Investigation on Anti-Inflammatory and Antiulcer Activities of Anchusa azurea Extracts and their Major Constituent Rosmarinic Acid

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This study investigated the anti-inflammatory and antiulcer activities of different extracts from the aerial parts and the roots of Anchusa azurea Miller var. azurea (Boraginaceae), as well as their major constituent, rosmarinic acid. The extracts were water (AWa, RWa) and methanol (AMe, RMe) extracts prepared from the aerial parts and the roots of A. azurea, respectively. The AMe extract was found to exert anti-inflammatory effects; so it was evaporated to dryness and the residue was dissolved in distilled water (AMeWa) and then further fractionated with n-hexane (AMeHe) and n-butanol (AMeBu). Anti-inflammatory activity was investigated in rats using carrageenan-induced acute inflammation, and antiulcer activity was investigated using indomethacin-induced gastric damage. The methanolic extract from the aerial parts, its n-butanol fraction, and rosmarinic acid, which was isolated from the n-butanol fraction of the AMe extract, showed significant dose-dependent anti-inflammatory activity. During the acute phase of inflammation, the anti-inflammatory activity of rosmarinic acid was comparable to that of ibuprofen. No antiulcer activity was observed. The experimental data demonstrate that A. azurea Miller var. azurea and rosmarinic acid display significant anti-inflammatory activity.

Key words: Anti-Inflammatory, Anchusa azurea, Rosmarinic Acid