Current Issue
Browse Issues
Search
About this Journal
Instruction to Authors
Online Submission
Subscription
Contact Us
RSS Feed

Acta Medica Iranica
2009;47(4) : 94-99

Antimicrobial susceptibility testing of Escherichia coli strains isolated from urinary tract infections to fluoroquinolones and detection of gyrA mutations in resistant strains

Akbari-Nakhjavani F.,, Mirsalehian A., Hamidian M., Kazemi B., Mirafshar M., Jabal Ameli F., Pajand O., Peymani A

Abstract:

Widespread uses of fluoroquinolones have resulted in increasing incidences of resistance against these agents all over the world. The aim of this study was to assess, susceptibility of Escherichia coli strains from patients with Urinary Tract Infection against common fluoroquinolones and detection of mutations in the gyrA gene. Antimicrobial susceptibility testing of 164 E.coli isolates from patients with UTI, was evaluated by disk agar diffusion (DAD) and MIC methods. Polymerase chain reaction of E.coli strains were performed by amplification of Quinolone Resistance Determining Region (QRDR) of gyrA gene. PCR products were tested by Conformational Sensitive Gel Electrophoresis (CSGE) and those with hetrodublexes were selected and examined by DNA sequencing. According to disc agar diffusion, 49.3% were resistant to nalidixic acid, 41.4% to norfloxacin, 44.5% to ofloxacin and 40.2 % to ciprofloxacin. By Minimal Inhibitory Concentration (MIC) testing a high-level of resistance (42.1%) to ciprofloxacin was observed. Mutations in codons 83 and 87 in all 81 isolates were positive by CSGE method.

TUMS ID: 3644

Full Text HTML Full Text PDF 185 KB

top