



CHEMICAL ANALYSIS AND EVALUATION GASTROPROTECTIVE AND GASTRIC HEALING OF *Uncaria tomentosa* IN RATS

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INTRODUCTION

The *Uncaria tomentosa* (Willd DC.), is native to the Amazon rainforest where it is known as cat's claw. Its popular use is extensive among several Peruvian and Brazilian tribes, mainly for the treatment of inflammatory and gastrointestinal disorders. However, studies that evaluate the gastroprotective potential have not yet been realized. This work aims to investigate the gastroprotective and gastric healing effects of *U. tomentosa*.

MATERIAL AND METHODS

The extractive method (decoction) aims to mimic the popular use of the plant and the phytochemical analysis was performed by mass spectrometry (ESI-MS). For the acute gastroprotective evaluation in rats, ethanol and piroxicam ulcers were induced in the groups: Vehicle (Veh), omeprazole (Ome, 20 mg/kg), Aqueous extract of *U. tomentosa* (EAUt 30, 60, 120 mg/kg) and naive (N). 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 20 mg/kg; EAUt 60 mg/kg and the N. Ultrasound examinations (CEUA protocol n° 17/2020). The stomachs were removed, evaluated macroscopically and histologically. Biochemical, inflammatory

markers and oxidative stress analyses were performed.

RESULTS

The chemical analysis identified 12 polyphenolic compounds in EAUt. In both ethanol and piroxicam-induced ulcers, the EAUt 30 and 60 mg/kg showed a reduction of 56.4 and 31.5% ($p < 0,01$) compared for Veh. In induced ethanol-ulcers the reductions were of 36.8 and 47.6% ($p < 0.01$ and $p < 0.001$), respectively compared with Veh. Corroborated results with the histological analysis. In the gastric healing evaluation, a reduction observed for EAUt in the lesion area was 51.4% compared with Veh ($p < 0,05$). The ultrasound and histological images validate the obtained results and the pharmacological mechanism seems to involve activities on inflammatory markers and oxidative stress (MPO, SOD and CAT).

CONCLUSIONS

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

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