

Changes in the immune response of susceptible *Biomphalaria glabrata* infected with *Schistosoma mansoni* influenced by exposure to natural products

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Abstract

The aim of this work was to verify the effect of exposure to sublethal concentrations of *E. milii* var. *hislopii* latex on the immune response of *B. glabrata* uninfected and infected by *S. mansoni*. The quantification and characterization of hemocytes and production of nitric oxide were determined. We also examined longitudinal sections of snail to observe the presence or not of tissue reaction and hemocytes. The number of hemocytes from group infected and exposed to latex was higher than the others. Three types of hemocytes were found: hyalinocytes, granulocytes and blast-like cells, and in all the groups the proportion of hyalinocytes was higher than the other types. There was no difference among the cell types and the different groups. Regarding the nitric oxide production, the infected and exposed snails produced less than the control group. In the snails infected by *S. mansoni*, the exposure to latex promoted proliferation of hemocytes in various tissues. In the digestive gland and the kidney, granulomatous reactions occurred around the sporocysts. We conclude that the sublethal concentration of the *E. milii* latex influenced the immune response of the susceptible *B. glabrata* strain to infection by *S. mansoni*, promoting the destruction of parasites.

Key words: *Biomphalaria glabrata*, *Euphorbia milii*, hemocytes.