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Bacterial Isolates in Neonatal Sepsis and their Antibiotic Sensitivity Pattern in Nicu, Government Medical College, Amritsar

Gurpreet Banga, Kanwardeep Singh, Loveena Oberoi, Pushpa Devi, Shailpreet Sidhu and Karnail Singh

Department of Microbiology, Government Medical College, Amritsar, India

**Corresponding author*

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A B S T R A C T

The blood infection occurring in less than 90 days old infants is known as neonatal sepsis. This retrospective study was conducted at Govt. Medical College, Amritsar. A total 330 blood samples were studied out of which 90.3% were culture positive showing the most common organism as *Methicillin Sensitive Staphylococcus aureus* (MSSA), 25.5%.

Introduction

Neonatal sepsis is one of the most common cause of neonatal mortality and morbidity accounting for 30-50% of total neonatal deaths each year particularly in the developing countries (Chandra Madhur Sharma, *et al*., 2013).

The microorganisms causing neonatal sepsis and their respective antibiotic sensitivity patterns differ from place to place and they also keep on changing with time in the same area. Blood culture is the mainstay of diagnosis and prognosis of septicemia patients (West and Peterside, 2012).

The Main objectives of this study to identify the causative organisms in neonates presenting with sepsis in our Guru Nanak Dev Hospital. To determine the antibiotic sensitivity pattern of bacterial isolates. causing neonatal septicemia.

Materials and Methods

This retrospective study was conducted at

Government Medical College, Amritsar during the period from 1st May 2016 to 31st December, 2016.

A total of 330 neonates admitted with clinical suspicion of sepsis were enrolled in the study. 1-3ml of blood was collected aseptically in the blood culture bottle and was incubated for 24-48hrs at 37^0C. Subculture was done on blood agar and Mac Conkey agar and growth if obtained was identified using conventional methods and antibiotic sensitivity was performed using Kirby Bauer disc diffusion method as per CLSI guidelines. Blood culture showing no growth were further incubated for 7 days with 2 blind subcultures subsequently.

Results and Discussion

Out of total 330 blood samples, 298(90.3%) were blood culture positive. The bacterial isolation rate in the blood samples of suspected neonatal sepsis cases was 90.3% (298/330). The most common organism isolated was Methicillin Sensitive *Staphylococcous aureus* (25.5%) *followed by Klebseilla pnemoniae* (20.4%) and Coagulase Negative *Stapylococcus* (CoNS) (12%). Other isolated organisms included, *E.coli* (11.7%), *Acinetobacter* (10.7%), *Pseudomonas* (8.7%), *Methicillin* Resistant *Staphylococcus aureus* (3.3%), *Citrobacter* (2.6%), *Enterococcus* species (2.6%) and Streptococci (1%).

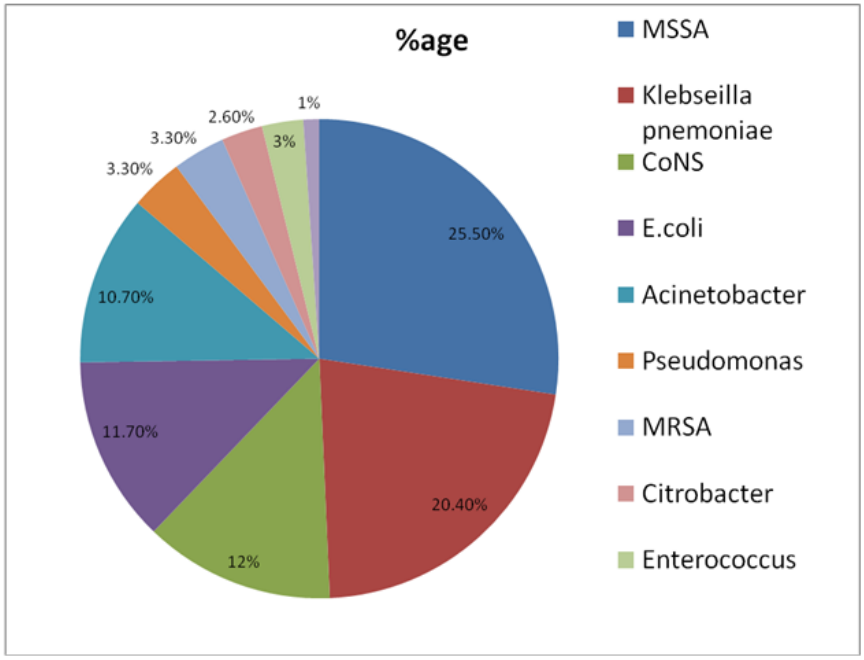
The gram positive organisms except streptococci displayed a high degree of resistance to most penicillins and ciprofloxacin but were sensitive to amikacin, vancomycin and linezolid.

Among gram negative organisms high incidence of resistance was seen with ampicillin, ciprofloxacin and gentamicin whereas cefepime, amikacin and meropenem were effective in most cases.

Gram positive cocci and gram negative bacilli were isolated from blood sample of neonates presenting with neonatal sepsis in NICU.

Gram positive bacteria were sensitive to amikacin, vancomycin and linezolid whereas gram negative bacteria were sensitive to cefepime, amikacin and meropenem. Continuous survillence and monitering of the data is required to formulate the strategies for empirical treatment.

Fig.1



References

Chandra Madhur Sharma, Ravi Prakash Agrawa, Hariom Sharan, Bijay Kumar, Deepti Sharma and Santokh Singh Bhatia.Neonatal Sepsis": Bacteria & their Susceptibility Pattern towards Antibiotics in Neonatal Intensive Care Unit.J Clin Diagn Res. 2013 Nov; 7(11): 2511–2513.

West, B.A., Peterside, O. Sensitivity pattern among bacterial isolates in neonatal septicaemia in port Harcourt. *Ann Clin Microbiol Antimicrob* 11, 7 (2012). https://doi.org/10.1186/1476-0711-11-7

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