SULFATED POLYSACCHARIDE FRACTION FROM HYPNEA MUSCIFORMIS ACTS INHIBITING INTESTINAL DAMAGE INDUCED BY TNBS.

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Introdução: Hypnea musciformis is a seaweed promising in the case of biological interaction is a common species of the Atlantic coast and synthesizes sulphated polysaccharide fraction (PLS). This type of polysaccharide has been very reported in literature by having important activities such as antiviral; possess gastro protective action, anti-inflammatory activity and action against inflammatory bowel diseases. It’s a chronic inflammatory disease characterized as disabilities in the gastrointestinal system accompanied by defective mucosal immune response. This work aimed was to evaluate the effect of a polysaccharide fraction from red alga Hypnea musciformis in models of intestinal injury TNBS- induced in rats. Materiais e Métodos: The animals were divided in six groups (n = 6 rats/group): a negative control group that received intracolon saline and no treatment, the control group received only TNBS into the colon, the groups remaining were pretreated with dexamethasone (1mg/kg, 250?l, s.c) or fraction sulfated polysaccharide of seaweed red H. musciformis in dose of (10, 30 and 60 mg.kg-1, 500?l, p.o.) 1 h before of the colitis induction by TNBS, after this the animals were treated each day with dexamethasone or PLS in the second and third day. The rats were killed on the third day 1 hour after of treatment and the abdomens were then opened, and after the identification of the intestine, the portion of distal colon was excised, washed with 0.9% saline and evaluated the wet weight using an analytical balance, after the colon was pinned onto a wax block for the evaluation of macroscopic scores by modifying the criteria described by Morris et al. Then samples were taken for biochemistry essays. This study was approved by the ethics committee of UFPI (protocol number 036/12). Resultados e Discussão: In pretreatment with PLS 60 mg/kg showed significant reversion in wet weight (0,45 ± 0,09g) compared to TNBS group (1,03 ± 0,03g) macroscopic evaluation show that the oral administration of the PLS at the doses (10, 30 and 60 mg/kg p.o.) significantly reduced the macroscopic bowel damage (10 mg/kg: 9.25 ± 2.13; 30 mg/kg: 5.75 ± 1.84; 60mg/kg: 5.00 ± 1.87). can see that the dose of 60 mg/kg of PLS reducing the macroscopic lesions in 72%. The histological evaluation of colons from rats treated with PLS 60 mg/kg revealed a pronounced reduction in the inflammatory response with moderate loss of epithelial cells and minimal
inflammatory infiltration into the colonic tissue showing median de 5 (3-11). Treatments with PLS (60 mg/kg, p.o.) (0.83 ± 0.05 UMPO/mg of tissue) significantly prevented the increments of colonic MPO levels associated with DNBS administration. **Conclusão:** Thus, we concludes that the polysaccharide fraction of *H. muscifomis* has action potent anti-inflammatory and antioxidant in the injured bowel induced by TNBS.