

ABSTRACT

EFFECT OF FLUVOXAMINE ON HEALING OF GASTRIC MUCOSA FROM STRESS-INDUCED ULCER IN MICE

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Gastric ulcer is a localized lesion of gastric mucosa caused by necrotic mucosa, and appears as erosion or ulcer. Gastric ulcer is caused by an imbalance of aggressive factors (gastric acid, pepsin) and protective factors (bicarbonate, NO, mucin, prostaglandin). Stress is a factor contributing in imbalance of aggressive and protective factors. The last study showed that administered fluvoxamine before induced stress decreased stress induced gastric ulcer.

The objective of this research was to investigate the effect of antidepressant fluvoxamine on healing gastric mucosa from stress induced ulcer based on ulcer area, intraluminal bleeding and histology of gastric. Water immersion plus restraint stress method was used to induce gastric ulcer. Mice were restrained in a 50-ml syringe for 6 hours and fluvoxamine 100 mg/kgBW was orally administered 30 minutes after the stress. Mice were sacrificed at 0, 6 and 18 hours after the stress.

This study showed that fluvoxamine 100 mg/kgBW inhibited gastric mucosa healing process. Ulcer area and intraluminal bleeding significantly decreased at 18 hours after stress in the fluvoxamine group, compared to vehicle group, ulcer area and intraluminal bleeding significantly decreased at 6 hours after stress. According to morphology of gastric mucosa, erosion of gastric mucosa at 6 hours after stress in vehicle group were lesser than in fluvoxamine group. This effect might be due to mechanism of fluvoxamine on inhibition of platelet activation on hemostasis, increased gastric acid secretion via vagal activity by activation of 5-HT₃ receptor, inhibition of proliferation cell and induced apoptosis.

Keywords: Fluvoxamine, gastric ulcer, mucosa, stress