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Antimicrobial Susceptibility Testing for Escherichia coli Strains to Fluoroquinolones, in Urinary Tract Infections

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Abstract:

Background: Urinary Tract Infections (UTIs) are one of the most common infectious diseases diagnosed all over the world. Meanwhile most episode of UTIs are caused by Escherichia coli (up to 85%) and frequently fluoroquinolones are preferred as initial agents for empiric therapy of UTIs. Widespread use of fluoroquinolones has resulted in an increasing incidence of resistance these agents all over the world. The aim of this study was to assess, susceptibility of Escherichia coli strains from UTI patients against common fluoroquinolones. Methods: Antimicrobial susceptibility testing was determined by disk agar diffusion (DAD) and Minimal Inhibitory Concentration methods as described by the National Committee for Clinical Laboratory Standards (NCCLS). Results: One hundred sixty four clinical isolates of E. coli were collected by urine cultures from patients with UTI. The extent of resistant to nalidixic acid, ofloxacin, norfloxacin and ciprofloxacin, by disk diffusion method was 49.3%, 44.5%, 41.4% and 40.2%, respectively. Resistance to ciprofloxacin by MIC method was 4.9%. Conclusion: This study represents high level resistant of E. coli isolates from UTI patients. It is because of inappropriate and incorrect administration of antimicrobial agents in blind cases. This problem remarks significance of performing antimicrobial susceptibility testing before empiric antibiotic therapy. To overcome this problem use of unnecessary antibiotics therapy should be limited.

Keywords:

Fluoroquinolones

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