

## Microbial Profile of Neonatal Septicemia and Antibiotic Susceptibility Pattern of the Isolates at A Tertiary Care Hospital, Western-India

Dr. Nidhi G. Sathwara<sup>1</sup>, Dr. Atit D. Shah<sup>2</sup>, Dr. Sumeeta T. Soni<sup>3</sup>, Dr. M. M. Vegad<sup>4</sup>, Dr. Dharmishtha Tada<sup>5\*</sup>

<sup>1</sup> Assistant Professor, Department of Microbiology, GMERS Medical College and Hospital, Sola, Ahmedabad

<sup>2</sup> Associate Professor, Department of Microbiology, Smt. NHL Municipal Medical College, Ahmedabad

<sup>3</sup> Associate Professor, Department of Microbiology, B.J. Medical College and Civil Hospital, Ahmedabad

<sup>4</sup> Professor, Department of Microbiology, M. K. Shah Medical College & Research Center, Ahmedabad

<sup>5</sup> Tutor, Department of Microbiology, B.J. Medical College and Civil Hospital, Ahmedabad

\*Corresponding Author: Dr. Dharmishtha Tada

Email: [nidhs777@gmail.com](mailto:nidhs777@gmail.com)

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### Abstract

**Background:** The emergence of multidrug-resistant microbial agents in hospitals is a strenuous task for clinicians to treat neonatal septicemia. It is one of the leading causes of mortality and morbidity in developing countries among neonates. **Aims:** To study the microbial profile of agents causing neonatal septicemia, their susceptibility pattern, risk factors, and review the antibiotic prophylaxis policy to limit the injudicious use of antimicrobial agents. **Material & Methods:** The present study included 2550 neonates less than 28 days with clinical manifestation of septicemia from neonatal intensive care unit at the Tertiary care teaching center in western India from December 2017 to May 2019. Aseptically collected blood inoculated into BacT/ALERT blood culture bottle. Further isolation, identification, susceptibility testing was done from the positive signal bottle and interpreted susceptibility according to the latest CLSI guidelines. **Result:** Microbiologically proven neonatal septicemia detected in 675 (26.47%) patients. The predominant organisms isolated were *Klebsiella pneumoniae* 170 (25%). Pan-antibiotic resistance noted among 8 (1.83%) gram-negative rods. **Conclusion:** Overall, increased emergence of resistance to the cephalosporin, penicillin group, and azole group of antibiotics. In the present study, fluoroquinolones, tetracycline and voriconazole are the better preferred.

**Keywords:** Neonatal septicemia, injudicious use of antimicrobial agents, review the antibiotic prophylaxis policy