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## Molecular characterization of Carbapenem resistant *Enterobacteriaceae* from intensive care units of a tertiary care hospital of Islamabad

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*Enterobacteriaceae* are Gram-negative rods causing serious infections in intensive care units (ICUs) of hospitals. These organisms are showing resistance to several classes of antimicrobials and resistance genes are spreading by acquired plasmids in bacterial population. Resistance to carbapenem group of antimicrobials is an emerging problem for clinicians and surgeons. Isolation, identification and molecular characterization of carbapenem resistant *Enterobacteriaceae* (CRE) from patients admitted in intensive care units of tertiary care hospital. This research is a prospective, non-randomized, descriptive study. In 9 months, 83 isolates of CRE from ICU samples were processed in Department of Pathology, SZABMU, PIMS Pakistan. Out of 83 CRE samples, 26.5% were from urine, 26.5% were from

endotracheal tube tip, 14% were from blood, 13% were from pus, 13% were from tracheal secretions, 4% were from fluids and 3% were from catheter tip. 75% were *Klebsiella pneumoniae*, 17% were *E. coli*, 2.25% were *Klebsiella* specie, 2.25% were *Enterobacter agglomerans*, 2.25% were *Enterobacter cloacae* and 1.25% was *Klebsiella oxytoca*. CRE are 100% resistant to imipenem, meropenem and ertapenem. Tigecycline is the only parental drug which is found effective against CRE isolates. 14.5% of CRE isolates was sensitive to amikacin. MIC of imipenem showed 100% resistance for CRE isolates. NDM gene was present in 28 (56%) samples. VIM gene, KPC gene, IMP gene were not detected. NDM positive isolates were 48% *Klebsiella pneumoniae*.

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