

Chronic inflammatory response modulation against *Leishmania (L.) amazonensis* by homeopathic thymulin and antimonium crudum in balb/c mice

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ABSTRACT

In previous studies it was found that thymulin 5cH (thymic hormone) can modulate immune processes in several diseases. Additionally, the Antimonium crudum has used in dogs bearing leishmaniosis, according to the similia principle. We studied the inflammatory and immune modulation by thymulin 5cH and Antimonium crudum 30cH treatment in mice experimentally inoculated with *Leishmania (L.) amazonensis*. Male adult Balb/c mice were inoculated with *Leishmania* (2×10^5 promastigotes) into the footpad to induce inflammatory response and peritoneum and spleen cells were evaluated by flow cytometry after 60 days. Animals were divided in 3 groups (n=10): thymulin 5cH, Antimonium crudum 30cH and vehicle /control. Treatment was made in blind, daily, in water/alcohol 30% diluted 1:2500 in drinking water, during all experimental period. CD11b (activated phagocytes and B1 cells), CD19 (B1 cells and B2), CD4 and CD8 (effective T lymphocytes) markers were used to identify immune cells subsets in peritoneal washing fluid and spleen cell suspension. Mice treated with thymulin 5cH presented increase in peritoneal and spleen B1 stem cells ($X^2=0.0001$) and higher CD8+/CD4+ ratio in spleen, regarding to the control. Also, Antimonium crudum 30cH induced a mild increase in B1 cells in peritoneum and spleen (both X^2 , $p=0.0001$). Further histological analysis of the primary lesion will be done in the next step, to elucidate the impact of these findings in the disease evolution. The results show that both treatments stimulate B1 stem cell proliferation and suggest the cooperation of T spleen lymphocytes in the process.

Keywords: leishmania, thymulin, antimonium crudum, mice



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