

Clinical Study on the Effect of Acupuncture and Moxibustion with the Method of Acupoints on the Treatment of Chronic Gastritis with Sleep Disorder

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Abstract: Objective: To explore the clinical effect of acupuncture and moxibustion with acupoints on the treatment of chronic gastritis with sleep disorders.

Methods: Sixty patients with chronic gastritis and sleep disorders in our hospital from January 2018 to January 2019 were selected and recruited. These patients were divided into two groups, namely the control group and experimental group by using random number table method. Each group consisted of 30 cases. The control group was treated with conventional drugs, whereas the observation group was treated with acupuncture and moxibustion with acupoints on top of the treatment prescribed for the patients in control group. The TCM syndrome score, gastrin level, and sleep quality level were compared between the two groups. **Results:** After four weeks of treatment, the Traditional Chinese Medicine (TCM) symptom score, gastrin level, and Pittsburgh Sleep Quality Index (PSQI) score in the observation group were lower than those in the control group, and the differences were statistically significant ($P < 0.05$). **Conclusion:** Acupuncture and moxibustion with acupoints can improve TCM symptom scores, reduce gastrin levels, and improve sleep quality in patients with chronic gastritis and sleep disorders.

Keywords: Chronic gastritis with sleep disorders; Acupuncture and moxibustion coupled with acupoints; gastrin level; sleep quality; Traditional Chinese Medicine (TCM) symptom score

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Chronic gastritis is a chronic inflammation or contractile lesion of the gastric mucosa caused by a variety of causes, and this pathological condition can be classified into three main types, i.e. non-atrophic, atrophic and special types^[1]. Most patients with chronic gastritis may have no obvious clinical symptoms, and those with symptoms are mainly nonspecific dyspepsia, and some are accompanied by recurrent sleep disturbances; and the above conditions are often exacerbated by sleep disturbances, forming a vicious cycle and seriously impairing the physical and mental health of patients^[2]. The current treatment of chronic gastritis focuses on the administration of acid suppressants or gastric mucosal protective agents, and sleep-promoting drugs for sleep disorders. Although satisfactory clinical treatment results can be obtained in a short period of time, the natural course of gastritis cannot be changed. It also has a poor effect on improving sleep quality, and relapses often occur after discontinuation of drugs. At present, acupuncture which is an approach of traditional Chinese medicine is becoming more widely used as a treatment in chronic diseases, and it has achieved certain therapeutic effects. Based on this, this study explores the clinical efficacy of acupuncture and moxibustion coupled with acupoints in the treatment of chronic gastritis with sleep disorders.

1 Materials and methods

1.1 Baseline characteristics

Sixty patients with chronic gastritis and sleep disorders in our hospital from January 2018 to January 2019 were selected and recruited. These patients were divided

into two groups, namely control group and observation group by the random number table method. Each group consisted of 30 individuals. In the observation group, there were 15 male patients and 15 female patients who were aged 35 – 80 years, with an average age of 50.01 ± 2.12 years. These research subjects had chronic gastritis with a duration of 5 months to 3 years, with an average duration of 1.53 ± 0.15 years. On the other hand, there were 16 male patients and 14 female patients who were aged 36 – 79 years, with an average age of 50.46 ± 2.19 years in the control group. The patients in the control group had chronic gastritis for a duration of 6 months to 3.5 years, with an average duration of 1.59 ± 0.12 years. There was no significant difference in the basic data between control group and observation group ($P > 0.05$), and the studies were comparable. This study was approved by the Medical Ethics Committee.

1.2 Selection criteria

Inclusion criteria: Western medicine diagnosis of non-atrophic gastritis in chronic gastritis meets the "Internal Medicine" [3] criteria; Sleep Quality Index (PSQI) score ≥ 16 points. The diagnosis of traditional Chinese medicine complies with the Standards for the Diagnosis, Syndrome and Therapeutic Effect of Integrated Traditional Chinese and Western Medicine for Chronic Gastritis (Trial Scheme) [4]. Hepatic and gastric disharmony syndromes. Manifesting main symptoms such as gastric bloating or pain; fullness of the ribs; pain. Secondary symptoms: Symptoms are induced or exacerbated by emotional factors; Freckles frequently occur. Tongue pulse: The tongue is reddish and the moss is thin and white; the pulse string; informed consent was obtained from the patients and their family.

Exclusion criteria: patients with heart, liver, kidney and other organ diseases; poor body tolerance; patients with malignant tumors; patients with coagulopathy; other cardiovascular diseases; infectious diseases; immune system diseases.

1.3 Method

1.3.1 Control group

The patients in the control group were given conventional drug treatment and oral omeprazole enteric-coated capsules (Hunan Dinuo Pharmaceutical Co., Ltd., National Medicine Standard H43021416). The capsules were taken 20m each time and two times per day. If *H. pylori* was detected, the dose of

oral amoxicillin (Kangpu Pharmaceutical Co., Ltd. H43021396) was increased to 1 g each time and the antibiotic was taken two times per day. Metronidazole (Hu Beibaobao Pharmaceutical Co., Ltd., H42020752) was taken 0.4 g each time and two times per day. To treat sleep disorders, oral Bailemian capsules (Yangzijiang Pharmaceutical Group Co., Ltd., Chinese Medicine Standard Character Z20020131) were taken; four capsules each time and two times per day. The treatment was continued for four weeks.

1.3.2 Observation group

On top of the treatments applied to the patients in the control group, acupuncture and moxibustion coupled with acupoints were added to the patients in the observation group. Chronic gastritis: first take the main points, including Zhongli, Weishu, Zusanli, with Ganshu and Qimen points. Weishu point was targeted with vertical piercing with an insert needle with 0.5 – 1 inch. Middle iliac crest was also pierced vertically for exactly three *li* by insert a needle with 1.2 – 1.5 inch. After each point gets qi, use flat tonic and diarrhea method, then use wormwood to put needle handle to ignite the warm needle, leave needle aside for 30 min. Sleep disorders: Select points such as Ganyu, Qimen, Neiguan, Gongsun, Shenmen, and Sishencong, The Sishacong point was pierced horizontally for 0.5 – 1 inch. The Qimen point was pierced horizontally for 0.6 – 0.7 inch. The Ganyu point was pierced with inclination for 0.4 – 0.7 inch. The needle was pierced right through into Neiguan, Gongsun, Shenmen points for 0.5 – 1 inch. After acupuncture at all points, the method of *Pingxie* was used. The treatment for one week is considered a course of treatment. The treatment was administered five times per week, and the treatment was continued for four weeks.

1.4 Evaluation Index

(1) TCM Symptom Score: Refer to the "Guidelines for Clinical Research on New Medicines of Traditional Chinese Medicine" to evaluate the TCM symptom score four weeks before and after the treatment, and divide the main symptoms into four levels from mild to severe, 0 – 4 points from asymptomatic to severe; the presence or absence of secondary symptoms is 1 and 0 points respectively [5]. The sum of the points was calculated. A higher total point indicates a more severe condition. (2) Sleep quality: The internationally-used Pittsburgh Sleep Quality Index Scale (PSQI) [6] score was used to assess sleep quality 4 weeks before and after the treatment.

The sleep quality is considered very good on a scale of 0 – 5, satisfactory on a scale of 6 – 10, normal on a scale of 11 – 15 points, and very poor on a scale of 16 – 21 points. (3) Gastrin levels: Before the treatment and at 7 – 8 am in the morning after the treatment, 5 – 6 ml of venous blood was collected from two groups of patients under fasting conditions and kept in a test tube containing 60 μ l of aprotinin and 40 μ l of 10% EDTA. The blood specimens were then centrifuged at 3500 rotations per min for 15 min. The upper serum was acquired and then stored in a refrigerator at -20°C for later use. Radioimmunoassay was used to detect the gastrin level. The immunological kit was provided by Beijing North Reagent Research Institute.

1.5 Statistical analysis

Statistical Package for Social Sciences (SPSS), version

20, was used in the present study. Categorical data were expressed as percentages and number of cases. Comparison between groups involving the categorical data was performed using Chi-squared test. Quantitative data were expressed as $\bar{x} \pm s$. Comparison between groups involving the quantitative data was performed using the *t* test. The difference with $P < 0.05$ was considered statistically significant.

2 Results

2.1 TCM symptom scores

After four weeks of treatment, the observation group had lower TCM symptom scores in the control group, and the difference was statistically significant ($P < 0.05$). (Table 1).

Table 1. Comparison of Traditional Chinese Medicine (TCM) Symptom scores between control group and observation group ($\bar{x} \pm s$, scores)

Group	Before the treatment	After the treatment	<i>t</i>	<i>P</i>
Control group (n=30)	12.13 \pm 1.38	8.63 \pm 1.44	9.612	0.000
Observation group (n=30)	12.03 \pm 1.42	4.73 \pm 1.42	19.910	0.000
<i>t</i>	0.277	10.562	-	-
<i>P</i>	0.783	0.000	-	-

2.2 PSQI score

After four weeks of treatment, the PSQI score of the

observation group was lower than that of the control group, and the difference was statistically significant ($P < 0.05$). (Table 2).

Table 2. Comparison of Pittsburgh Sleep Quality Index (PSQI) scores between the control group and observation group ($\bar{x} \pm s$, score)

Group	Before the treatment	After the treatment	<i>t</i>	<i>P</i>
Control group(n=30)	16.55 \pm 1.22	8.45 \pm 1.16	26.354	0.000
Observation group(n=30)	16.15 \pm 1.33	4.88 \pm 1.52	30.563	0.000
<i>t</i>	1.214	10.227	-	-
<i>P</i>	0.230	0.000	-	-

2.3 Gastrin level

After the end of four weeks of treatment, the gastrin

level in the observation group was lower than that in the control group, and the difference was statistically significant ($P < 0.05$). (Table 3).

Table 3. Comparison of gastrin levels between control group and observation group($\bar{x} \pm s$, ng/L)

Group	Before the treatment	After the treatment	<i>t</i>	<i>P</i>
Control group(n=30)	168.11±15.22	136.39±5.36	10.767	0.000
Observation group(n=30)	168.17±15.65	102.18±5.66	21.719	0.000
<i>t</i>	0.015	24.037	-	-
<i>P</i>	0.988	0.000	-	-

3 Discussion

Chronic gastritis damages the function of the digestive system, and then causes complications such as bad breath, foul breath, and malnutrition, which affect normal interpersonal communication, reduce normal work and quality of life, and damage physical and mental health. Conventional western medicine treatment has certain limitations for chronic gastritis, so the diagnosis and treatment of integrated traditional Chinese and western medicine is getting more widely used in clinical medicine.

According to the Chinese medicine, the stomach is physiologically compatible with harmony, and pathologically the disease in stomach is caused by stagnation. The disease is mainly related to weak spleen and stomach, emotional disorders, eating disorders, drugs, external evils (e.g. *Helicobacter pylori* infection), etc. These factors are related to the abovementioned factors that damage the spleen and stomach, cause dysfunction, and cause abnormal movements. *Qi* stagnation, dampness, cold coagulation, fire depression, blood stasis, etc. are manifested in symptoms such as stomach pain and fullness^[7]. The pathogenesis of chronic gastritis can be divided into two aspects: the deficiency of the essence and the reality. The deficiency of the essence mainly includes the deficiency of the spleen (*yang*) and the deficiency of the stomach. The manifestation of the deficiency mainly includes *qi* stagnation, damp heat and blood stasis which are the factors leading to the pathogenesis of diseases^[8]. Gastritis in patients with sleep disorders is mainly due to stomach stagnation, stagnation of food, phlegm and heat disturbing the mind, making the mind unconscious. Acupuncture belongs to the category of traditional Chinese medicine, including acupuncture and moxibustion. Acupuncture is based on the theory of traditional Chinese medicine meridians, which select a certain acupuncture angle and twists, turns,

lifts, inserts and other methods to insert acupuncture into the patient's body to stimulate acupuncture points to achieve the purpose of treatment. In the clinical treatment of traditional Chinese medicine acupuncture, Yu acupoints and Mu acupoints are some of the acupuncture points that are commonly used in acupuncture. Clinically, Yu acupoints and Mu acupoints are not only specifically connected with the viscera and meridians, but also closely related to the pathology of each viscera. When the disease occurs, there are often reactions in Yu points and Mu points^[9]. Zhongyu is the main acupuncture point on Renmai, which can reconcile stomach *qi*, reduce adverse effects, and eliminate fullness of *qi*; Zusanli, Shenmen, and Sishencong acupoints have good results in treating insomnia; Weishu acupoints are commonly used to treat gastric diseases. Acupoints can improve the function of gastric belching, nourish stomach *qi*, dehumidify and stagnate, and reduce swelling and fullness^[10]. Zhongyu combined with Weishu may not only help the stomach *qi* and strengthen the gastric belching function, but also dredge the gastric *qi* and ventricular stagnation. In addition, neiguan acupoints can calm the mind, calm the *qi* and help with the sleep; Qimen acupoints can relieve liver and spleen, relieve depression by regulating *Qi*; Gongsun acupoint plays a very good role in the treatment of spleen and stomach disease. After 4 weeks of treatment in the present study, the TCM symptom score, gastrin level, and PSQI score of the observation group were lower than those of the control group. This indicates that acupuncture and moxibustion coupled with Yumu acupoint can improve TCM symptom scores, reduce gastrin levels, and improve sleep quality in patients with chronic gastritis with sleep disorders.

In summary, the treatment involving acupuncture and moxibustion coupled with acupoints in patients with chronic gastritis and sleep disorders has better effect, and this treatment can significantly improve the TCM

symptom score, reduce gastrin levels, and improve sleep quality.

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