Escherichia Coli is the Most Important Member of Normal Intestinal Flora in Humans and Animals

Haleh Babaeipour
Islamic Azad University, Iran

Abstract

Aims and Introduction: Escherichia coli is the most important member of normal intestinal flora in humans and animals. E. coli is one of the most important opportunistic bacterial agent causing urinary tract infections.

Quinolones are synthetic and commonly used antibiotics for treatment of multiple clinical infections in the world. Quinolones are clinically important antibiotics, as an ideal component, because of high potency, broad-spectrum activity, good bioavailability and a potentially low incidence of side-effects. Antibiotic resistance to quinolones is increasing in the world. Thus, this study was designed to evaluate the resistance to fluoroquinolone antibiotics and investigate the frequency of plasmid-mediated *qnrA, qnrB,* and *qnrS* genes among *Escherichia coli* isolated of hospitalized patients in Tabriz Alzahra and Sina hospitals, Iran 2019.

Material and Method: In the present study, 100 E. coli isolates were collected. Antibiotic susceptibility test was carried out by using disc diffusion method. Amplification and detection of *qnrA, qnrB,* and *qnrS* genes were carried out by polymerase chain reaction (PCR) with specific primer.

Results: The most effective antibiotic against *E. coli* isolates was Gentamaycin (93.7%) but 100% of isolates were resistance to Ampicillin. 62% and 24% of Escherichia coli isolates were Nalidixic acid and Ciprofloxacin-resistant, respectively. *qnr* genes demonstrated in 5 isolates. *qnrS* were observed in 4 isolates, and *qnrB* were identified in one isolates. No *qnrA* gene was identified in this study.

Conclusion: According to the results, Because of different antibiotic resistance patterns in various geographical regions, antimicrobial treatment should be based on local experience. Therefore, prescribing correct antibiotics can prevent the extension of antibiotic resistance through *qnr* borne bacteria in the future.

Keywords

E. coli, Fluoroquinolones resistance, *qnrA, qnrB, qnrS.*