

عنوان مقاله:

In vitro Antifungal Effect of Aqueous Garlic (*Allium Sativum*) Extract and its Combination with Fluconazole Against Five Common Clinical Candida Isolated from Candidiasis Lesions

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خلاصه مقاله:

Introduction: Increasing rate of candidiasis prevalence and consequently use of antifungal drugs as prophylactic and curative agents has led to the widespread emergence of resistant strains. Therefore this study was designed to evaluate the in vitro antifungal activity of an aqueous extract of garlic and the synergic effect of garlic extract with fluconazole against common clinical isolates of Candida species from patients with candidiasis. **Methods:** The antifungal activity of aqueous garlic extract was investigated in an in vitro system using standard broth microdilution method against five common clinically isolates of Candida species including *C. albicans*, *C. tropicalis*, *C. glabrata* (T.glabrata), *C. parapsilosis*, *C. krusei* and 3 standard strains of Candida. The synergic antifungal effect of garlic extract in combination with fluconazole was also determined. **Results:** The strongest activity of garlic extract was seen against *Candida tropicalis* (MIC=0.78mg/ml), *C. glabrata* (MIC=1.56mg/ml), and *C. albicans* (MIC=3.12mg/ml) respectively. *C. krusei* was the most resistant species against garlic extract (MIC 6.25mg/ml). The minimum inhibition concentration of fluconazole was reduced eight folds against *C. tropicalis*, 4 folds against *C. albicans* and *C. glabrata*, and 2 folds for other Candida species in the presence of 3.12 mg/ml garlic extract. In comparing means, the isolated colonies (CFU) in wells without garlic extract and CFU in other wells showed statistical significant differences for *C. tropicalis* ($P=0.0008$), *C. glabrata* ($P=0.008$) and *C. albicans* ($P=0.002$). **Conclusion:** Candida species particularly resistant species such as *Candida tropicalis* and *Candida glabrata* are sensitive to aqueous extract of garlic, and combination of garlic extract with fluconazole in topical use could increase the efficacy rate of fluconazole.

کلمات کلیدی:

Allium sativum, Candida, Antifungal, In vitro, Synergism, Fluconazole

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