Duration of Intravenous Antibiotics in the Treatment of Acute Osteomyelitis in Children

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Acute osteomyelitis is a serious condition that has the potential to cause significant morbidity in the pediatric population if not detected and treated appropriately. Traditionally, treatment consists of 4-6 weeks of intravenous antibiotic therapy which, in and of itself, has potential complications including development of catheter-related infections, increased financial burden, and absence from school. Therefore, an extensive review of the literature was completed to determine if in otherwise healthy children with acute osteomyelitis, does early transition from intravenous to oral antibiotics compared to late transition or no transition result in resolution of disease without short- or long-term sequelae? PubMed, TRIP database, and PubMed Clinical Queries were searched using the keywords “osteomyelitis”, “treatment”, and “antibiotics” which yielded 4 studies that were appraised as noninferiority trials. The studies that were included defined and evaluated clear end-points, however, the applicability of some studies was limited secondary to their age and subsequent relevancy of microorganisms compared to those present in today’s population. The clinical bottom line for this topic is that short-term intravenous antibiotic therapy plus oral antibiotics (also known as sequential therapy) is not inferior to long-term intravenous antibiotic therapy and has fewer complications. Therefore, in certain populations this method of treatment should be considered.

References:

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