Título: ANTIFUNGAL ACTIVITY OF ETHANOLIC EXTRACT FROM *Miroxylon peruiferum* L. F. AGAINST *Trichophyton rubrum* E *Candida albicans*

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Abstract:

The treatment of many infectious diseases from medicinal plants occurs for several years, due to the extensive knowledge that society of ancient civilizations had about the high medicinal power and cultural information growing with each generation. Given the above, the objective of this study was to evaluate the antifungal activity of the chloroform fraction of ethanol extract from *Miroxylon peruiferum* L. F. (Bálsamo) against strains of *Trichophyton rubrum* and *Candida albicans*. The plant extract was separated by column chromatography according to its polarity and subsequently tested against of strains, using the broth microdilution method in 96-well plates according to the CLSI (M27-A2, 2008; M38A, 2002). The chloroform fraction was prepared in DMSO (dimethylsulfoxide) at a concentration of 10,000 µg.mL-1, and serial dilutions were made in RPMI 1640 medium (Sigma) at concentration ranges of 625-2500 $\mu g.mL^{-1}$. Were used as controls ketoconazole and amphotericin B for the strains of dermatophytes and yeasts, respectively. *T. rubrum* and *Candida albicans* fragments were transferred to a tube containing 10 mL of saline to obtain a turbidity equivalent to standard $5x10^4$ $UFC.ml^{-1}$ or 0.5 McFarland in scale. Suspensions of the microorganisms were then diluted in RPMI in a ratio of 1:500 for dermatophytic strains and 1:2,000 for yeast strains. After that, 100ul of the inoculum was added to the plates completing a final volume of 200 uL per well. The plates of *C. albicans* are incubated at 37 °C for 24 hours while the strains of *T. rubrum* were incubated at 37 °C, and read visually after 5 days. The MIC was defined as 100% inhibition of the fungus. MFC was calculated according to the growth of fungi on the culture medium after 5 days for *T.rubrum* and 24 hours for *C. albicans*. The chloroform fraction of the extract *Miroxylon peruiferum* L. F showed MICs for the strains *T. rubrum*, 620 and 150 $\mu g.mL^{-1}$, while the MFCs values were 1,250 and 310 $\mu g.mL^{-1}$, respectively for each strain. The strains of *C. albicans* showed no sensitivity to the extract. Given the results found in this work, we can say that the chloroform fraction of extract *Miroxylon peruiferum* L. F. presents antimicrobial potential against the dermatophytic strains of *T. rubrum*. However, despite having inhibitory effect for the tested micro-organisms, other studies, such as phytochemical analysis of the extract and isolation of substances with antifungal potential, must be performed.

Key-words: dermatophytes, infectious diseases, microdiluition

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