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Gastroprotective activity of *Trichosanthes cucumerina* aerial parts

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Trichosanthes cucumerina Linn. (Family: Cucurbitaceae), locally known as Dummella is commonly found in Asian countries including Sri Lanka. The aerial parts of *T. cucumerina* are widely used in combination with other plants in the traditional medicinal systems as a remedy for fever, dropsy, acute bronchitis, boils, inflammation, skin diseases, jaundice, diabetes and gastric lesions. The aim of the present study was to scientifically investigate whether *Trichosanthes cucumerina* (T.C.) has gastroprotective activity. The oral gastroprotective effect of hot water extract (HWE) of T.C. aerial parts was evaluated by determining its ability to protect against gastric lesions in rats induced by absolute ethanol (5 mL/kg) or indomethacin (5 mg/kg). All the experiments were conducted using Wistar strain rats (weight: 200 – 220 g). The food was withdrawn for 36 h and water for 12 h in rats, before the commencement of the experiment. These rats were randomly divided into 5 groups (n = 8 rats/group; 3 males + 3 females) and groups 1 – 3 were orally administrated with HWE at a dose of 375, 500 and 750 mg/kg, respectively. Group 4 was orally treated with equal volume of distilled water (1 mL; control) while group 5 was orally treated with the reference drug, cimetidine (100 mg/kg). In the indomethacin experiment, only one dose of HWE (750 mg/kg) was tested, as this was found to have the maximum effect in the alcohol model. Results show that the HWE of T.C. possess significant ($P \leq 0.05$) and dose dependent gastroprotective effects in the alcohol model in terms of the length and number of gastric lesions mediated by alcohol, with a maximum effect at 750 mg/kg. A significant ($P \leq 0.05$) gastroprotective activity was also observed in the indomethacine model. In the ethanol model, the protective effect demonstrated by the HWE of T.C was comparable with that produced by cimetidine. However, a significantly higher gastroprotective activity was observed in the ethanol model than in the indomethacin model. The HWE significantly increased the amount of mucus produced by the rat gastro mucosa (by 39%) and reduced the gastric acidity (by 36 %). pH of the gastric juice increased from 4.1 to 6.02. However, no change in the volume of gastric juice was observed. It may be concluded that HWE of T.C can exert a significant protection against ethanol or indomethacin induced gastric damage. Increasing the protective mucus layer and decreasing the acidity of the gastric juice are probable mechanisms by which the HWE of T.C. mediates its gastroprotective actions.

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