



Investigation of SP, VIP, cGRP levels in gastric antrum of experimental spleen deficiency rats

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Abstract

AIM: To explore the potential role of gastrointestinal peptides in the digestive disorders presented in Spleen Deficiency (SD), we studied substance P (SP), vasoactive intestinal peptide (VIP) and calcitonin gene related peptide (cGRP) levels in duodenum and jejunum tissues of experimental SD rats by radioimmunoassays (RIA).

METHODS: Twenty four adult wistar rats (110-150 g) were used and divided into 4 groups, *i.e.* control group ($n = 6$), experimental SD group ($n = 8$), spontaneous recovery group ($n = 5$) treated with Chinese herbs (Sijunzi Tang). After all the animals of 4 groups were anesthetized, a small piece of duodenum and jejunum tissues

including all layers was removed and processed for RIA.

RESULTS: As compared with control, the ir SP, ir VIP levels in duodenum and jejunum of SD rats were elevated significantly (in duodenum, ir SP $5.63 \pm 2.75 \pm 0.81$, $P < 0.01$; Ir VIP $8.44 \pm 3.30 \pm 5.18 \pm 1.09$, $P < 0.05$. In jejunum, ir SP $5.76 \pm 1.65 \pm 3.39 \pm 1.02$, $P < 0.05$; Ir VIP levels in duodenum and jejunum was found in spontaneous recovery cases. After treated with Sijunzi Tang, the ir SP, ir VIP concentrations in duodenum and jejunum were improved to the levels of control group ($P < 0.05$). As to ir cGRP levels in small intestine, there were no obvious differences among 4 groups except the ir cGRP level in jejunum of therapeutic group was significantly higher than that of SD group ($P < 0.01$).

CONCLUSION: The study suggested that changes of SP, VIP, levels in the small intestine of SD rats may be closely related to some disorders (such as gastrointestinal motility disturbance, malabsorption and diarrhea, *etc.*) presented in SD and the Chinese herbs (Sijunzi Tang) are capable of improving this syndrome significantly.

Key words: Gastrointestinal peptides; Spleen deficiency; Rat

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