Analysis of anti-inflammatory action of polysaccharides from *Caripia montagnei* mushroom in TNBS-induced colitis

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Previous studies with polysaccharides from the *Caripia montagnei* mushroom showed its anti-inflammatory potential. Inflammatory bowel diseases have unknown etiology, resulting from a combination of environmental, genetic and immunological factors. The conventional drugs used to treat ulcerative colitis lead to seizure remission, but not to a cure. The objective of this study was to evaluate the effect of polysaccharides from *C. montagnei* in TNBS-induced colitis. Fresh fruit bodies from *Caripia montagnei* were delipidated using chloroform-methanol and acetone and polysaccharides were obtained by aqueous extraction followed by ethanol precipitation. Colitis was induced in Wistar rats (n=9) by intracolonic administration of 2,4,6-trinitrobenzene sulfonic acid (TNBS) in 40% ethanol. Animals were treated with different doses of polysaccharides (25, 50 and 75 mg / kg) and underwent two treatments (12/12 h and 24/24 h). After 12 h they were euthanized and colonic tissue was removed for analysis. It was observed that these polysaccharides (75 mg/kg; 24/24 h) significantly reduced IL-1 (25%; p<0.05), alkaline phosphatase (60%; p<0.001) and myeloperoxidase levels (33%; p<0.05) when compared to the positive control. No statistically significant effect was found in the groups treated with different doses of polysaccharides at 12h intervals. The decrease in the enzyme myeloperoxidase caused by the administration of these polysaccharides indicates a reduction in neutrophil infiltration, possibly due to inhibition of proinflammatory cytokine IL-1. The reduction in alkaline phosphatase activity is likely a manifestation of anti-inflammatory activity. Histological analysis corroborates the data obtained.

Keywords: *Caripia montagnei*; Colitis; Anti-inflammatory; Polysaccharides.

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