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Molecular detection of blaIMP and blaVIM type metallo- β -lactamase producing Enterobacteriaceae from different clinical isolates**Pankaj Chaudhary¹, Asmita Khaniya², Santoshi Sharma², Soniya Sharma² and Laxmi Gurung²**¹National Public Health Laboratory, Nepal²Nobel College, Nepal

Metallo- β -Lactamase (MBL) producing Enterobacteriaceae or Carbapenemase producing Enterobacteriaceae (CRE) is emerging as a great problem worldwide including Nepal, which is characterized by its ability to hydrolyze most of the β -lactam antibiotic including carbapenems. Isolates belonging to family Enterobacteriaceae isolated from different clinical specimen received in Bacteriology Section, Sukraraj Tropical and Infectious Disease Hospital, Teku, were included in the study. The main goal of our study was to detect clinically important genome blaIMP and blaVIM from different clinical isolates. 514 clinical specimens were processed within the study duration with 98 (19.06%) specimens showing bacterial growth. The respected isolates were screened for MBL production by the combined disc method using Imipenem, Imipenem+EDTA (Ethylenediaminetetraacetic acid) and Meropenem and Meropenem+EDTA. Out of 98 isolates 26 (26.53%) were found to be MBL producer which accounted for 20-*Escherichia coli*, 4-*Klebsiella pneumoniae* and 2-*Klebsiella oxytoca*, respectively. All MBL positive screened organisms were subjected for the genotypic detection of blaIMP and blaVIM gene following the DNA extraction through alkaline lysis method and PCR optimization. 5 isolates (19.23%) were found to possess IMP gene where 4 were *Escherichia coli* and 1 was *Klebsiella oxytoca* and another 5 isolates (19.23%) were found to possess VIM gene where 4 were *Escherichia coli* and 1 was *Klebsiella pneumoniae*. MBL producing Enterobacteriaceae has been frequently isolated in hospital setting and has accounted for major public health problems so related agencies should formulate and implement new plans and policies for MBL producing Enterobacteriaceae.

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