The relationship between the type of microorganisms detected in blood culture and the implications of newborns admitted to NICU

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ABSTRACT

Introduction: Infant sepsis is the third leading cause of infant mortality and a major health problem, especially in developing countries. Although recent improvements in medical care improve infant care, many challenges remain in the diagnosis and management of infections in infants. The aim of this study was to investigate the relationship between the type of microorganisms identified in blood culture and neonatal outcomes.

Materials and Methods: In this descriptive cross-sectional study, 1270 infants admitted to special infants in Tabriz Al-Zahra Hospital. Neonates with positive blood culture (42 neonates) was examined for the relationship between the type of microorganisms detected in blood culture and birth weight. Data were analyzed by descriptive statistics using SPSS 13 software.

Results: The findings showed that among 1270 newborns admitted to the NICU section of al-Zahra hospital, 30.3% had positive blood culture. The type of microorganisms involved were Staphylococcus aureus (35.7%), Enterobacter (21.4%), Acinetobacter (15.2%) and Escherichia coli (11.9%), respectively. 78.6% of these babies were discharged from hospital and 21.4% died.

Conclusion: Although Gram-positive organisms are the most common causes of hospital infections, gram-negative bacteremia has a high risk of severe sepsis, septic shock, and death. It is suggested that each unit evaluates the causative agents and antimicrobial susceptibility in order to select the appropriate empirical treatment for sepsis.