

## Healing effect of Licorice extract in acetic acid-induced ulcerative colitis in rat

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**Background and Aims:** Licorice extract from the roots of *Glycyrrhiza glabra* L. (Fabaceae) is one of the medicinal plants that are widely used for centuries for its anti-inflammatory and antiulcer activities. Licorice has been shown to have great antioxidant and free-radical scavenging activities. The purpose of this study is to evaluate the healing effect of licorice extract in acetic acid-induced ulcerative colitis (UC) in rats.

**Methods:** Different doses of Licorice extract (50, 100mg/kg/day orally and 50, 100 mg/kg/day intra-colonic) and Mesalazine (20 mg/kg/day) were administered for 7 days after the induction of colitis. The efficacy of Licorice was studied by macroscopical and histological scoring systems. Serum levels of TNF- $\alpha$ , NO, IL-6 and mucosal content of superoxide dismutase (SOD) were assayed.

**Results:** Treatment with Licorice attenuated macroscopic damage as compared with acetic acid ( $P < 0.01$ ). Histological analysis showed that Licorice improved the microscopic structure of the colonic mucosa. Administration of Licorice effectively increased SOD enzymatic defense system. TNF- $\alpha$ , NO and IL-6 levels were also diminished dose dependently ( $P < 0.05$ ). All these parameters were comparable to the standard mesalazine.

**Conclusions:** Results showed a valuable effect of Licorice extract against acetic acid-induced UC possibly by its antioxidant and anti-inflammatory properties.

**Keywords:** Licorice extract; Ulcerative colitis; Rat