CLIPPINGS

Utility of blood culture in uncomplicated pneumonia in children (*Clin Med Insights Pediatr 2013; 7:1-5*)

It is believed to be the standard of care to obtain a blood culture in a child who is hospitalized for pneumonia. In recent years, many studies have questioned the utility of this practice in the presence of age appropriate immunization. This study was conducted to determine the current prevalence of bacteremia in children with uncomplicated pneumonia and the utility of obtaining blood cultures in these children.This was a retrospective review from July 2003 until July 2008. The setting was the pediatric emergency department of an urban teaching hospital. The study population included children less than 36 months of age who had been fully immunized and had been hospitalized with radiographic evidence of uncomplicated pneumonia. Excluded were children who were currently using antibiotics or who had used antibiotics within the previous 48 hours, as well as children with immunodeficiency status such as sickle cell anemia, immunoglobulin deficiency, or children on steroid therapy. The variables studied were age, gender, race, birth history, pneumococcal vaccination status, appearance on arrival, temperature on arrival, respiratory rate, oxygen saturation, white blood cell (WBC) count, neutrophil count, band count, and urine culture. A blood culture was obtained in 535 children hospitalized with radiographic pneumonia. Bacteremia was present in 12 children (2.2%). All organisms isolated from the blood cultures were considered contaminants. Authors calculated that children hospitalized with uncomplicated pneumonia have a low rate of positive blood cultures. The absence of true-positive cultures among the organisms isolated suggests little value in obtaining blood cultures in children hospitalized due to uncomplicated pneumonia.

Different guidelines for imaging after first UTI in febrile infants (*Pediatrics2013;131:e665-71*).

This study evaluated the yield, economic, and radiation costs of 5 diagnostic algorithms compared with a protocol where all tests are performed (ultrasonography scan, cystography, and late technetium (99)dimercaptosuccinic acid scan) in children after the first febrile urinary tract infections.A total of 304 children, 2 to 36 months of age, who completed the diagnostic follow-up (ultrasonography, cystourethrography, and acute and late technetium(99)dimercaptosuccinic acid scans) of a randomized controlled trial (Italian Renal Infection Study 1) were eligible. The guidelines applied to this cohort in a retrospective simulation included: Melbourne Royal Children's Hospital, National Institute of Clinical Excellence (NICE), top down approach, American Academy of Pediatrics (AAP), and Italian Society of Pediatric Nephrology. Primary outcomes were the yield of abnormal tests for each diagnostic protocol; secondary outcomes were the economic and radiation costs.Vesicoureteral reflux (VUR) was identified in 66 (22%) children and a parenchymal scarring was identified in 45 (15%). For detection of VUR and scarring, the top down approach showed the highest sensitivity (76% and 100%, respectively) but also the highest economic and radiation costs.NICE andAAP had the highest specificities for VUR (90%) and the Italian Society of Pediatric Nephrology had the highest specificity for scars (86%). NICE would have been the least costly and AAP would have resulted in the least radiation exposure. It was concluded that there is no ideal diagnostic protocol following a first febrile urinary tract infection. An aggressive protocol has a high sensitivity for detecting VUR and scarring but carries high financial and radiation costs with questionable benefit.

Daily chlorhexidine bathing to reduce bacteremia(*Lancet 2013;381:1099-1106*).

Bacteremia is an important cause of morbidity and mortality in critically ill children. The objective was to assess whether daily bathing in chlorhexidinegluconate(CHG) compared with standard bathing practices would reduce bacteremia in critically ill children.In an unmasked, cluster-randomized, two-period crossover trial, ten pediatric intensive-care units at five hospitals in the USA were randomly assigned a daily bathing routine for admitted patients older than 2 months, either standard bathing practices or using a cloth impregnated with 2% CHG, for a 6-month period. Units switched to the alternative bathing method for a second 6-month period. The primary outcome was an episode of bacteremia. They did intention-to-treat (ITT) and per-protocol (PP) analyses. In the ITT population, a non-significant reduction in incidence of bacteremia was noted with CHG bathing compared with standard practices. In the PP population, incidence of bacteremia was lower in patients receiving CHG bathing compared with standard practices. No serious study-related adverse events were recorded, and the incidence of CHG-associated skin reactions was 1.2 per 1000 days. The study concluded that critically ill children receiving daily CHG bathing had a lower incidence of bacteremia compared with those receiving a standard bathing routine.

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