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Article

Gastroprotective and Antiulcer Effects of *Celastrus paniculatus* Seed Oil Against Several Gastric Ulcer Models in Rats

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ABSTRACT

Peptic ulcer is a recurrent chronic illness and has become almost a hallmark of the so-called civilized life. In folk medicine, the Celastrus paniculatus plant has been used for the prevention and treatment of various diseases and gastrointestinal disturbances, including dyspepsia and stomach ulcers. The aim of this study is to evaluate the gastroprotective and antiulcer effects of Celastrus paniculatus seed oil (CPO) against several gastric ulcer models in rats. The gastroprotective and antiulcer effects of CPO were evaluated using pylorus-ligated ulcer ethanol- and indomethacin-induced ulcers using rantidine (40 mg/kg per os [PO]) as standard. Gastrointestinal motility was determined by gastric emptying time and gastrointestinal transit ratio. The results of the pharmacological studies of CPO (200 mg/kg, 400 mg/kg) demonstrated effective

gastroprotection against ethanol- and indomethacin-induced ulcer models. In pylorus-ligated rats, the seed oil showed gastroprotective activity by decreasing total gastric juice volume and gastric acidity while increasing the gastric pH. The gastroprotection against ethanol and indomethacin is partially attributed to effective inhibition of proinflammatory cytokines, TNF-α and IL-6, and increase in the levels of IL-10. Treatment with CPO in ethanol-induced ulcer rats significantly ($p < .05$) decreased MDA (malondialdehyde) levels, which were accompanied by an increase in the activities of SOD (superoxide dismutase) and catalase. CPO reduced the rate of gastric emptying but had no effect on gastrointestinal transit. The present findings indicate that CPO has potent gastroprotective effects and support the folkloric usage of the seed oil to treat various gastrointestinal disturbances.

KEYWORDS:

Celastrus paniculatus seed oil | gastric emptying | gastro protection | peptic ulcer | ulcer index

Declaration of interest

The authors declare no conflicts of interest. The authors alone are responsible for the content and writing of the article.

Additional information

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