Extended spectrum beta lactamase producing *E.coli* isolated from Gorgan, North of Iran

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Abstract

Background and objectives: The increase of ESBL producing E.coli can create a tremendous difficult y for the health system. These isolates leads to rapid transmission of causative genes to other clinically important bacteria and synchronously increased resistant to other antibiotics. This study was carried out to determine the prevalence of this isolate and related genes in Gorgan, North of Iran.

Material and Methods: This study was conducted on 218 isolated E.coli from urinary tract infection of outpatients referring to six medical laboratories in Gorgan, during 2010-11. The resistance to Cefotaxim (Mast Co.) was assessed by Kirby-Bauer disk diffusion method. The confirmatory test for detection of resistant isolates was carried out by double disk method at the presence of Cefotaxim and clavulanic acid. The presence of β lactamase gene of blatem, blactx and blashv in ESBL was assessed by PCR method.

Results: of 218, 70 isolates (32.1%) are resistant to Cefotaxim. Sixty-two (88.6%) of them are confirmed as ESBL producing E.coli. β lactamase genes of blactx, blatem and blashv can be seen in 28(45.2%), 26(41.9%) and 6(9.7%) isolates, respectively.

Conclusion: the prevalence of ESBL producing E.coli in Gorgan is in the range of country average and blaCTX-M gene is the most common gene.

Key words: E.coli, ESBL, bla gene, UTI