IN VIVO IMMUNOTHERAPEUTIC EVALUATION OF MACROPHAGE MIGRATION INHIBITORY FACTOR FROM *Trichuris trichiura* IN A CUTANEOUS LEISHMANIASIS MODEL

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Introduction: Leishmaniasis is a parasitic disease with approximately 2 million new cases reported annually. In Brazil, the primary etiological agent of cutaneous leishmaniasis (CL) is *Leishmania braziliensis*, which predominantly induces a Th1 immune response with increased production of IFNγ and TNF. Studies conducted by our group identified the macrophage migration inhibitory factor from *Trichuris trichiura* (TtMIF) as a potential regulator of inflammation, capable of downregulating TNF and IFN-γ production while promoting TGF-β and IL-10 secretion. **Objective:** To evaluate the immunomodulatory potential of subcutaneous administration of the recombinant protein TtMIF in the treatment of cutaneous leishmaniasis caused by *L. brasiliensis*. **Methods:** In this study, rTtMIF was heterologously expressed in *E. coli* BL21 (DE3), purified using an ÄKTA Pure 25® system with a HisTrap FF Ni Sepharose column, and validated by SDS-PAGE and Western blot analysis**.** The *L. braziliensis* promastigotes (strain MHOM/BR/01/BA788) used in experimentation were cultured in Schneider's medium at 23°C for approximately 7 days to enable parasites to reach stationary phase. BALB/c mice were infected with *Leishmania braziliensis*. One group received subcutaneous prophylactic administration of rTtMIF, while another group received both prophylaxis and treatment. A positive control group was infected but received no intervention. Ear lesion progression was monitored weekly. The draining lymph node cell culture was performed, and subsequently, the supernatants were collected, and the levels of IL-10 e IFN-γ, were determined by ELISA. **Results:** The treatment with the rTtMIF changed the parasite load in Balb/c mice in both the prophylactic and treatment groups. Cytokines immunomodulation has also occurred in these groups. **Conclusion:** The rTtMIF protein seems to modify the inflammation caused by *L. braziliensis*, indicating that further investigation into these effects is needed to confirm rTtMIF as a therapeutic strategy.

Keywords: recombinant protein, *L. braziliensis*, parasite
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