

## 40 GROWTH INHIBITION OF PARASITIC PROTOZOA BY SNAKE VENOMS

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Leishmania is the causative agent of leishmaniasis, a parasitic disease with a world-wide prevalence of 12 million cases, and an estimated number of 350 million people in risk. The widespread use of antimonials (the standard treatment drug) during epidemic, associated with longer and repeated treatments required for AIDS-related leishmaniasis cases has led the emergence of a parasite resistance to the drug. It is known that the toxicity of antimony increases in proportion to dose and duration of treatment.

Epidemic waves in developing countries need cheaper and easier forms of treatment, as well as a safe and potent topic treatment for cutaneous leishmaniasis.

In this way, the search for more effective drug against the parasite led us to analyze the inhibitory effect of five different Brazilian snake venoms on parasite growth *in vitro*.

The parasites ( $5 \times 10^5$ ) were transferred to 24-well microplates with different concentrations of venom in a total volume of 1ml. Control cultures consisted of parasites incubated in the presence of culture medium alone (RPMI). After different incubation times, number of parasites was followed by using Coulter Counter machine.

The cultures were set up in duplicate and, with no exception, showed that all five venoms, at 6  $\mu\text{g/ml}$  exerted a strong inhibitory effect on parasite multiplication. It was also observed that venoms from *Bothrops* snake seem to be more effective than those from *Crotalus* genus snakes. In addition, *C.d.terrificus* and *C.d.cumanensis* venoms inhibited growth of parasites keeping intact their cytoskeletal. On the other hand, *B. jararaca*, *B. moojeni* and *B. jararacussu*, in this order, had a high destruction power of parasites structure according to the tested concentration.

These findings associated to the knowledge that it is possible to detoxify snake venoms by using ionizing radiation are of paramount importance to search for alternative natural compounds that could have social and economic impact in the treatment of leishmaniasis.

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