

Abstract

Ethnopharmacological relevance: The leaves of *Markhamia tomentosa* (Benth.) K. Schum. Ex Engl.(Bignoniaceae) are used traditionally in the treatment of skin afflictions, sores, ulcers and inflammation. The aim of the study was to investigate the antiulcer activity of the crude ethanolic extract from the leaves of *Markhamia tomentosa*, determine the active fraction(s) of the extract and identify the chemical constituents in the active fraction by LC–MS.

Materials and methods: The antiulcer activity of the crude extract (50, 100 and 150 mg/kg, p.o.) was evaluated in ethanol and indomethacin-induced models while the solvent fractions (150 mg/kg) were screened using ethanol-induced gastric lesions in rats. Furthermore, anti-ulcer activity of the active fraction (50, 100 and 150 mg/kg, p.o.) was performed using indomethacin and pylorus ligation models. Parameters such as gastric volume, pH and acidity were determined in the pylorus ligation model. LC–ESI–MS analysis was used to identify the components in the active fraction.

Results: The extract at the dose of 50, 100 and 150 mg/kg caused a significant ($p < 0.05$) dose-dependent inhibition of ulcer in the ethanol and indomethacin-induced ulcer models, respectively. The ethyl acetate (EtOAc) fraction showed the most potent antiulcer activity from all the fractions tested. This fraction produced 72% and 92% inhibition of indomethacin and pylorus-induced ulcer at a dose of 150 mg/kg respectively. Acteoside, luteolin, luteolin-7-rutinoside, Luteolin-3,0,7-di-O-glucoside, carnosol, dilapachone, tormentic acid, oxo-pomolic acid and ajugol were detected in the EtOAc fraction.

Conclusion: Our data provide a rational base for the folkloric use of *Markhamia tomentosa* in the treatment of ulcers.