

Bacteriological Profile of Neonatal Septicaemia

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Introduction

Neonatal mortality rate is regarded as one of the indicators for measuring the health status of a nation. Septicaemia continues to be a major cause of neonatal mortality and morbidity worldwide. At present, in the developing countries, gram negative bacilli remain the major cause of neonatal septicaemia. These organisms have developed multi-drug resistance over the last two decades. The knowledge about these factors is limited, hence the current study was done to study these pathogens and antibiotic resistance pattern in them.

Materials and methods

A retrospective study of 210 neonates (less than 30 days of age and with septicaemia), using microbiology culture report of neonatal septicaemia cases from 2008 to August 2011, was undertaken in Department of Microbiology, Kasturba Medical College, Mangalore. It was a proforma based study. Microbiological details with regards to blood culture reports and antibiotic susceptibility profile were obtained from the laboratory records.

Results

In the present study, out of 210 bacterial isolates, majority of the isolates causing neonatal septicaemia

are *Staphylococcus aureus* followed by *Acinetobacter* spp, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, *Escherichia coli*, *Enterobacter* spp., *Streptococcus viridians* group, *Staphylococcus epidermidis*, *Citrobacter* spp., *Enterococcus* spp, *Proteus* spp and *Klebsiella oxytoca*. Maximum resistance among the isolated organisms was seen against amoxicillin/ampicillin. The resistance level to third-generation cephalosporins – cefotaxime, ceftriaxone and ceftazidime was also high, indicating that the use of these drugs alone may be ineffective. About 5.7% strains were Methicillin Resistant *S. aureus* (MRSA). The high level of resistance could be due to extended spectrum β lactamases expression in bacteria. Resistance levels were higher in *Acinetobacter* spp. and *K. pneumoniae*.

Conclusion

The bacteriological profile of neonatal septicaemia is constantly under change with advances in early diagnosis and treatment. Therefore, continued surveillance for various pathogens and their susceptibility profile should be done to effectively and timely treat the patients of neonatal septicaemia.

Keywords: Bacteriological profile; Neonatal septicaemia; Drug resistance; Extended spectrum β lactamase.