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Acta Medica Iranica

2009;47(4) : 97-101

Anti-ulcerogenic effect of ginger (rhizome of *Zingiber officinale* Roscoe) on cysteamine induced duodenal ulcer in rats

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Abstract:

Ginger (rhizome of *Zingiber officinale* Roscoe) is a widespread herbal medicine mainly used for the treatment of gastrointestinal (GI) disorders including: dyspepsia, nausea and diarrhea. Aromatic, spasmolytic, carminative and absorbent properties of ginger suggest that it has direct effects on the GI tract and anti-ulcerogenic potential. In the present study, the effects of this herbal remedy on an acute model of experimental duodenal ulcer induced by cysteamine was evaluated. Hydroalcoholic extract of ginger with doses of 100, 350, 700 mg/kg, ranitidine (50 mg/kg), sucralfate (500 mg/kg) and 5 ml/kg of vehicle were administered orally (p.o.) to separate groups of male Wistar rats. Other groups received vehicle (5 ml/kg), extract (300 mg/kg) and ranitidine (50 mg/kg) intraperitoneally (i.p.). After ulcer induction, the number, scoring, area and finally ulcer index were assessed for each duodenum. Administration of extract by i.p. or at chronic doses (350 mg/kg) and ranitidine (p.o. and i.p.) resulted in significant reduction in mucosal damage for the entire ulcer factors which were assessed. Larger doses of extract given p.o. (350 and 700 mg/kg) were effective to reduce both the ulcer area and index but the lowest dose of extract (100 mg/kg) was not effective. Taken together, we conclude that ginger hydroalcoholic extract was effective to protect against duodenal ulceration and for i.p. injection as well as chronic administration, the efficacy was comparable with ranitidine as reference drug.

Keywords:

Ginger (*Zingiber officinale* Roscoe) , Duodenal ulcer , Cysteamine

TUMS ID: 2382

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