

Antiulcer Activity of Aloe vera Gel against Indomethacin and Ethanol Induced Gastric Ulcers in Rats

Authors : Jyoti Manandhar Shrestha, Saurab Raj Joshi, Maya Shrestha, Prashanna Shrestha, Kshitij Chaulagain

Abstract : Background: The widespread use of non-steroidal anti-inflammatory drugs has increased the incidence of ulcer and serious complications, such as perforation and bleeding. Although, the H₂ receptor blockers and proton pump inhibitors decrease the acid secretion and promote healing of ulcer, their value in preventing relapse, recurrence, "acid rebound" after cessation of therapy and associated long term adverse effects limit their utility. So to minimize this, the herbal plant Aloe vera having anti-oxidant, anti-inflammatory, mucus secreting, cyto-protective and healing property is believed to cure the peptic ulcer. Objectives: To observe whether oral treatment with Aloe vera gel can prevent peptic ulcer. Indomethacin and ethanol were used to induce gastric ulcers. Thirty six albino rats of either sex were randomly allotted to six groups of six animals each. The negative control was pretreated with normal saline, the positive controls received ranitidine (20 mg/kg) and the test group received Aloe vera gel (300 mg/kg) orally for eight days. Then, after a 24 hour fast Indomethacin (20 mg/kg) or 80% ethanol (2ml) was administered orally to induce ulceration. At the end of the study, the rats were sacrificed, their stomachs opened, the ulcer index studied and tissues sent for histopathological examination. Results: It was observed that, in indomethacin treated group, the ulcer index in control group was 8.167 ± 1.72 . In the Aloe vera pretreated animals, the ulcer index was 2.83 ± 1.72 and the standard ranitidine pretreated group ulcer index was 1.67 ± 1.36 . In ethanol treated group, the ulcer index in control group was 7.5 ± 2.73 . In the Aloe vera pretreated animals, the ulcer index was 2.67 ± 1.75 and the standard ranitidine pretreated group ulcer index was 1.33 ± 1.21 . Both ranitidine and Aloe vera gel significantly prevented stomach from gastric ulceration induced by indomethacin and ethanol. Conclusion: The results indicated that Aloe vera gel is effective against indomethacin and ethanol mediated gastric ulcer.

Keywords : Aloe vera gel, ethanol, indomethacin, peptic ulcer, ranitidine

Conference Title : ICPP 2014 : International Conference on Pharmacy and Pharmacology

Conference Location : Bangkok, Thailand

Conference Dates : December 18-19, 2014