DOCTORAL DISSERTATION ABSTRACTS

STUDIES ON THE EFFECTS OF *Clematis vitalba* L. IN THE TREATMENT OF RHEUMATISM

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Clematis vitalba L. (Ranunculaceae) herbs are used for various therapeutical purposes, including inflammations and pain in Turkish folk medicine as well as in traditional medicine worldwide. The aim of the present study was to evaluate the anti-inflammatory, antinociceptive and antipyretic activity of the plant using various in vivo models, and to isolate and determine the active constituent(s) through bioassay-guided fractionation techniques.

To investigate the anti-inflammatory effects of *C. vitalba* herbs, extracts were prepared using water and ethanol. The active ethanol extract was then subjected to further fractionation using various chromatographical techniques on silica gel and Sephadex LH-20 column and reversed phase-high pressure liquid chromatography (RP-HPLC). Through the bioassay-guided fractionation process a new flavon C-glycoside, 4'-O-coumaroyl-isovitexin ([4'-K-IV]), was isolated from the ethyl acetate extract. For the anti-inflammatory activity assessment of extracts, fractions and [4'-K-IV], the following in vivo models in mice or rats were employed: carrageenan-, serotonin- and PGE2-induced hind paw edema models, acetic acid-induced capillary permeability test, castor oil-induced diarrhea model and air pouch (subacute) and adjuvant-induced arthritis (chronic) models. The antipyretic activity was assessed by Freund's complete adjuvant-induced pyrexia model in rats, and analgesic activity was assayed by p-benzoquinone-induced writhing test in mice. The results revealed that [4'-K-IV] possesses a strong anti-inflammatory, antipyretic and analgesic activity without inducing any apparent acute toxicity or gastric damage.

Key Words : *Ranunculaceae*, *Clematis*, Anti-inflammatory activity, Antinociceptive activity, Antipyretic activity