

Survey of Antibiotic Resistance Pattern of Isolated Enteric Gram-Negative Rods From Out Patients Urinary Tract Infections in the Microbiology Laboratory of Meshginshahr Valiasr Hospital

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Background & Objectives: *Escherichia coli* strains are always considered as common and the most important cause of urinary tract infections. On the other hand, treatment of such infections has been difficult, because of higher resistant to antibiotics, especially in recent years. Therefore, accurate identification of these medically important bacteria and determination of their antibiotic resistance pattern in different regions by using of designed antibiotic panel, on the other hand, performing of quality control management in pre-analytical, analytical and post analytical process in microbiology laboratory can always be valuable in treatment of related infections and prevention of antibiotic selection pressure occurrence. Aims of this study were isolation of enteric Gram negative rods from the urine culture of out-patients and to determine the antibiotic resistance pattern of isolated bacteria.

Methods: In 2 years period, from 1388 to 1389, midstream urine of 1200 out-patients were collected, then urine culture analysis and antibiotic susceptibility (against 8 antibiotic disks based on designed antibiotic panel) were tested, according to standard procedures and by performing of quality control management in above mentioned process.

Results: Data were analyzed by SPSS 13 software and Chi-Square tests.

Conclusion: In this study, 82% of the out-patients were female and 18% as males, the age range was from 9 days up to 82 years. From 1200 U/C tests 60 (5%) enteric Gram negative rods were isolated, as follow: *Escherichia coli* strains were 48 (80%) isolates, *Klebsiella pneumoniae* 4 (6.6%), *Enterobacter cloacae* 4 (6.6%), *Citrobacter* spp. 2 (3.3%) and *Serratia* spp. 2 (3.3%). Resistant to test antibiotics recorded as: Ampicillin (50%), nitrofurantoin (5%), cotrimoxazole (60%), nalidixic acid (50%), gentamicin (5%), amikacin (0%), cefalexin (25%) and ciprofloxacin (23.4%). This study showed that the isolation rate of enteric Gram negative rods from out-patients urine, who referred to our laboratory were low in compare with many studies, on the other hand isolates had no remarkable resistance against test antibiotics, which higher resistance was to cotrimoxazole (60%) and lower to amikacin (0%). This preference probably, was to logical use of antibiotics by physicians with regard to occurrence of antibiotic selection pressure, on the other hand, due to performing of quality control management in above mentioned process in our microbiology laboratory.

Keywords: Urinary Tract Infection; Antibiotic-resistance; Enteric Gram-negative Rods