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Bacteriologic Study of Blood Culture in Children and Neonates with Bacterimia and Septicemia

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Abstract

Background & Aim: The use of antibiotics for life threatening infections depends on periodic study of resistance patterns among isolated organisms in various settings and age groups especially in the era of increasing resistance. This study was performed to determine the microbiological characteristics of blood stream isolates in the neonates and children as a high risk population at a community hospital located in the southern Tehran.

Material and Method: All neonates and children up to 12 years of age admitted with presumptive diagnosis of sepsis or bacteremia were enrolled to this cross sectional, descriptive study. Blood cultures were monitored on a daily basis and suspicious samples were further subcultured in appropriate media; using the usual differential techniques and antimicrobial sensitivity tests. Results were recorded and expressed as percentages using excel software.

Results: One hundred and seven positive blood cultures were identified among 500 enrolled patients. Positive blood cultures were more common in the neonates than children (56 vs 51). Gram positive organisms were more common than gram negative ones (61% vs 39%) with coagulase negative staphylococci (CONS) as the most common isolate in gram positive and Ecoli as the most prevalent gram negative organism. Apart from vancomycin, first generation of cephalosporins showed the best activity against CONS, however aminoglycosides showed promising for gram negative organisms.

Conclusion: It was concluded that type of organisms and their sensitivity patterns are quite different in our community hospitals versus referral centers, still similar to other general children hospitals albeit with higher resistance rates.

Key words: Blood Culture_ Infection_Children_ Neonates

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