The prevalence of extended-spectrum beta-lactamase-producing Escherichia coli and Klebsiella pneumoniae among clinical isolates from a general hospital in Iran.

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Abstract
This study was conducted at a 900+ bed general teaching hospital, from May to September 2007, in Iran. The aim of this study was to determine the prevalence of extended-spectrum beta-lactamase (ESBL) producing Escherichia coli and Klebsiella pneumoniae and their antimicrobial pattern. The Kirby-Bauer disk diffusion method and the phenotypic disk confirmatory test were performed for each isolate. The total of 206 isolates including 106 E. coli and 100 K. pneumoniae were collected of which 122 isolates (59.2%) were ESBL positive. The prevalence of ESBL-producing strains was 59.2% (122/206). All the isolates were susceptible to imipenem. Among the ESBL-producing isolates, the sensitivity was from 3.3% to 61.5% for ampicillin to aztreonam. From female isolates (136), 59.5% and from male isolates (70), 58.6% were ESBL-producers. Ratios of isolates from hospitalized patients to out-patients were 94/28 in the ESBL-producing group. The number of ESBL-producing isolates according to the isolation sites showed a significant difference between ESBL-producers and non-producers in blood samples (P < 0.05). This study shows that the prevalence of ESBL strains in Iran is high. It seems necessary for clinicians and medical community personnel to be fully aware of ESBL-producing microorganisms.

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