Effects of Ginkgo biloba extract on cytoprotective factors in rats with duodenal ulcer

方嘉郎

Chao Jane CJ;Hung HC;Chen SH;Fang CL;

摘要

Abstract

AIM: To investigate the effects of Ginkgo biloba extract on cytoprotective factors in rats with duodenal ulcer.METHODS: Sprague-Dawley rats were randomly divided into four groups: sham operation without ginkgo, sham operation with ginkgo, duodenal ulcer without ginkgo, and duodenal ulcer with ginkgo. Rats with duodenal ulcer were induced by 500 mL/L acetic acid. Rats with ginkgo were intravenously injected with Ginkgo biloba extract from the tail at a dose of 0.5 mg/(kg.d) for 7 and 14 days.RESULTS: Pathological result showed that duodenal ulcer rats with ginkgo improved mucosal healing and inflammation compared with those without ginkgo after 7 d treatment. After 14 d treatment, duodenal ulcer rats with ginkgo significantly increased weight gain (34.0±4.5 g versus 24.5 ±9.5 g,P＜0.05) compared with those without ginkgo. Duodenal ulcer rats significantly increased cell proliferation (27.4l±4.0and 27.8±2.3 BrdU-labeled cells in duodenal ulcer rats with and without ginkgo versus 22.4±3.5 and 20.8±0.5 BrdUlabeled cells in sham operation rats with and without ginkgo,P＜0.05) compared with sham operation rats. Mucosal prostaglandin E2 concentration significantly increased by 129% (P＜0.05) in duodenal ulcer rats with ginkgo compared with that in those without ginkgo. Duodenal ulcer rats without ginkgo significantly decreased superoxide dismutase activity in the duodenal mucosa and erythrocytes (19.4±6.7 U/mg protein versus 38.1±18.9 U/mg protein in the duodenal mucosa,and 4.87±1.49 U/mg protein versus 7.78±2.16 U/mg protein in erythrocytes, P＜0.05) compared with sham operation rats without ginkgo. However, duodenal ulcer rats with ginkgo significantly increased erythrocyte superoxide dismutase activity (8.22±1.92 U/mg protein versus 4.87±1.49 U/mg protein,P＜0.05) compared with those without ginkgo. Duodenal ulcer rats without ginkgo significantly increased plasma lipid peroxides (4.18±1. 12 μmol/mL versus 1.60±1.10 μmol/mL and 1.80±0.73 μmol/mL, P＜0.05) compared with sham operation rats without ginkgo and duodenal ulcer rats with ginkgo during the experimental period.CONCLUSION: Ginkgo biloba extract

can improve weight gain and mucosal healing in duodenal ulcer rats by the actions of cytoprotection and antioxidation.