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DIAGNOSIS OF BACTEREMIA USING UNIVERSAL PCR IN FEBRILE ILL CHILDREN

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Abstract:

Early diagnosis of bacteremia and its complications is the most important part of care and management of the febrile patients. However, a majority of patients who appear to be clinically septic have negative blood culture. The use of polymerase chain reaction (PCR) techniques has allowed identifying the pathogenic organisms rapidly and accurately. The objective of this study was to investigate the prevalence of bacteremia in febrile pediatric patients, comparing universal PCR and conventional blood culture. One hundred febrile children (45 males, 55 females) with suspected septicemia were evaluated. A total of 100 paired blood samples were collected from children to analyze for bacterial detection using universal PCR and culture. Twelve patients were blood culture positive. The most common pathogens isolated from blood culture were *Staphylococcus aureus*, coagulase negative staphylococci (CoNS) and *Pseudomonas aeruginosa*. The PCR were positive in 19 patients. The comparison revealed sensitivity, specificity and accuracy of 91.67, 90.91 and 91%, respectively, for PCR. The present study shows that the use of PCR is more sensitive than the use of conventional blood techniques for the detection of bacterium pathogens based on patients' clinical context.

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