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

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INTRODUCTION: The genus *Leishmania* consists of protozoa that cause leishmaniasis, with a prevalence of about 12 million people infected worldwide. Visceral leishmaniasis, caused by *Leishmania infantum*, is the most serious and fatal form, if left untreated. This disease is characterized by intermittent high fever, weight loss, splenomegaly, hepatomegaly and anemia. The treatment is difficult; the drugs are toxic, expensive and can promote serious collateral effects. In this perspective, the exploration of bioproducts leishmanicidal is growing and promising. **OBJECTIVE:** To evaluate the potential cytotoxic effect of *Tabebuia aurea* leaf extract on *L. infantum* promastigotes and murine macrophages. **MATERIAL AND METHODS:** *T. aurea* leaf extract was obtained from the mixture of the leaf powder with 0.15 M NaCl (10%, w/v). After constant agitation (16 h), the material was centrifuged (at 4 °C) and obtained extract was evaluated for protein concentration and ability to agglutinate erythrocytes. 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 13.34 mg mL^{-1} protein concentration and specific hemagglutinating activity of 0.013. There was no cytotoxic effect on *L. infantum* promastigotes or on macrophages ($p>0.05$). There are studies reporting leishmanicide effect of plant lectins. However, significant lectin activity shown by *T. aurea* leaf extract suggests the presence of non-toxic lectins or also the presence of metabolites that inhibit the lectin action. **CONCLUSION:** *T. aurea* leaf extract has lectin activity and has no effect on the viability of *L. infantum* promastigotes or macrophages.

Keywords: Gold Tree, Kala-azar, Hemagglutinin.
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