The Progress in Clinical and Basic Research of the Effect of Acupuncture in Treating Disorders of Gastrointestinal Motility

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Disorders of gastrointestinal motility are a group of diseases with abnormal gastrointestinal movement of various etiology. In clinical practice drugs with the activity of promoting gastrointestinal motility, such as domperidone and cisapride, were used as the major means of treatment. Acupuncture proved to have a good effect on the diseases. The clinical effect and basic research of acupuncture in treating irritable bowel syndrome, paralytic intestinal obstruction, gastroparesis, non-ulcerative dyspepsia and achalasia etc. were reviewed here in this report.

CLINICAL RESEARCH

Irritable Bowel Syndrome

Irritable bowel syndrome refers to a group of symptoms consisting of abdominal pain, diarrhea and constipation without morphologic or biochemical abnormalities. It is characterized by irritability of intestinal function, and its pathophysiologic basis is abnormal gastrointestinal motility. In traditional Chinese medicine (TCM), it belongs to the category of “diarrhea” which is caused mostly by deficiency of Spleen Qi and Kidney Qi. ZHENG Guanyi et al. (1) reported 30 patients treated with needling at bilateral acupoints Zusanli (ST36) with equal tonification and purgation at the same time everyday, and the effective rate was 90%. LIU Guizhen et al. (2) reported 50 patients treated with acupuncture at Zusanli, Pishu, Ganshu (BL18), Tianshu, Zhongwan and Yinglingquan (SP9) with tonification; (2) 10 patients of disharmony of Liver and Spleen treated with acupuncture on Zusanli, Pishu, Ganshu, Tianshu and Taichong with equal tonification and purgation; (3) 8 cases of deficiency of Spleen and Kidney Yang treated with acupuncture on Zusanli, Pishu, Shenshu, Tianshu, Zhongwan, Mingmen and Taixi (KI3) with warm needling; (4) 8 patients of Dampness-Heat stagnation treated with acupuncture on Zusanli, Pishu, Tianshu, Yanglingquan (GB34) and Zhigou (SI6) with purgation. Western and traditional Chinese medicine was adopted in the control group. It showed that the total effective rate was 85%, compared with 53% in the control group. LIU Dingqing (4) reported 30 cases treated with moxibustion on Zusanli and Tianshu, with 15 cases achieving complete recovery and the total effective rate as 90%. There was a report that 50 cases were treated with vitamin B6 injected in Zusanli for 30 minutes. The treatment lasted for one to six courses. It showed that the therapy achieved complete recovery in 72% and improvement in 96% of all patients, which was significantly different from either acupuncture or psychological method alone.

FU Huaidan (3) reported 40 cases classified as following: (1) 14 patients of deficiency of Spleen Qi and Stomach Qi treated with acupuncture at Zusanli, Pishu, Ganshu (BL18), Tianshu, Zhongwan and Yinglingquan (SP9) with tonification; (2) 10 patients of disharmony of Liver and Spleen treated with acupuncture on Zusanli, Pishu, Ganshu, Tianshu and Taichong with equal tonification and purgation; (3) 8 cases of deficiency of Spleen and Kidney Yang treated with acupuncture on Zusanli, Pishu, Shenshu, Tianshu, Zhongwan, Mingmen and Taixi (KI3) with warm needling; (4) 8 patients of Dampness-Heat stagnation treated with acupuncture on Zusanli, Pishu, Tianshu, Yanglingquan (GB34) and Zhigou (SI6) with purgation. Western and traditional Chinese medicine was adopted in the control group. It showed that the total effective rate was 85%, compared with 53% in the control group. LIU Dingqing (4) reported 30 cases treated with moxibustion on Zusanli and Tianshu, with 15 cases achieving complete recovery and the total effective rate as 90%. There was a report that 50 cases were treated with vitamin B6 injected in Zusanli for 30 minutes. The treatment lasted for one to six courses. It showed that the therapy achieved complete recovery in 72% and improvement in 96% of all patients, which was significantly different from either acupuncture or psychological method alone.

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the function of Spleen-Stomach, eliminates the dysfunction of Spleen-Stomach induced pathological manifestations. Besides, acupuncture with three-tip fire needle at Shenque, the acupoint belonging to Renmai which has a close relation with Spleen, Kidney and Stomach, also did well in treating the irritable bowel syndrome. (6)

**Paralytic Intestinal Obstruction**

Paralytic intestinal obstruction is characterized by disorders of muscle motility function of intestinal wall caused by disorder of intestinal muscle nerves, which leads to disability of intestinal tract and difficulties for intestinal content to pass through it. It often occurs after abdominal operation. In TCM it belongs to the category of "intestinal obstruction" and "Guange", often induced by deficiency of Spleen Qi and disability of gastrointestinal conduction. QIU Xiaoling(7) reported 36 patients treated with needling at bilateral Zusanli, Tianshu, Diji (SP8) and Qihai (RN6). After getting needling sensation Tianshu and Zusanli were connected to electroacupuncture apparatus. The treatment lasted once per day for ten days. Then Astragalus injection at Tianshu and Zusanli was given for another ten days. The therapy was effective in all patients. MA Tianwei(8) reported 43 cases of post-operational paralytic intestinal obstruction treated by acupuncture together with ear points sticking and pressing. Bilateral Zusanli, Neiguan and Hegu (LI4) were selected for acupuncture; acupoint Gongsun (SP4) was also selected for patients with vomiting. Equal tonification and purgation was adopted at Neiguan and Zusanli, and rotating purgation was adopted at Hegu and Gongsun. After acupuncture, seeds of vaccaria were pressed at Shenmen (HT7), stomach, sympathetic and colon of ear points. Complete recovery was achieved in 31 cases and improvement was achieved in 11 cases. YANG Chengchang(9) reported 46 patients treated with electroacupuncture at Tianshu and Zusanli accompanied with two to three other acupoints among Shangwan (RN13), Zhongwan, Xiawen (RN10), Guanyuan (RN4), Shenmen, Neiguan, Sanyinjiao (SP6) and Neiting (ST44), rotating tonification and purgation was adopted, at the same time, moxibustion at Shenque also used. The rate of complete recovery was 66%. In the above research a lot of acupoints cooperated together to supply and benefit Spleen and Stomach Qi, and to improve gastrointestinal transportation.

**Gastroparesis**

Gastroparesis is characterized by delayed gastric evacuation, usually complicated with diabetes mellitus and gastric operation. The etiology is mainly related to disharmony of gastrointestinal movement, reduced compliance of gastric wall and abnormal gastroelectric activity. According to TCM it is caused by deficiency of Qi and blood, damage of Spleen and Stomach, together with Liver Qi interfering Stomach and stagnation of Liver and Stomach Qi which were induced by psychic factor. MA Chengfu(10) reported 38 patients treated with needling at bilateral Zusanli, Shousanli (LI10) and gastric area on the ear points, and 27 of the 38 cases achieved complete recovery. ZHAO Yi(11) reported 21 patients of post-operational mild gastric paralysis injected with neostigmin alternately at bilateral Zusanli and Neiguan, and 17 cases achieved complete recovery. In recent research on mild gastric paralysis induced by peripheral nerve lesion of diabetes mellitus, needling at Zusanli, Pishu, Shenshu, Yiming (EX-HN14), Feishu (BL13) and Taixi together with moxibustion at Quchi (LI11) and Zusanli proved to be able to relieve symptoms of most of the patients, with the effective rate as over 90%. (12)

**Non-Ulcerative Dyspepsia**

Non-ulcerative dyspepsia is mainly characterized by upper abdominal discomfort. The major symptoms include vague upper abdominal pain, abdominal inflation, belching, heartburn, anorexia and alternatively by constipation and diarrhea. The major reason is disability of upper gastrointestinal movement. It belongs to the category of “stomach pain” in TCM, of which deficiency-Cold syndrome of Spleen and Stomach, the major type, is related most closely to imperfect gastric motility. (13)