

Essential oils derived from *Momordica charantia* seeds exhibited antiulcer activity against hydrogen chloride/ethanol and indomethacin

ABSTRACT

Momordica charantia (MC) is popular for its medicinal uses especially for treating diabetic-related complications. However, the antiulcer activity of essential oil derived from the seeds has not been systematically studied. This study aims to evaluate the gastroprotective activities of essential oil derived from the seed of MC induced by hydrochloride acid/ethanol (HCl/EtOH) and indomethacin and pylorus-ligation model. Gastric ulceration was induced by oral administration of HCl/EtOH solution or indomethacin on day 7 after animals have been pretreated with testing compounds. The first group received just distilled water and the second group received ranitidine (100 mg/kg). Groups 3, 4, and 5 received 10, 50, and 100 mg/kg of essential oil based on their body weight (10 mL/kg), respectively. Macroscopically, pretreatment of essential oil extracted from MC significantly decreased ulceration induced by HCl/EtOH and indomethacin *in vivo*. Microscopically, essential oil also significantly suppressed the formation of edema, epithelial disruption, and mucosa erosions. Moreover, essential oil significantly elevated the pH without decreasing the total acidity of the gastric juice and was able to increase the amount of adherent mucus compared to control. Current results provide scientific basis to the ethno-pharmacological usage of the MC in preventing ulcer formation induced by HCl/EtOH and indomethacin.