IV SIMPÓSIO INTERNACIONAL EM INVESTIGAÇÕES QUÍMICO-FARMACÊUTICAS

UNIVALI

Área: FAR

Coix lacryma-jobi PROMOTES GASTROPROTECTIVE ACTIVITY AND GASTRIC HEALING IN RODENTS

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INTRODUCTION

Coix lacryma-jobi, used in traditional Asian medicine for its diuretic and anti-inflammatory properties, has been gaining scientific interest. However, despite the pharmacological potential, the plant extracts have not yet been tested for their anti-gastric ulcer. This study evaluates the gastroprotective and healing activity of its hydroalcoholic extract (EHCL).

MATERIAL AND METHODS

The gastroprotective effects of EHCL (1-100 mg/kg, p.o) were evaluated in rats with ethanol-induced gastric ulcers, along with the analysis of antioxidant activity. The mechanisms were evaluated using specific inhibitors, and the anti-secretory activity was tested using the pylorus binding method. In addition, EHCL (100 mg/kg, p.o) was examined for its healing effects on chronic gastric ulcers induced by acetic acid, with histological and histochemical analyses carried out (nº 006/CEUA/2024).

RESULTS

In ethanol-induced gastric ulcers, the minimum effective oral dose of EHCL, 100 mg/kg, reduced the ulcer area by 61.20% compared to the vehicle group (Veh: 119.9 ± 13.85 mm²). This gastroprotective effect was accompanied by a reduction in myeloperoxidase (36.69%), an increase in reduced glutathione levels (23.61%), and a decrease in superoxide dismutase levels 5.33%). Pretreatment with NEM, indomethacin and L-NAME abolished the gastroprotective effect of EHCL. No gastric acid anti-secretory activity was evidenced. Furthermore, EHCL (100 mg/kg, p.o.) accelerated the gastric healing process by 70.38% compared to the group ulcerated with acetic acid treated with vehicle (65.50 ± 8.77 mm²). The results show an increase in GSH values (58%), a decrease in myeloperoxidase activity (42.50%) and lipid peroxidation (31.30%) when compared to vehicle.

CONCLUSIONS

The results confirm the gastroprotective and healing potential of the hydroalcoholic extract of *Coix lacryma-jobi* (EHCL). The 100 mg/kg dose significantly reduced the ulcer area and modulated biomarkers of oxidative stress. In addition, EHCL accelerated the healing of chronic ulcers, demonstrating its antioxidant effect. These findings suggest that EHCL may be a promising alternative for the treatment of gastric ulcers.

ACKNOWLEDGMENTS

The authors gratefully acknowledge the Community University of the Chapecó Region – Unochapecó, University of Alto Vale do Rio do Peixe – Uniarp and Research and Innovation Support Foundation of the State of Santa Catarina - Fapesc.