



CHEMICAL ANALYSIS AND EVALUATION OF GASTROPROTECTIVE AND GASTRIC HEALING EFFECT OF *Arrabidaea chica* IN RATS

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INTRODUCTION

The species *Arrabidaea chica* (Humb. & Bonpl.) B. Verl (Bignoniaceae), known as cajuru, is native to Brazil. The leaves are used for inflammation and digestive disorders. However, studies that evaluate the gastroprotective potential have not yet been realized. This work aims to investigate the gastroprotective and gastric healing effect of *A. chica*.

MATERIAL AND METHODS

The sample of *A. chica* (n° 4929) was dried and powdered. The extract (HEAc) was obtained by maceration (7 days) with 100 g of the dry leaves (100 g) and hydroalcoholic 70% solvent (2 L). For the chemical analysis, the HEAc was submitted to direct infusion in ESI-IT-MSⁿ. The remaining of HEAc was used for experiments under protocol CEUA n° 17/2021. For the acute gastroprotective evaluation in rats, ethanol and piroxicam ulcers were induced in the groups: Vehicle (Veh), omeprazole (Ome, 30 mg/kg), HEAc (10, 30, or 100 mg/kg). Naïve (N) was not induced. The stomachs were removed, and the lesions were analyzed macroscopically and histologically. In the gastric healing model, acetic acid 80% was instilled in the serous layer. The following treatments started after 48 h for 7 days: Veh, Ome 30 mg/kg; HEAc 30 mg/kg. N was not induced nor treated. Ultrasound examinations were performed. The stomachs were removed and

evaluated macroscopically and histologically. Inflammatory markers and oxidative stress analysis were performed.

RESULTS

The chemical analysis identified 14 polyphenolic compounds in HEAc. In both ethanol and piroxicam-induced ulcers, the HEAc 30 and 100 mg/kg showed a reduction of 58,3% ($p < 0,001$) and 53,4% ($p < 0,001$), respectively, in ethanol and, 92,5% ($p < 0,05$) and 90,8% ($p < 0,01$), respectively in piroxicam both compared with Veh. These results were corroborated with the histological analysis. In the gastric healing evaluation, a reduction occurred in the lesion area of 69,2% of HEAc compared with Veh ($p < 0,001$). The ultrasound and histological images validate the obtained results along with the positive results in myeloperoxidase (MPO), superoxide dismutase (SOD), and catalase (CAT) analysis.

CONCLUSIONS

The HEAc exhibits a gastroprotective and gastric healing effect mediated by the reduction of oxidative stress and inflammation.

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