EFFECT OF DIGOXIN DERIVATIVES IN *Leishmania (L.) infantum*


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**INTRODUCTION:** Leishmaniasis are part of the group of neglected diseases and are caused by parasites of *Leishmania* genus and transmitted to the vertebrate host through infected female phlebotomine sandflies. These diseases are characterized by cutaneous, mucocutaneous or visceral forms, affecting humans and dogs. *Leishmania infantum* is responsible for the most severe form of the disease, the visceral leishmaniasis (VL). VL is a systemic disease that affects major organs such as the liver and spleen, leading to loss of functions of these and may lead to death if untreated. The treatments currently used, as first choice, pentavalent antimonials and amphotericin B, and pentaminide, as second line drugs, present serious collateral effects. Other problem is the existence of resistant species; therefore, it is necessary to find new compounds to avoid those problems. In this study, we tested the activities of fifteen digoxin derivatives compounds. **MATERIAL AND METHODS:** The study included tests in order to observe the *L. infantum* growth inhibition, in the presence of compounds, in different concentrations, using the MTT colorimetric methodology. The promastigote used in the experiments were obtained from axenic culture in Schneider’s Insecta Medium supplemented with 10% fetal bovine serum. The leishmanicidal drug used as reference was Amphotericin B. As a control, were considered cells in the absence of the compounds, but in the presence dimethyl sulfoxide, used as solvent of compounds. To evaluate the toxicity of the compounds, an assay was done using murine macrophages. **RESULTS AND DISCUSSION:** The results, up to the present time, have demonstrated that four of the fifteen compounds tested showed a strong antileishmanial activity, nominated DGB3, DGB11, DGB15 and DGB17. DGB3 and DGB17 showed IC₅₀ 46 and 42 µM, respectively, and these two were not toxic. **CONCLUSION:** After these results, tests are now underway to evaluate the capacity of these compounds to act in the interaction process between intracellular amastigotes and macrophages.

*Key words: Leishmania, digoxin, antileishmanial activity*

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