

A potential anti-ulcer herb medicine: Rocket 'Eruca sativa'

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Gastric ulcer is an illness that affects a considerable number of people worldwide. Although the introduction of proton-pump inhibitors to the classic anti-ulcer therapy has revolutionized treatment of peptic ulcers and other gastrointestinal disorders, there is still no complete cure for this disease. It has been shown that long term use of these drugs leads to various adverse and side effects. Relapses of the malady, ineffectiveness of different drug regimens and even resistance to drugs are emerging.

Thus, there is an urgent requirement to identify more effective and safe anti-ulcer agents. In recent years, Rocket "*Eruca sativa* L." (EER), a member of the *Brassicaceae* family, has gained greater importance as a salad vegetable and spice, especially among Middle Eastern populations and Europeans. It is believed that plants belonging to the *Brassicaceae* family possess diversified medicinal and therapeutic properties including inhibition of tumorigenesis, anti-ulcer, and hepatoprotective activities.

A research team led by Dr Syed Rafatullah from Saudi Arabia validated the gastric anti-ulcer properties of EER on experimentally-induced gastric secretion and ulceration in albino rats. Their study will be published on April 28, 2009 in the *World Journal of Gastroenterology*.

In this study, gastric acid secretion studies were undertaken using pylorus-ligated rats. Gastric lesions in the rats were induced by noxious chemicals including ethanol, strong alkalis, indomethacin and hypothermic restraint stress. The levels of gastric wall mucus (GWM), nonprotein sulfhydryls (NP-SH) and malondialdehyde (MDA) were also

measured in the glandular stomach of rats following ethanol administration. The gastric tissue was also examined histologically. The extract was used in two doses (250 and 500 mg/kg body weight) in all experiments.

They found that the ethanolic extract of EER significantly and dose-dependently reduced the basal gastric acid secretion, titratable acidity and ruminal ulceration. Rocket extract significantly attenuated gastric ulceration induced by necrotizing agents (80% ethanol, 0.2 mol/L NaOH, 25% NaCl), indomethacin and hypothermic restraint stress. The anti-ulcer effect was further confirmed histologically. On the other hand, the extract significantly replenished GWM and NP-SH levels, as well as the MDA level significantly reduced by extract pretreatment.

They concluded that EER extract possesses antisecretory, cytoprotective, and anti-ulcer activities against experimentally-induced gastric lesions. The anti-ulcer effect is possibly through prostaglandin-mediated activity and/or through its anti-secretory and antioxidant properties.

More information: Alqasoumi S, Al-Sohaibani M, Al-Howiriny T, Al-Yahya M, Rafatullah S. Rocket "Eruca sativa ": A salad herb with potential gastric anti-ulcer activity. *World J Gastroenterol* 2009; 15(16): 1958-1965

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