



## Effects of electro-acupuncture on 5-HT, NOS and the gastric mucosa of stress rats

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### Abstract

**AIM:** To study the effects of electro-acupuncture (EA) on 5-hydroxytryptophan (5-HT) levels, nitrous oxide (NOS) levels, nitric oxide (NO) levels, and the gastric mucosa in stress rats.

**METHODS:** The changes of 5-HT and NOS were measured in the gastric mucosa, and NO and 5-HT were measured in the serum by biochemical methods. The gastric mucosa was examined pathohistologically in the stress rats with gastric mucosa damage

after EA. The changes before and after stress by EA were compared.

**RESULTS:** EA decreased the gastric mucosa damage index in the stress rats ( $2.71 \pm 0.40$  to  $1.86 \pm 0.69$ ,  $P < 0.01$ ). EA normalized NOS level in gastric mucosa to the control group. The changes before stress by EA was more obvious than that after stress. EA lowered the 5-HT levels in the gastric mucosa ( $\mu\text{g/g}$  wet weight,  $6.91 \pm 3.08$  to  $4.51 \pm 1.62$ ,  $P < 0.01$ ). EA recovered the NO level in serum of the stress rats ( $\mu\text{mol/L}$ ,  $5.78 \pm 1.49$  to  $7.91 \pm 1.11$ ,  $P < 0.05$ ), and increased the levels of 5-HT and 5-hydroxyindoleacetic acid (5-HIAA) in serum continuously.

**CONCLUSION:** EA stimulation normalizes the NOS and NO levels in the gastric mucosa of stress rats. EA also lowers the high 5-HT levels and induces NO release.

**Key words:** Electroacupuncture; Serotonin/acu-moxibustion effects; Aminoacid oxidoreductases/acu-moxibustion effects; Gastric mucosa/Acu-moxibustion effects

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