

عنوان مقاله:

Detection of extended-spectrum beta-lactamase genes among Escherichia coli isolates from urinary tract infection in Mashhad

محل انتشار:

مجله گزارش های نوین زیست پزشکی، دوره 2، شماره 3 (سال: 1400)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

Urinary tract infections (UTIs) are known as one of the most important infections around the world, and Escherichia coli is the most important cause of UTI. Also, the empiric treatment and misusing of antimicrobial agents has led to increasing multi-drug resistance around the world which is a worldwide concern. Extended-spectrum beta-lactamase (ESBLs) is an enzyme group that is produced by the Enterobacteriaceae family. The three main ESBLs enzyme are as follow: blaCTX-M, blaTEM, and blaSHV, additionally, there are several types of each of them by the same mechanism. This study was conducted to evaluate the prevalence of ESBL genes among E. coli isolated from UTI patients. A total of 105 isolates were collected from UTI patients at two hospitals in Mashhad from 2017 to 2019. Bacterial identification was performed by standard microbiologic methods. The assessment of antimicrobial susceptibility was accomplished by the disk diffusion method. The presence of ESBL genes was investigated by multiplex-PCR. The prevalence of UTI, among females, was identified more than males. Furthermore, the blaTEM and blaCTX-M genes were detected in all isolates, but only six isolates (5.7%) were harboring blaSHV. The considerable role of E. coli in UTI infection, as well as the presence of ESBL genes in E. coli strains, emphasize the need for surveillance of antimicrobial therapy to prevent the extension of resistance among clinical strains.

کلمات کلیدی:

Escherichia coli, ESBL, Urinary tract infection, Multiplex-PCR

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