

Implication of Oxidative Stress and Intracellular Mediators in the Protective Effect of *Artemisia campestris* against Aspirin-Induced Gastric Lesions in Rat Model

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Abstract : *Artemisia campestris* has been widely used in Tunisian traditional medicine for its health beneficial effects. However, the present study aims at evaluating the antiulcer effects of *Artemisia campestris* aqueous extract (ACAE) as well as the mechanism of action involved in such gastroprotection. In this respect, male Wistar rats were divided into seven groups: control, aspirin (ASPR), ASPR + various doses of ACAE (100, 200 and 400 mg/kg, b.w.), ASPR+ famotidine and ASPR+ caffeic acid. Animals were pre-treated with ACAE extract during 10 days. We firstly showed that aspirin administration was accompanied by an oxidative stress status assessed by an increase of malondialdehyde (MDA) level, a decrease of sulfhydryl - (SH) groups content and depletion of antioxidant enzyme activities such as superoxide dismutase (SOD), catalase (CAT) and glutathione peroxidase (GPx). Pre-treatment with ACAE protected against aspirin-induced gastric oxidative stress. More importantly, aspirin administration increased plasma and tissue hydrogen peroxide (H₂O₂), free iron and calcium levels while the ACAE pre-treatment reversed all aspirin-induced intracellular mediators disturbance. The results of the present study clearly indicated that AEAC gastroprotection might be related, at least in part, to its antioxidant properties as well as to various gastric mucosal defense mechanisms, including the protection of gastric sulfhydryls and an opposite effect on some intracellular mediators such as free iron, hydrogen peroxide, and calcium. However, our data confirm the use of *Artemisia campestris* extracts in the Tunisian traditional folk medicine for the treatment of gastrointestinal diseases.

Keywords : gastric ulcer, *Artemisia campestris*, oxidative stress, sulfhydryl groups, Fenton reaction, rat

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