

عنوان مقاله:

Comparison of Spore Germination Rate between Toxigenic and Nontoxigenic *Clostridium difficile* Isolates in the $\frac{1}{2} \times$ MIC of Ceftazidime alone and in Combination with Clindamycin and Vancomycin

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خلاصه مقاله:

Introduction and Objectives: Germination of spore in *Clostridium difficile* (*C. difficile*) can be occurred in the presence of some antibiotics. The aim of this study was to compare the spore germination rate in toxigenic and nontoxigenic isolates in the sub-MIC of ceftazidime alone and in combination with clindamycin and vancomycin. **Materials and Methods:** The MIC and FIC of *C. difficile* isolates were performed by microdilution and checkerboard microdilution method, respectively. About 106 CFU/mL spores were inoculated to pre-reduced medium with $\frac{1}{2} \times$ MIC of each antibiotic alone and $\frac{1}{2} \times$ FIC in combination. The number of remaining spores were counted after 24 hours by viable spore count/mL. **Results:** The ungerminated spores' rate were different between toxigenic and nontoxigenic isolates. The toxigenic isolates of *C. difficile* germinated more than nontoxigenic isolates at $\frac{1}{2} \times$ MIC and $\frac{1}{2} \times$ FIC of antibiotics. All isolates (toxigenic and non-toxigenic) of *C. difficile* germinated at $\frac{1}{2} \times$ MIC of ceftazidime. **Conclusion:** The rate of toxigenic isolates are increasing at the presence of some particular antibiotics. So that the nontoxigenic isolates are replaced by toxigenic ones, and as a result, the rate of *C. difficile* associated diarrhea is increased.

کلمات کلیدی:

Clostridium difficile, Spore germination, sub-MIC, Antibiotics, Combination

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