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Occurrence of extended spectrum β-Lactamase producing gram negative bacteria in tertiary care hospital

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Purpose: The purpose is to study the resistance among Enterobacteriaceae to the broadest-spectrum β-lactam antibiotics has become a major threat resulting in treatment failure; Isolation and characterization of bacterial strains by routine microbiological methods; Antibiotic susceptibility testing of the selected strains to develop antibiogram and Multiple Antibiotics Resistance (MAR) value and Phenotypic tests for detection of ESBLs in suspected strains.

Methodology: Isolation of strains was performed according to guidelines provided by Clinical Laboratory Standards Institute (CLSI). Antibiogram profile was generated and ESBLs were confirmed by Double Disc Synergy (DDS) and Combination Disc (CD) Test.

Results: During the time period (Jan 2014-Oct 2014) we identified 2000 strains in Punjab Institute of Cardiology and out of them 500 strains were selected for ESBLs production. During study period prevalence of ESBLs from suspected strains was 22%. Those ESBLs strains were *E. coli* (33%), *Klebsiella* spp. (42%), *Pseudomonas* spp. (14%); *Proteus* spp. (3%) and *Enterobacter* spp. (8.7%). Gender Based classification indicated that 89% percent strains belong to females and rest were in males. Age wise classification indicated that patients of 22 to 45 years of age are more prone to have ESBLs.

Conclusion: ESBLs producing strains are major threat in cardiac infections which may result in Community acquired infections or hospital associated infections. Special attention should be paid towards ESBLs as they are threat to public health and may result in increase in mortality and morbidity rates in patients.

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