ANTIIINFLAMATORY ACTIVITY OF A FRACTION OBTAINED FROM HEVEA BRASILIENSIS ON EXPERIMENTAL COLITIS IN MICE.

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Introduction and Objectives: Several studies have suggested that the natural latex, extracted from Hevea brasiliensis has wound healing, angiogenic and anti-inflammatory activity. With respect to the anti-inflammatory property, studies done with a chromatographic fraction called FrHbIII, obtained from aqueous extract of the rubber tree latex, have aroused interest in the field of development of specific therapeutic agents, especially in inflammatory bowel disease. Assays were developed for dosages of inflammatory mediators as the enzyme myeloperoxidase (MPO), eosinophil peroxidase (EPO), nitric oxide (NO) and inflammatory cytokines like interleukin-4 (IL-4), IL-10, IL-12, TNF-α, IL-23 and IFN-γ, to better understand the mechanism of action of this fraction.

Materials and Methods: Using an experimental model of colitis by acid 2,4,6-trinitrobenzene sulfonic acid (TNBS) in Balb-c mice, samples were collected from the large intestine of mice treated with the fraction at concentrations of 0.05, 0.5 and 5 mg/kg of animal, and also of the positive control (no treatment) and negative (no induction of colitis) for conducting the tests. The clinical scores were also determined at that time based on our experience. The inflammatory mediators (MPO, EPO and NO) were determined by spectrophotometric analysis. Cytokines concentrations were determined by specific ELISA. The data were plotted in Graphpad Prism.

Results and Conclusions: The results showed a decrease in levels of IL-4, IL-12, IL-23, TNF-α, IFN-γ, and the activities of enzymes EPO and MPO. On the order hand, IL-10 was a slight increase in the release, when compared with the positive control (TNBS). Thereby we concluded that the degree of colitis was significantly attenuated by using FrHbIII due to change in clinical score, and inflammatory markers such as MPO, EPO and NO, and its anti-inflammatory effect is possibly associated with positive reduction response Th1, Th2 and Th17 cytokines.