



To describe antimicrobial resistance patterns and determine the most appropriate empiric antibiotic therapy in HPN dependent children experiencing a community-acquired CLABSI” Raphael et al (2019).

Abstract:

BACKGROUND: Patients receiving home parenteral nutrition (HPN) are at high-risk for central line associated bloodstream infections (CLABSI). However, there are no published management guidelines for the antibiotic treatment of suspected CLABSI in this population. Historical microbiology data may help inform empiric antimicrobial regimens in this population.

OBJECTIVE: To describe antimicrobial resistance patterns and determine the most appropriate empiric antibiotic therapy in HPN dependent children experiencing a community-acquired CLABSI.

METHODS: Single-center retrospective cohort study evaluating potential coverage of empiric antibiotic regimens in children on HPN who developed a community-acquired CLABSI.

RESULTS: From October 1, 2011 to September 30, 2017, there were 309 CLABSI episodes among 90 HPN-dependent children with median age 3.8 years-old. Fifty-nine percent of patients carried the diagnosis of surgical short bowel syndrome. Organisms isolated during

these infections included 60% gram-positive bacteria, 34% gram-negative bacteria, and 6% fungi. Among all staphylococcal isolates, 51% were methicillin sensitive. Among enteric gram-negative organisms, sensitivities were piperacillin-tazobactam 71%, cefepime 97% and meropenem 99%. Organisms were sensitive to current institutional standard therapy with vancomycin + piperacillin-tazobactam in 69% of cases compared with vancomycin + cefepime or vancomycin + meropenem in 85% and 96% of cases (both $p < 0.01$).

CONCLUSIONS: Empiric antimicrobial therapy for suspected CLABSI in HPN-dependent children should include therapy for methicillin-resistant staphylococci as well as enteric gram-negative organisms. Future studies are needed to evaluate clinical outcomes based upon evidence-based antimicrobial regimens.

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Reference:

Raphael, B.P., Fournier, G., McLaughlin, S.R., Puder, M., Jones, S. and Flett, K.B. (2019) Antibiotic Susceptibility and Therapy in Central Line Infections in Pediatric Home Parenteral Nutrition Patients. *Journal of Pediatric Gastroenterology and Nutrition*. September 20th. doi: 10.1097/MPG.0000000000002506. .

