

عنوان مقاله:

Multiplex PCR Detection of blaCTX and blaSHV Resistance Genes in Escherichia coli Isolated from Milad Hospital in Tehran

محل انتشار:

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خلاصه مقاله:

Background: Nosocomial infection caused by antibiotic resistance bacteria is increasing in the world. Resistance to extended spectrum beta-lactamase (ESBLs) is one of the most important antibiotic resistance mechanisms. Objectives: According to prevalence of E. coli producing ESBL, the aim of this study was to identify the blaCTX and blaSHV genes, which are the causing genes of the resistance to beta-lactam antibiotics by Multiplex-PCR method. Methods: A total of 100 isolates of E. coli were collected from the Milad Hospital in Tehran. Disk diffusion method was done and ESBL positive isolates were determined by combination disc test. DNA extraction of them was carried out and the presence of blaCTX and blaSHV genes was evaluated by using the M-PCR method. Results: By using the molecular method on all isolates, 44 of them were positive for the CTX gene, three isolates were positive for the SHV gene, and none of the isolates have both blaCTX and blaSHV genes. Antibiogram test was done on all samples in which 17 of them were resistant to antibiotics. Conclusions: Based on the goals of this study for investigation of frequency of SHV and CTX antibiotic resistance genes in collected isolates in order to improve PCR detection method, achieved results emphasized that the M-PCR method, with high accuracy and sensitivity, should be used as the substitution of phenotype tests in clinical laboratories. In addition, avoiding the indiscriminate prescribing of antibiotics is an important necessity.

کلمات کلیدی:

Escherichia coli, ESBL, blaCTX, blaSHV, PCR

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