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Abstract (publication only)

Fluoroquinolone-resistant urinary isolates of *Escherichia coli* from nosocomial versus community-acquired infections

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Objectives: Community-acquired (CA) and healthcare-associated (HA) urinary tract infections (UTI) have been associated with high rates of morbidity, and pose a significant economic burden to healthcare systems all over the world. *Escherichia coli* is the primary causative agent of UTI but its susceptibility profile has changed over the last decade. Fluoroquinolones, such as levofloxacin, norfloxacin or ciprofloxacin, are now recommended for the empirical treatment for UTI. However, the increased use of fluoroquinolones has resulted in the rapid emergence of fluoroquinolone-resistant *E. coli*, making the medical community skeptic as to whether fluoroquinolones should remain the drugs of choice for UTI. The purpose of this study was to evaluate the prevalence of fluoroquinolone-resistant *E. coli* in CA-UTI and compare it to cases of HA-UTI. **Methods:** We studied all episodes of CA-UTI and HA-UTI, diagnosed in our hospital, due to *E. coli* during the period January 2009 to September 2011. HA-UTI was defined as those UTI affecting patients hospitalized for 2 or more days. Urine samples were obtained from clean-catch mid-stream urine or from urinary catheters and cultured on Blood agar and MacConkey agar followed by incubation for 24 h at 37°C. Positive urine cultures were defined by bacterial growth $\geq 10^5$ colony forming units/ml. Patients with polymicrobial urine cultures were excluded from the study. Identification of *E. coli* was performed by means of standard methods and susceptibilities to ciprofloxacin, norfloxacin and levofloxacin were tested by agar disk diffusion method according to the CLSI criteria. Intermediate and resistant *E. coli* strains to either of the antimicrobials studied were grouped together for data analysis. **Results:** We obtained 119 *E. coli* isolates from an equal number of hospitalized patients and 321 from patients attending the Outpatient Clinic of our hospital. Out of the 119 *E. coli* strains isolated from HA-UTI, the resistance to ciprofloxacin, norfloxacin and levofloxacin was 16.8 %, 15.1 % and 17.6 %, respectively. The respective percentages for the 321 *E. coli* strains isolated from CA-UTI were 14.0 %, 14.0 % and 13.1 %, respectively. **Conclusion:** Although fluoroquinolones are considered an optimal therapeutic choice in UTI, care should be given before initiating empirical treatment with these agents, at least until antimicrobial susceptibility tests become available for the clinicians.