In vivo Antidermatophytic Activity of a Chitin-binding Protein Isolated from *Moringa oleifera* Seeds

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INTRODUCTION. Dermatophytosis is considered a serious public health problem, affecting about 25% of world population. A large number of antifungal agents such as griseofulvin, azole derivatives and allylamines are used in the treatment of dermatophytosis. However, these drugs cause adverse effects, including toxicity to humans and non-target organisms, drug interactions, poor efficacy and development of resistance. Thus, there is a need for the development of new drugs with improved efficacy and safety. In this context, the study of plants with antifungal properties has gained more importance because they represent potentially rich sources of new products. **OBJECTIVES.** This work aimed to evaluate the *in vivo* antidermatophytic topical potential of *Mo*-CBP$_4$, a chitin-binding protein from *M. oleifera* seeds, against the dermatophyte species *Trichophyton mentagrophytes*. **MATERIALS AND METHODS.** The purified protein was obtained after affinity chromatography of the seed crude extract followed by ion exchange chromatography. For *in vivo* antifungal assay, female mice after scarification skin on the dorsal surface were inoculated with a conidial suspension of *T. mentagrophytes*. The animals were treated with *Mo*-CBP$_4$ mixed in hydrogel for 16 days. Lesions were visually examined daily throughout the experiment to determine the severity and recovery of lesion. Griseofulvin was used as positive control. **RESULTS**. *Mo*-CBP$_4$ at all doses tested (5, 10 and 20 mg/g) was effective in the treatment of the dermatophytosis reducing by 43% the lesion severity and shortening the infectious period even at the lowest dose tested. **CONCLUSIONS.** The findings indicate that *Mo*-CBP$_4$ has potential for development of novel antifungal drugs for clinical treatment of dermatophytosis.

Keywords: Dermatophytosis, *Moringa oleifera*, anti-dermatophytic potential.
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