Antidermatophytic evaluation of species from Leguminosae family.

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Introduction: Superficial mycoses are very common worldwide and affect about 20 to 25% of the population. They are mostly caused by dermatophytes, and include fungal infections of skin and nails (M. D. M. Ameen, Clin. Dermatol. 28, 197, 2010). Antifungal therapy is usually long term, contributing to the development of resistance, high cost and low effectiveness, and is limited to a small number of drugs, some of them toxic. The family Leguminosae family presents, among other metabolites, flavonoids in large quantities, for which numerous activities have been described, including the antifungal activity (J. A. S. Zuanazzi; J. A. Montanha, Flavonoides. In: SIMÕES, C. M. O. Farmacognosia: da planta ao medicamento. 6ª ed., 2007). This study aims to evaluate the antidermatophyte activity of dry extracts of 36 species from Leguminosae family, compared to six species of dermatophytes for later determination of minimum inhibitory concentration (MIC).

Experimental Part: The screening for susceptibility and MIC determination was performed in accordance with Clinical and Laboratory Standar Institute (CLSI, 2008) at a concentration of 1mg/mL. Terbinafine was used as inhibitory control. M. pigra extract was fractionated by vacuum liquid chromatography using the solvents hexane, dichloromethane and ethyl acetate.

Results and Discussion: The extracts showed an inhibitory activity against Trichophyton mentagrophytes, Trichophyton rubrum, Epidermophyton floccosum and Microsporum gypseum with fungicide and fungistatic character. From this, three extracts were selected for the verification of the MIC due to their larger spectrum of inhibition. The species M. pigra showed low values of minimum inhibitory concentration (MIC), around 1.9 µg/mL. After fractionation by vacuum liquid chromatography it was found that the dichloromethane fraction is the most active.

Conclusion: The plants of the Leguminosae family, mainly the species M. pigra, proved to be a promising source of compounds with activity against dermatophytes.

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