In vitro Cytotoxicity Evaluation of *Tabebuia aurea* Bark Extract on *Leishmania infantum* Promastigotes and Murine Macrophages

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INTRODUCTION: The visceral leishmaniasis (VL) caused by the protozoan *Leishmania infantum* is a potentially fatal zoonotic disease. *L. infantum* is responsible for numerous cases of canine leishmaniasis, sporadic cases of human VL and rare cases of cutaneous and muco-cutaneous leishmaniasis. The effective drugs to treat VL are toxic, expensive and difficult to administer. There is no vaccine to treat human VL. In this scope, is known that *Tabebuia aurea* is a rich source of active biomolecules, including potentially leishmanicidal drugs. **OBJECTIVE:** To evaluate the potential cytotoxic action of *T. aurea* bark extract on *L. infantum* promastigotes and murine macrophages. **MATERIAL AND METHODS:** *T. aurea* bark powder was submitted to extraction in 0.15M NaCl (10%, w/v). After constant agitation (16h), the material was centrifuged (at 4 °C) and obtained extract was evaluated to determine the specific hemagglutinating activity (SHA = hemagglutinating activity / protein concentration). 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:** *T. aurea* bark extract showed specific hemagglutinating activity of 0.455 (with 8.78 mg mL^{-1} protein concentration). There was no cytotoxic effect of extract on *L. infantum* promastigotes or on macrophages ($p>0.05$). Results suggest the presence of non-toxic lectins in the extract or also the presence of other metabolites that can act inhibiting lectin action. **CONCLUSION:** *T. aurea* bark extract has lectin activity and has no effect on the viability of *L. infantum* promastigotes or macrophages.

Keywords: Tree of gold, Kala-azar, Hemagglutinin.
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