

Experiment of He-Wei-Fang in promoting gastrointestinal motility

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Abstract

AIM: He-Wei-Fang is an effective prokinetic drug of several herbs. In order to develop its usage, the possible pharmacological mechanism was investigated in a model of deceased smooth muscle tension induced by dopamine and a model of gastrointestinal dysmotility induced by L Arginine, which was the precursor of nitric oxide.

METHODS: (1) Male or female rats' smooth muscle strips of gastric fundus were instrumented for the measurement of mean smooth muscle tension in different periods. (2) The gastrointestinal transitional rate of seven groups of mice was recorded after five days of treatment.

RESULTS: (1) Decoction of He-Wei-Fang precipitated with alcohol

reverse the deceased tension of smooth muscle induced by dopamine and its effect was not comparable with metoclopramide. The effect of He-Wei-Fang was partially blocked by atropine but not blocked by Hexamethonium. L-Arginine could cause some decrease in tension of smooth muscle but this effect was not significant. In addition, dopamine could cause a complete relaxation when used He-Wei-Fang first. L-Arginine could eliminate the effect of He-Wei-Fang but did not affect the effect in high concentration. (2) He-Wei-Fang promoted the gastrointestinal transitional rate of mice who was treated with L-Arginine. The medium dose of He-Wei-Fang (20 g/kg) had more significant effect than domperidone (10 mg/kg) in increasing the transitional rate.

CONCLUSION: These results suggest that He-Wei-Fang has considerable effect in promoting gastrointestinal motility and the main part of effect is not *via* the cholinergic nervous. Furthermore, He-Wei-Fang is not the blocker of dopamine receptor. The effect of He-Wei-Fang may be realized suppressing the NANC pathway.

Key words: He-Wei-Fang; NANC; Motility

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