The In vivo And In vitro Effects of Eugenia Caryophyllus, Quercus infectoria and Terminalia Extracts On Dermatophytes Infections

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Abstract:
A total of 340 specimens were collected from skin or hair of patients suffering from dermatophytic infections, during a period of one year (July/2005 to July/2006) at AL-Hussein Hospital / Karbala And Mirjan Teaching Hospital / Babylon. Four species of dermatophytes belong to the genus Trichophyton were isolated in this study; - Trichophyton mentagrophytes var. mentagrophytes. - Trichophyton mentagrophytes var. interdigitale. - Trichophyton verrucosum. - Trichophyton rubrum.
The prevalent clinical type of tinea (T.) infections was Tinea corporis which accounted for 154 cases (45.25%), then Tinea pedis 79 cases (23.23%), Tinea cruris 61 cases (17.94%), Tinea capitis 25 cases (7.35%), and Tinea mannum 21 cases (6.17%). The response of these isolates toward; aqueous, alcoholic and acetonic extracts of three different medicinal plants; fruit of Quercus infectoria, fruit of Terminalia citrina and flower of Eugenia carryophyllus was investigated.
The results of preliminary chemical analysis revealed that Quercus infectoria contained; Glycosides, Tannins, Saponins, Flavonoids, Carbohydrates, Phenols, Fuocoumarins, Coumarins and Volatile oils, while Terminalia citrina contained; Glycosides, Tannins, Saponins, Resins, Flavonoids, Carbohydrates, Phenols, Fuocoumarins, Coumarins and Volatile oils, whereas, Eugenia carryophyllus contained; Tannins, Saponins, Resins, Flavonoids, Carbohydrates, Phenols, Fuocoumarins, Coumarins and Volatile oils. Phenols, Volatile oils of Quercus infectoria, Eugenia carryophyllus and Tannins of Terminalia citrina were extracted and studied their inhibition activity against the isolated fungi. The active components showed higher activity against fungal isolates than crude extracts.
The results indicated that the effect of the active components (Phenols, Tannins and volatile oils) being extracted from the three plants in treatment of the laboratory infected skin of rat with Trichophyton mentagrophytes were highly as anti-inflammatory, antibacterial as well as antifungal. A prepared ointments from phenols extracted of Quercus infectoria, Tannins and volatile oils extracted of Terminalia citrina and Eugenia carryophyllus in the recovery period in mice infected by T. mentagrophytes were 13 days, 14 and 15 days respectively in compared with the recovery period of 16 days by using Clotrimazole.