently
• Complicated AHO is described frequently
• Pediatric ID specialists split on use of oral stepdown therapy
• Most using oral stepdown therapy use combination of clinical and lab features to guide timing
• Treatment failures seen with both IV and oral therapy
• Clindamycin and vancomycin used most frequently
• Linezolid use frequently with little data on its efficacy
• Numbers are estimates (at best) of actual practice
• Research required to better define the following:
  • Optimal management of complications
  • Optimal empiric and definitive therapies, IV and oral
  • Alternatives to clindamycin with increasing clindamycin resistant MRSA

References

1. Le Saux et al., BMC Infect Dis 2002; 2:16