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In Vitro Sensitivity of *Leishmania* Promastigotes to Pentamidine Isethionate

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***SUMMARY*. The aim of this study was to evaluate the *in vitro* sensibility of *Leishmania* parasites to pentamidine isethionate in order to know their possible therapeutic response, by means of cytotoxicity assays using promastigotes of *Leishmania major* and Viannia complex *Leishmania* spp, etiological agents of the disease. The *in vitro* sensitivity of *Leishmania* promastigotes to pentamidine isethionate at different time points was determined. It was established that *L. major* is less sensitive to this drug than Viannia complex species. The drug demonstrated a higher median effective concentration (EC_{50}) between 3.24 (12 h) and 0.08 (72 h) μg/mL for *L. major* with respect to Viannia complex species. The use of the free forms of *Leishmania* in this study for *in vitro* sensitivity screening of parasite species to pentamidine isethionate allowed confirmation that the drug is effective against New World species and could eventually be used to treat cases of leishmaniasis caused by Old World parasites.**

KEY WORDS: Leishmania major, Pentamidine isethionate, Viannia complex.
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