

The Inhibitory Effect of Peppermint and Basil Extracts on The Growth of Some Molds and Yeasts Isolated from Patients with Otitis Media in Al-Diwaniya city

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Summary

This study included testing the efficacy of the aqueous and alcoholic extracts for leaves of peppermint (*Mentha piperita* L.) and basil (*Ocimum basilicum* L.) in the growth of some molds and yeasts isolated from the ear. (98) specimens were collected from patients who are suffering from infection of the ear and coming to private doctors in Al-Diwaniya city for the period from May to August (2010). (36) fungal isolates out of (53) specimens taken from patients suffering from otitis media with and (34) fungal isolates out of (45) specimens taken from patients suffering from infection of the external ear, these isolates belong to (8) fungal species with different frequency ratios and this species are: *Aspergillus niger*, *A. fumigatus*, *A. flavus*, *A. terreus*, *Candida albicans*, *C. tropicalis*, *C. parapsilosis* and *Penicillium notatum*.

The results revealed that the alcoholic extract of peppermint was the most effective *in vitro*, against all of the tested isolates for: *A. niger*, *A. fumigatus*, *A. flavus*, *C. albicans* and *C. tropicalis* respectively, Inhibition zones at the concentration of (25) mg/ml were (31.4, 27.8, 29.6, 31.6 and 29.8) mm followed by the alcoholic extract of basil (25.8, 23.2, 22.4, 23.4 and 22.7) mm respectively, while the aqueous extract of peppermint came at the third stage where the means of inhibition zones were (19.8, 19.9, 21.3, 20.7 and 21.9) mm respectively, and the aqueous extract of basil were (19.5, 19.7, 20.8, 19.9 and 20.5) mm, respectively, in measuring with treatment of antifungal Ketoconazole at the concentration (20) mg/ml which the means of inhibition zones were (18.2, 16.8, 18.6, 16.5 and 17.00) mm respectively.

The values of Minimal Inhibitory Concentration (MIC) and Minimal Lethal Concentration (MLC) of prepared extracts revealed that the alcoholic extract of peppermint had less (MIC) against *C. albicans*, and *C. tropicalis* reached about (0.25) mg/ml, in measuring with treatment of antifungal Ketoconazole which had less (MIC) reached about (10, 12.5) mg/ml against *C. albicans*, *C. tropicalis* respectively, while (MLC) for *A. niger*, *A. fumigatus* and *A. flavus* reached about (5) mg/ml. The (MIC) for alcoholic extracts of basil reached about (1.25) mg/ml for each of the *C. albicans*, *C. tropicalis* and *A. flavus*, whereas the (MLC) reached about (5) mg/ml for *C. albicans* and *C. tropicalis*. As concerning to the aqueous extract of peppermint, the (MIC) for *C. albicans* and *C. tropicalis* was (2.5) mg/ml. The (MIC) for aqueous extract of basil for *C. albicans* and *C. tropicalis* reached about (5) mg/ml, while the values of the (MLC) for each of the *A. niger*, *C. albicans* and *C. tropicalis* reached about (10) mg/ml.