GASTROPROTECTIVE EFFECT OF POLYSACCHARIDE EXTRACTED FROM CAESALPINIA FERREA ON ALENDRONATE-INDUCED GASTRIC DAMAGE IN RATS

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Introdução: Osteoporosis is typically a disease of the elderly, and with population aging it has become one of the most frequent and relevant health problems, especially among women. Several drugs are available for treatment of osteoporosis and bisphosphonates have become the mainstay. Among the most usually used bisphosphonates are the alendronate (ALD) and the most common adverse effects of the ALD, which limits its prolonged use, are gastrointestinal disturbances such as abdominal discomfort and ulcers involving the esophagus and stomach. The present study was carried out in order to evaluate the gastroprotective effect of the polysaccharide fraction from C. ferrea (PLS) on ALD induced gastric damage in rats.

Materiais e Métodos: This study was approved by the Ethics Committee in Animal Research of the Federal University of Piauí (protocol No 0067/10). Female Wistar rats (100?140g) were received saline or PLS (1, 5, and 15 mg/kg, p.o.). After 30 min was administered ALD (30 mg/kg, pH 7.0, p.o.). All substances were administered once daily for 4 days. On the last day of treatment, 4 h after ALD administration, the animals were killed and their stomachs removed. Gastric damage was measured using Image J® software. Other samples were retired for histopathological analysis dosage of the glutathione (GSH) levels, malondialdehyde (MDA) concentration, myeloperoxidase (MPO) activity and cytokine (TNF-? and IL-1?) levels.

Resultados e Discussão: ALD (30 mg/kg, p.o.) administration by 4 days induced mucosal gastric damage (50.1 ± 4.3 mm2). However, PLS (1, 5, and 15 mg/kg, p.o.) significantly. Conclusão: The results indicate that the PLS prevented ALD-induced gastric damage by inhibiting neutrophil infiltration, decreasing pro-inflammatory cytokine (TNF-? and IL-1?) levels and elevations in oxidative stress.