Antimicrobial Resistance Pattern of Extended Spectrum Beta Lactamase Production In Clinical Isolates of E.coli In Imam Reza Hospital Kermanshah 2011

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Background & Objectives: Antimicrobial resistance is a growing threat among hospitalized patients.The incidence of Extended Spectrum Beta Lactamase producing strains among clinical isolates of *E.coli* has been steadily increasing over the past yeaes. Identifying organisms that are ESBL producers are a major challenge for the clinical microbiology laboratory.The aim of this study was to determine the antimicrobial resistance of ESBL in clinical samples of *E.coli* at a Imam Reza hospital in Kermanshah.

Methods: In this cross sectional descriptive study,we collected 85 isolates of which were obtained from various clinical samples during 7 month period from jul to jan 2011. Identification of the isolates was done based on culture characteristics and reactions in standard biochemical tests.All the isolates were tested for antimicrobial susceptibility by the disk diffusion technique according to the clinical and laboratory standard institute(CLSI) guidelines. The screening for ESBLS production was done by the phenotypic confirmatory test using, ceftazidime and cefotaxime in the presence and absence of clavulanic acid. Spss version 15 was used for statistical analysis .

Results: Of isolates showed resistance or decreased susceptibility to at least 72/9% one of the third generation cephalosporins (cefotaxime, ceftazidim, ceftriaxone, cefepime) which were used for the study.The prevalence of ESBL-producing *E.coli* was 56/5%.77% of isolates was sensitive to the antibiotic imipenem. The most resistance antibiotic was ampicillin (98%) and cefotaxime (91/7%).

Conclusion: Our results show that most appropriate antibiotics to be used for empirical therapy are imipenem and amikacin.

Keywords: *Escherichia coli*, Antibiotic Resistance, ESBLS