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**Title:** Detection of blaTEM beta lactamas gene in Escherichia coli isolated from urinary teract infections from Tehran hospitals  
**Authors:** Mahsa Yazdi1*, Ali Nazemi2, Ezzat Gaemi3, Mohammad Reza Khataminejad2, Mohammad Ghayomi1

**Abstract:**

**Background:** Recently, antibiotic resistance appearance is one of the clinical challenges in patients with bacterial infections and in this regard, further studies have been done on resistance to beta lactam antibiotics. Expression of extended spectrum B-lactamase (ESBLs) genes, such as TEM in bacteria, leads to antibiotic resistance against various antibiotics. This study was undertaken with the aims to determine antibiotic susceptibility patterns, identification of ESBL producing isolates and detection of blaTEM in escherichia coli isolated from urinary tract infection from selected Tehran hospitals.

**Methods:** A total of 444 urine samples were collected through different hospitals located in the city of Tehran, of which 246 E. coli isolates were screened by biochemical tests. The antibiotic susceptibility of E. coli isolates were determined by disc-diffusion method. Antimicrobial agents tested included cefoxatime, ceftazidime, imipenem, nalidixic acid, and ciprofloxacin. The combined disc test was used to confirm the results. The results were compared with Clinical and Laboratory Standards Institute (CLSI) and ESBL positive isolates were further investigated for the presence of blaTEM gene by PCR.

**Results:** Of 246 E. coli isolates, was observed the highest antibiotic resistance to nalidixic acid (123 samples) (50%) and lowest rate of antibiotic resistance to imipenem (20 samples) (8.2%). 116 (47.1%) were resistant to ceftazidime, while the number of isolates resistant to cefoxatime was 96 (39.2%). A total of 109 (44.3%) isolates were ESBL positive. blaTEM gene was found among 95 (87.1%), ESBL positive isolates.

**Conclusion:** Regarding the high frequency of resistance to the third generation cephalosporin antibiotics, precise antibiogram testing is highly recommended before any antibiotic prescription in case of infections with ESBL producing microorganisms, also applying molecular methods with phenotype methods is very essential for complete detection of Beta-lactamases.

ESBL, Escherichia coli, urinary teract infections, blaTEM.

**Presentation:** Poster