Antileishmanial Activity of Kaurenoic Acid and Polialtic Acid: An Antagonist Effect

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Among the neglected parasitic diseases is leishmaniasis, a potentially fatal parasitic disease caused by different species of *Leishmania sp*. Primary treatment of leishmaniasis is performed using pentavalent antimony (Sb^{+5}), Sodium Stibogluconate and N-Metilglucamine Antimonate. In cases of resistance of the parasite to the primary treatment, other options such as Amphotericin B is used. However, the treatments against leishmaniasis present high toxicity to the host. Recently, studies have been shown the leishamanicidal activity of the Kaurenoic acid [(16-caure-18-oic acid), KA] and of the polyaltic acid [(15,16-epoxy-sily-8 (17), 13 (16), 14-triene-19-oic acid), PA]. Thus, the objective of the work was evaluate the leishmanicidal activity of the KA and PA against promastigote form of *Leishmania amazonensis*. Effects on cytotoxic and hemolytic activities also were studies. In addition, drug combination between the compounds also were assessed against promastigote form using the isobologram method. The KA showed IC_{50} values (Inhibitory Concentration of 50% of the parasites) of 2.17; 0.83; 3.94 and 3.60 μM at 6, 12, 24 and 48h respectively, and the PA showed IC_{50} values of 2.06; 1.78; 2.46 and 6.31 μM in 6, 12, 24 and 48 h respectively. KA and PA showed CC_{50} values (Cytotoxic Concentration of 50% of cells) of 3.11 and 5.34 μM respectively against peritoneal macrophages at48 h. Besides, the compounds showed no significant hemolysis at any concentration of the evaluated. Combination between these two compounds was classified as antagonist effect against promastigote form. Our results suggest that the incubation alone with the KA and PA are more effective than the combination against the promastigote form. New combinations with drugs leishmanicidal and against amastigote forms will be performed for evaluations of potential of application for cutaneous leishmaniasis.

KEYWORDS: Combination; Diterpenes; *Leishmania amazonensis*.

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