In vitro Cytotoxic Effect of *Combretum leprosum* Leaf Extract on *Leishmania infantum* Promastigotes and Murine Macrophages

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INTRODUCTION: *Leishmania infantum* is the etiological agent of Leishmaniasis. Visceral leishmaniasis is the most severe manifestation of disease. Treatment involves expensive and toxic drugs, thus alternative treatments with natural compounds are searched. *Combretum leprosum* is a medicinal plant widely used and leishmanicidal effect of fruit preparations already confirmed arouse interest to evaluate other tissues. **OBJECTIVE:** To evaluate the potential cytotoxicity of *C. leprosum* leaf extract on *L. infantum* promastigotes and murine macrophages. **MATERIAL AND METHODS:** *C. leprosum* leaf powder was submitted to extraction in 0.15M NaCl (10%, w/v) under constant agitation (16h). The material was centrifuged (at 4 °C) and obtained extract was evaluated for protein concentration and hemagglutinating activity. The cytotoxicity was analyzed by MTT test, using *L. infantum* promastigotes and murine macrophages in culture plates, which were incubated with extract (500-0.485 µg mL^{-1} and 500-31.25 µg mL^{-1}, respectively) for 72h; subsequently plates were washed, complete RPMI medium and MTT were added. After 3h, DMSO was added, plates were shaken and the absorbance was measured at 540nm. Data were analyzed by ANOVA followed by Tukey's post-test (program SPSS 13.0). **RESULTS AND DISCUSSION:** The extract showed 57.3 mg mL^{-1} protein concentration and hemagglutinating activity ($1,024^{-1}$) indicating presence of active lectin. Cytotoxic effect was promoted on macrophages at a concentration of 500 µg mL^{-1} protein ($p<0.05$) suggesting the presence of constituents toxic as lectins and other metabolites. There was no cytotoxicity on *L. infantum* promastigotes despite fruit preparations have presented leishmanicidal effect against *L. amazonensis* in other studies. This cytotoxicity should be investigated due the medicinal importance of plant. Results suggest the presence of lectin in the extract that is non-toxic for *L. infantum* promastigotes. **CONCLUSION:** *C. leprosum* leaf extract has lectin activity and is cytotoxic to macrophages, but has no effect on viability of *L. infantum* promastigotes.

Keywords: Mofumbo, Kala-azar, Hemagglutinin.
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