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**Original article**

**Neonatal septicemia in NICU of a tertiary care center in north India due to extended spectrum beta lacta-mase (ESBL) producing bacteria**

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**Abstract**

The study was designed to determine Extended-spectrum β-lactamase (ESBL) mediated resistance in Gram negative bacteria isolated from cases of neonatal septicemia. In this prospective study; blood culture from 260 neonates admitted with suspected sepsis to Neonatal Intensive Care Unit (NICU) of LLR Hospital, Kanpur, India were included. Clinical presentation of the cases and other details were recorded and two ml blood was collected from each patient in 8-10 ml brain heart infusion broth. The blood culture was done. All Gram negative organisms isolated were subjected to biochemical identification and antibiotic susceptibility testing. Screening for ESBL was done in all Gram negative isolates. Growth of one or more organisms was detected in blood samples of 142/260 cases (54.6% culture positive). (Table2). The commonest organism isolated was Candida spp. (22.5%). Followed by Gram-positive bacteria (34.5%) & Gram-negative bacteria (41.5 %). Antibiotic resistance pattern of ESBL Vs Non- ESBL producers was studied and clinical outcome was noted in each case. Majority of the Klebsiella (52.1%) and Enterobacter(50.0%) isolates were ESBL producing. Resistance to amikacin and ciprofloxacin was less in either group in both bacteria. Mortality was significantly higher in ESBL producers (34.8%) than non-ESBL producers (9.7%). In view of high prevalence and mortality assossiated with of ESBL producers indiscriminate use of third-generation cephalosporins and must be strongly discouraged as empirical drug and they should be used after sensitivity testing.

**Keywords:** Neonatal septecemia, gram negative bacteria, Extended-spectrum β-lactamase (ESBL)