Effect of *Chenopodium ambrosioides* Extract on Viability of Murine Macrophages and *L. infantum* Promastigotes

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INTRODUCTION: Research about the therapeutic action of medicinal plants on parasitic infections is based on studies of chemical composition, toxicity and mechanism of action. *Chenopodium ambrosioides* has been popularly used against leishmaniasis in endemic areas. The therapy consists in topic or oral administration of plant preparations. However, scientific basis about the effect of plant on the parasite, as well as the analysis of toxicity in the organism is necessary. **OBJECTIVE**: To evaluate the potential effect of *C. ambrosioides* extract on the viability of murine macrophages and *L. infantum* promastigotes. **MATERIAL AND METHODS:** *C. ambrosioides* powder was submitted to extraction in 0.15M NaCl (10%, w/v) (16h) followed by centrifugation (4 °C). The obtained extract had the protein concentration determined. The cytotoxicity was evaluated by MTT colorimetric assay, using murine macrophages and *L. infantum* promastigotes in culture plates, which were incubated with extract (500-31.25 µg mL^{-1} and 500-0.485 µg mL^{-1} respectively) for 72h; subsequently plates were washed, complete RPMI medium and MTT were added. After additional incubation (3h, 37 °C), the MTT was removed, DMSO was added, plates were shaken and the absorbance was measured at 540 nm. Data were analyzed by ANOVA followed by Tukey's post-test (program SPSS 13.0). **RESULTS AND DISCUSSION:** The extract showed no cytotoxicity on macrophages; however, presented a significant cytotoxicity on *L. infantum* promastigotes, when assayed at protein concentrations of 125 µg mL^{-1} (63% ± 5.29) and 250 µg mL^{-1} (53.7% ± 2.29) ($p<0.05$). Studies have revealed the action of *C. ambrosioides* against amastigote and promastigote forms of other *Leishmania* species, but the molecule responsible for this effect is still not elucidated. **CONCLUSION:** The extract of *C. ambrosioides* is a source of bioactive antileishmanial. Therefore, the characterization of constituents and action on the parasite is necessary to enable the safe use of plant by the population.

Keywords: *C. ambrosioides*, Macrophages, *L. infantum*
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