

عنوان مقاله:

Study of Antibacterial Activity of Gentamicin-Cetirizine on Uropathogenic Escherichia coli Isolates

محل انتشار:

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خلاصه مقاله:

Background: Urinary tract infections (UTIs) cause a wide range of infections in individuals; they are common nosocomial infections that have recently become difficult to treat because of the increased emergence of multidrug-resistant bacteria. The present study aimed to determine and compare the minimum inhibitory concentration of gentamicin alone and in combination with cetirizine against Escherichia coli strains isolated from hospitalized patients with UTI. Materials & Methods: This study was performed on ۶۶ E. coli strains isolated from a total of ۱۰۳ samples of patients admitted to three hospitals in Gonbad-e Kavus. Kirby Bauer disk diffusion and broth microdilution tests were used to determine antibiotic susceptibility and the minimum inhibitory concentration (MIC) of gentamicin alone and in combination with cetirizine according to CLSI M100-S25 (۲۰۱۵) criteria. Findings: Evaluation of the minimum inhibitory concentration of gentamicin-cetirizine combination against E. coli isolates showed that none were able to grow at a concentration of ۸ µg/mL. The concentration of gentamicin in combination with cetirizine, inhibiting ۹۰% of E. coli isolates (MIC_{۹۰}), was ۴ µg/mL, which was ۱۶ times lower than that of gentamicin alone (MIC_{۹۰}= ۶۴ µg/mL) (p=۰.۰۲). Conclusion: Gentamicin in combination with cetirizine was found to be more potent in inhibiting E. coli isolates than gentamicin alone. Therefore, the results of this study could provide a clear perspective for dealing with drug-resistant pathogens.

کلمات کلیدی:

Escherichia coli, Drug resistance, Gentamicin, Cetirizine

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