عنوان مقاله:

Assessment of Susceptibility to Five Common Antibiotics and Their Resistance Pattern in Clinical Enterococcus Isolates

محل انتشار:

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خلاصه مقاله:

Background & Objective: Enterococcus Species are the common cause of nosocomial infections, which are highly resistant to different antibiotics. Therefore, determination of their antibiotic susceptibility patterns and simultaneous resistance to antibiotics is important for better treatment strategies. Methods: 400 clinical Enterococcus isolates were collected from different hospitals in Tehran, Iran. Standard phenotypic-biochemical tests and PCR were used to identify the Enterococcus species. The antimicrobial susceptibility patterns and simultaneous resistance to selected antibiotics were determined by disk diffusion method according to the CLSI guidelines. All data analysis was performed using Python packages Scipy and Stats models. Result: According to the biochemical and PCR analyses, among 400 Enterococcus species, 72% of samples were Enterococcus faecalis, 10.75% Enterococcus faecium, and 17.25% other Enterococcus species. The results determined antimicrobial resistances of these strains against gentamicin, vancomycin, fosfomycin trometamol, teicoplanin, and quinupristin/dalfopristin. Results confirmed a significant correlation between resistance to vancomycin and resistance to teicoplanin. This correlation remains significant when including only E. faecium or E. faecalis species. We also found a negative correlation between resistance to teicoplanin and quinupristin/dalfopristin. Additionally, Quinupristin/dalfopristin was the least effective antibiotic while vancomycin and teicoplanin were the most effective ones. Conclusion: Based on the results and association between simultaneous resistance to some antibiotics such as vancomycin and teicoplanin, in the case of antibiotic resistance, the choice of a second antibiotic can be very important which can lead to good or bad effects.

کلمات کلیدی:

Enterococcus faecalis, Enterococcus faecium, Multiple drug resistance, Correlation