



Research article

Evaluation of the anti-ulcer effect of *Aerva javanica* aerial parts against ethanol-induced gastric lesions in albino rats

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Abstract

The aim of this study was introducing the *Aerva* plant especially the species *javanica* as an anti-ulcer agent for ethanol-induced gastric mucosal lesions and evaluating its impact to strengthen the stomach self-defense mechanisms. The idea of the study was based on the comparison between the effect of the prophylactic treatment of the plant and the therapeutic one versus the effect of the anti-ulcer drug; ranitidine. Antioxidant parameters such as reduced glutathione (GSH), nitric oxide (NO) and malondialdehyde (MDA) in stomach tissue were determined. Anti-ulcer parameters were also estimated such as titrable acidity in stomach in addition to detecting the severity and the number of lesions in stomach mucosa. Serum prostaglandins (PGE₂), heat shock protein 70 (HSP70) and lactate dehydrogenase enzyme (LDH) were measured. Results obtained in the present study indicated that the therapeutic effect of the plant was more effective than the prophylactic one. The plant possessed healing and antioxidant properties. This observation manifested itself in normalizing the titrable acidity and decreasing the severity and the number of gastric lesions in stomach mucosa, especially in the therapeutic group. The plant positively affected the level of GSH, MDA in stomach tissue besides improving the serum levels of PGE₂, HSP70, and NO in stomach tissue. The plant also showed a strong controlling effect on the leakage of LDH into serum as a result of ulcers formation. Therefore, the plant *Aerva Javanica* aerial parts (as a prophylactic or therapeutic treatment) can be considered a potential new natural agent therapy described for ethanol-induced gastric ulcer cases.