



Evaluation of protective and therapeutic effect of hydroalcoholic bark extract of *Cucurbita moschata* Duchesne in ethanol-induced peptic ulcer in rats

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Abstract:

Background and Purpose: Peptic ulcer is one of the ailments of the digestive system. Due to side effects and emergence of drug resistance, there is a tendency to use natural products. *Cucurbita moschata* Duchesne has medicinal properties such as anti-inflammatory activity. The aim of this study is to evaluate the protective and therapeutic effects of a hydroalcoholic extract of the bark of this plant on ethanol-induced peptic ulcer in an animal model.

Materials and Methods: After preparing *Cucurbita moschata* Duchesne skin extract, gastric ulcer was induced by oral administration of ethanol. Mice were grouped as follows: positive control group (receiving omeprazole at a dose of 2, 10 mg/kg), negative control group, protective group receiving plant extracts at doses of 50, 100 and 200 mg/kg (gavage), healthy group, and treatment group (under treatment for one week after ulcer induction). Protective plant extract and omeprazole were administered for one week before ulcer induction. Subsequently, macroscopic and microscopic examination of gastric mucosal tissue and H&E staining were performed.

Results: The rate of ulcer reduction index in the omeprazole-treated group and the protective and extract treatment groups was significant higher compared with the control group. The lowest ulcer index belonged to the group receiving protective extract with a dose of 200 mg/kg and the group receiving therapeutic extract with a dose of 200 mg/kg. Microscopic appearance of gastric mucosa showed mild mucosal ulcers, and reduction of inflammatory cells in groups that had received different doses of squash bark extract. Gastrointestinal microscopic appearance showed no gastric mucosal detachment, mild mucosal bleeding, fragmentary and mild necrosis of gastric mucosal epithelium, and better order and organization of gastric glands in the omeprazole group compared with other groups.

Conclusion: Ethanol use causes peptic ulcer. Also, treatment with *Cucurbita moschata* Duchesne peel extract improves healing of ulcers, which is significantly difference with the control group.

Keywords: Peptic Ulcer, Persian Medicine, *Cucurbita moschata*, Antioxidant

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