



Increasing incidence of ESBL type Resistance among Urinary Tract Infecting *Escherichia coli* in New Delhi, India

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Abstract

Reports of ESBL (extended spectrum β -lactamase) producing *E. coli* strain in UTI (urinary tract infections) patients is increasing. This study determines the presence of ESBL in *E. coli* isolates from UTI patients.

A total of 414 cultured urine samples were collected from hospital. *E. coli* was isolated from these cultures using conventional microbiological tools. These antibiotics of third generation cephalosporin were selected to test susceptibility of the bacterial isolates. Ceftazidime, ceftazidime plus clavulanic acid and cefotaxime, Cefotaxime plus clavulanic acid were used for Combination Disc Test (CDT). For E-test, a ceftazidime MIC greater than four-fold lower in the presence of clavulanic acid indicate ESBL production.

241 samples were positive for *E. coli*. Findings proved that *E. coli* is still the most common pathogen for UTI (58.2%).

Out of 414 UTI patients, 313 women were affected with UTI (75.6%), while male patients were only 24.4%. Also, people in the age group of 16 -30 years were more prone to UTI.

Out of 241 isolates, 165 isolates were inferred to be ESBL producing *E. coli* and 106 were confirmed as ESBL producing *E. coli*.

E. coli is still the most common pathogen of UTI. The ESBL producing *E. coli* strains are rising in number in Delhi, India. The resulting resistance of these antibiotics might be due to continuous use of it for many years.

Key words: Extended spectrum β -lactamase, Urinary tract infections, Antibiotic resistance, *E. coli* and Delhi.

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