

# **Protective effects of Ginkgo Biloba extract on the ethanol-induced gastric ulcer in rats.**

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## **Abstract**

AIM: To evaluate the preventive effect of Ginkgo biloba extract (GbE) on ethanol-induced gastric mucosal injuries in rats. METHODS: Female Wistar albino rats were used for the studies. We randomly divided the rats for each study into five subgroups: normal control, experimental control, and three experimental groups. The gastric ulcers were induced by instilling 1 mL 50% ethanol into the stomach. We gave GbE 8.75, 17.5, 26.25 mg/kg intravenously to the experimental groups respectively 30 min prior to the ulcerative challenge. We removed the stomachs 45 min later. The gastric ulcers, gastric mucus and the content of non-protein sulfhydryl groups (NP-SH), malondialdehyde (MDA), c-Jun kinase (JNK) activity in gastric mucosa were evaluated. The amount of gastric juice and its acidity were also measured. RESULTS: The findings of our study are as follows: (1) GbE pretreatment was found to provide a dose-dependent protection against the ethanol-induced gastric ulcers in rats; (2) the GbE pretreatment afforded a dose-dependent inhibition of ethanol-induced depletion of stomach wall mucus, NP-SH contents and increase in the lipid peroxidation (increase MDA) in gastric tissue; (3) gastric ulcer induced by ethanol produced an increase in JNK activity in gastric mucosa which also significantly inhibited by pretreatment with GbE; and (4) GbE alone had no inhibitory effect on gastric secretion in pylorus-ligated rats. CONCLUSION: The finding of this study showed that GbE significantly inhibited the ethanol-induced gastric lesions in rats. We suggest that the preventive effect of GbE may be mediated through: (1) inhibition of lipid peroxidation; (2) preservation of gastric mucus and NP-SH; and (3) blockade of cell apoptosis.