

Study on the Effect of Sini Powder and Huatan Xiaoyu Decoction Combined in the Treatment of Whole Stomach Gastritis with Precancerous Lesions

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Abstract: *Objective:* To analyze the combined effect of Sini Powder and Huatan Xiaoyu Decoction in treating whole stomach gastritis with precancerous stomach lesions. *Methods:* 138 patients with whole stomach gastritis with precancerous lesions of the stomach admitted to the hospital from January 2021 to June 2024 were selected. According to the difference in treatment methods, they were divided into the study group (Sini Powder, Huatan Xiaoyu Decoction combined treatment) and the control group (Huatan Xiaoyu Decoction treatment), with 69 cases in each. *Results:* The curative effect and negative rate of *Helicobacter pylori* in the study group were significantly higher than those in the control group ($P < 0.05$); the TCM syndrome score and carcinoembryonic antigen and carbohydrate antigen 125 in the study group were lower ($P < 0.05$). *Conclusion:* The treatment of patients with whole stomach gastritis with precancerous gastric lesions can be improved by using Sini Powder combined with Huatan and Xiaoyu Decoction.

Keywords: Sini Powder; Huatan and Xiaoyu Decoction; Chronic atrophic gastritis; Precancerous gastric lesions

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1. Introduction

Chronic gastritis, especially chronic atrophic gastritis, is one of the common diseases of the digestive system. It is clinically characterized by the inflammatory response of the gastric mucosa and has a risk of progression^[1]. At present, it is believed that the continuous development of chronic atrophic gastritis can lead to gastric mucosal atrophy, resulting in pathological states such as intestinal metaplasia, which not only indicates the malignant progression of the disease but also can be regarded as the manifestation of precancerous gastric lesions. The occurrence of gastric cancer is closely related to mechanisms such as chronic inflammation, atrophy, and intestinal metaplasia. In order to reduce the risk of gastric cancer, for patients with chronic atrophic gastritis and

precancerous gastric lesions, it is necessary to actively block and reverse the relevant mechanisms, to prevent the occurrence of gastric cancer. Western medicine is effective in treating this disease, but there are problems of drug safety and drug resistance. Traditional Chinese medicine believes that atrophic gastritis with precancerous lesions of the stomach can be classified as “epigastric pain” and other categories. The incidence of this disease is mostly related to weakness of the spleen and stomach and stagnation of Qi and blood. The treatment of this disease should be mainly to eliminate blood stasis and strengthen the spleen and stomach [2]. Sini Powder and Huatan Xiaoyu Decoction are common traditional Chinese medicine formulas for the treatment of the digestive system at present and have the functions of strengthening the spleen and nourishing Qi. This time, 138 patients with total gastritis with precancerous lesions of the stomach admitted to the hospital from January 2021 to June 2024 were selected to explore the clinical value of the combined treatment of Sini Powder and Huatan Xiaoyu Decoction.

2. Materials and methods

2.1. General data

138 patients with total gastritis and precancerous lesions of the stomach admitted to our hospital from January 2021 to June 2024 were selected. Among them, there were 50 males and 19 females in the study group, aged 36–60 years old, with an average age of (48.00 ± 3.74) years old. In the control group, there were 42 males and 27 females, aged 35–60 years old, with an average age of (48.10 ± 3.54) years old. This study was reviewed and approved by the hospital ethics committee. The general data of the two groups of patients could be compared, $P > 0.05$.

2.2. Inclusion and exclusion criteria

Inclusion criteria: (1) Meet the diagnostic criteria of chronic atrophic gastritis [1]; (2) Meet the diagnostic criteria of traditional Chinese medicine gastritis [2]; (3) Clear cognition and no history of drug allergy.

Exclusion criteria: (1) Cognitive impairment; (2) Other gastrointestinal diseases; (3) Targeted severe organ damage.

2.3. Methods

Both groups were given conventional quadruple therapy, including basic treatment of anti-inflammatory, antibacterial and acid suppression. Control group increased the phlegm and blood stasis removal decoction treatment: group prescription tangerine peel, banxia, curcuma, chicken neijin and puhuang powder each 10 g, fried coix seed 30g, *Poria cocos*, half branch lotus and snake tongue grass, cranium and Zidanshen each 15 g, 1 daily dose, 2000 mL water decoction, day and night each 1 time, 300 mL/time. The study group further increased Sini powder, phlegm and blood stasis removal decoction combined treatment: group: based on phlegm and blood stasis removal decoction group, increase 5 g of Bupleurum, aurantium, white peony each 10 g, hot licorice 3 g, 1 daily dose, 2000 mL water decoction, morning and evening warm 1 time, 300 mL/time. Both groups continued treatment for 4 weeks.

2.4. Observational indicators

- (1) Efficacy: After treatment, gastroscopy, clinical symptoms disappeared completely, and *H. pylori* turned negative, which was markedly effective; gastroscopy reduced the ulcer surface by $\geq 50\%$, and the

symptoms improved, and *H. pylori* did not improve, which was effective; gastroscopy reduced the ulcer surface by < 50%, and the symptoms and *H. pylori* test results did not improve, which was ineffective. The curative effect was counted by the number of markedly effective and effective cases.

- (2) The TCM syndrome points were evaluated with reference to the “Guiding Principles for Clinical Research of New Chinese Medicine.” The lower the score, the better.
- (3) Fasting venous blood of 2nmL was collected, and carcinoembryonic antigen and carbohydrate antigen 125 were detected by enzyme-linked immunosorbent assay.
- (4) The negative rate of *H. pylori* was evaluated by a 14 C breath test.

2.5. Statistical analysis

Using SPSS 23.0 analysis, measurement data conformed to normal distribution, expressed as mean ± standard deviation (SD), by *t* test, count data by χ^2 test, expressed as (%), the difference was statistically significant $P < 0.05$.

3. Results

3.1. Comparison of curative effect between the two groups

The curative effect of the study group was significantly higher than that of the control group ($P < 0.05$) (Table 1).

Table 1. Comparison of curative effect between the two groups [*n* (%)]

Groups (<i>n</i>)	Markedly effective	Effective	Ineffective	Total effective
Research group (<i>n</i> = 69)	39 (56.52)	27 (39.13)	3 (4.35)	66 (95.64)
Control group (<i>n</i> = 69)	27 (39.13)	31 (44.93)	11 (17.94)	58 (82.06)
χ^2				88.876
<i>P</i>				< 0.001

3.2. Comparison of TCM syndrome scores

The TCM syndrome scores of the study group were lower ($P < 0.05$) (Table 2).

Table 2. Comparison of TCM syndrome scores (mean ± SD, scores)

Groups (<i>n</i>)	Before treatment	2 weeks of treatment	4 weeks of treatment
Research group (<i>n</i> = 69)	19.45 ± 2.41	13.23 ± 1.12*	10.23 ± 1.11*
Control group (<i>n</i> = 69)	19.52 ± 2.61	15.53 ± 1.24*	12.31 ± 1.05*
<i>t</i>	0.164	11.444	28.813
<i>P</i>	0.870	< 0.001	< 0.001

Note: Comparison before and after treatment within the same group in the table, * $P < 0.05$.

3.3. Comparison of laboratory indicators between the two groups

The carcinoembryonic antigen and carbohydrate antigen 125 were lower in the study group ($P < 0.05$) (Table 3).

Table 3. Comparison of laboratory indicators between the two groups (mean ± SD)

Groups (n)	Carbohydrate antigen 125 (U/mL)		Carcinoembryonic antigen (ng/mL)	
	Before treatment	After treatment	Before treatment	After treatment
Research group (n = 69)	58.65 ± 3.11	18.23 ± 2.41*	40.52 ± 3.11	10.23 ± 1.01*
Control group (n = 69)	58.52 ± 3.14	22.34 ± 3.51*	40.51 ± 3.15	15.23 ± 2.11*
<i>t</i>	0.244	8.018	0.019	17.755
<i>P</i>	0.807	< 0.001	0.985	< 0.001

Note: Comparison before and after treatment within the same group in the table, * $P < 0.05$.

3.4. Conversion rate comparison

The *H. pylori* negative conversion rate in the study group was 56.52% (37/69), which was higher than that in the control group of 39.13% (27/69) ($\chi^2 = 4.182$, $P = 0.041$).

4. Discussion

As a malignant tumor, gastric cancer had a certain epidemic trend in our country in recent years with the change in population structure and life, dietary patterns, and the increase in the incidence of chronic gastritis. It is one of the common tumor diseases that lead to the death of residents. Gastric cancer is mostly developed from chronic gastritis. Patients do not receive timely and effective treatment in the stage of chronic inflammation. The deterioration of the disease can lead to pathological changes in gastric mucosal tissue and increase the risk of carcinogenesis. At present, in the prevention and treatment of gastric cancer, it has become a clinical consensus to actively identify and block the pathway of precancerous lesions. Traditional Chinese medicine has a long history of adjuvant treatment of chronic atrophic gastritis and gastric cancer. Traditional Chinese medicine therapy is safe and reliable, and the curative effect is accurate. It has a positive significance for controlling the progress of the disease and reducing the burden of the disease. Chronic atrophic gastritis with precancerous lesions of the stomach can be included in the category of “ruffian.” Traditional Chinese medicine scholars believe that the disease is located in the stomach and is closely related to the function of the spleen and liver. The stomach is a sea of water and valleys, and the water and valleys can be decomposed when the physiological function is normal, while the liver mainly excretes, the spleen mainly transports and transforms, and the organs work together to digest and absorb food to meet the needs of qi and blood operation.

As a short summary of the pathogenesis of chronic atrophic gastritis with gastric precancerous lesions, which is related to the following factors: weakness of the vegetarian body, deficiency of righteousness and Qi, inability to resist the invasion of external evil, and then gastric lesions; improper diet, long-term intake of cold, spicy food, or long-term overeating, resulting in damage to the spleen and stomach function and disease; emotional discomfort, depression, anxiety, or excessive mental stress, long-term liver qi stagnation offends the stomach; overwork, resulting in loss of Qi and blood, manifested as weakness of the spleen and stomach; damages on the gastric mucosa, which can also increase the risk of gastric cancer. The synergistic effect of the above factors can damage the function of lifting the spleen and stomach, causing the body to produce toxic scales due to blood stasis and phlegm turbidity. In the early stage of chronic atrophic gastritis with precancerous lesions of the stomach, a small number of patients have no specific symptoms. Most patients have digestive system diseases such as abdominal pain, vomiting, fullness, and nausea, and with the progress of the disease,

low appetite, bitter mouth, belching gas, acid reflux and other diseases. In addition, in severe cases, it can be manifested as black stools, anemia, and weight loss.

Studies have pointed out that it is a mix of cold and heat, and the syndrome of this deficiency is standard. Factors such as spleen deficiency, stomach damage, and emotional disorders can lead to damage to the spleen and stomach, gathering moisture into phlegm, stagnating Qi and blood, and phlegm and dampness trapped, which leads to epigastric pain and other diseases. Treatment ideas need to be based on reducing phlegm and dampness, strengthening the spleen and stomach, and eliminating blood stasis. *Fangzhong banxia* reduces inverse vomiting, dryness and phlegm; tangerine peel, fried coix seed, puhuang powder regulates Qi and strengthens the spleen, dryness and dampness and reduces phlegm; curcuma nourishes the spleen and nourishes Qi, dryness and dampness and water; *Poria cocos*, chicken neijin and other water infiltration strengthen the spleen and calm the nerves; cranium grass and snake tongue grass break qi and accumulate, reduce phlegm and disperse knots; Zidanshen, Banzhilian promote blood circulation and remove blood stasis^[3]. Sini Powder has the functions of soothing the liver and regulating Qi and regulating the spleen and stomach. *Fangzhong bupleurum* soothes the liver and relieves depression, rises the sun and lifts depression; Baishao nourishes blood and softens the liver, relieves pain urgently^[4]. The combination of the two can play the role of strengthening the spleen and nourishing the stomach, eliminating blood stasis, dispersing knots and relieving pain.

The advantages of Sini Powder and Huatan Xiaoyu Decoction in combination for the treatment of this disease includes: the multi-target drug effect, Sini Powder prescription can invigorate the spleen, soothe the liver, relieve depression, and clear pathogens, and various drugs in Huatan Xiaoyu Decoction can remove blood stasis, promote blood circulation, disperse knots, and reduce phlegm. The combination of the two can effectively relieve the symptoms of patients with gastric lesions, and can also correct the stomach microenvironment and repair damaged gastric mucosa; promote pathological changes and outcomes, the two drugs can synergistically inhibit intestinal epithelial metaplasia and hyperplasia, and can also promote the reversal of atrophic gastric mucosal glands; synergistic treatment has high safety, and both are Chinese herbal preparations. The combined use does not increase the side effects of drugs^[5].

The study showed that the curative effect of the study group and the negative rate of *H. pylori* were significantly higher than those of the control group ($P < 0.05$), suggesting that the combination of the two can improve the treatment effect and protect the gastric mucosal barrier. The study group's TCM syndrome score was lower ($P < 0.05$), suggesting that the combination therapy in this study can reduce the burden of symptoms and improve the condition. The reason for the analysis is that Sini Powder has the effect of dredging the liver and regulating Qi, regulating the spleen and stomach, while the Decoction Removing Phlegm and Dampness, promoting blood circulation and removing blood stasis. The combined use of the two can effectively improve the problems of poor qi, phlegm-dampness block and blood stasis, thereby enhancing the treatment effect and reducing the burden of symptoms Huatan Xiaoyu Decoction can help improve gastric microcirculation, and Sini Powder can regulate liver and spleen functions. The combination of the two can improve the overall physiological environment in the stomach and control the progression of disease deterioration^[6].

The expression levels of carcinoembryonic antigen and carbohydrate antigen 125 are closely related to tissue carcinogenesis. The study pointed out that the higher the expression levels of carcinoembryonic antigen and carbohydrate antigen 125, the higher the severity of gastric cancer disease. This study showed that the carcinoembryonic antigen and carbohydrate antigen 125 in the study group were lower ($P < 0.05$), suggesting that the combination therapy in this study could reduce the level of tumor markers and have positive

significance for the control of gastric precancerous lesions^[7]. Studies have pointed out that both Huatan Xiaoyu Decoction and Sini Powder can prevent and treat gastric precancerous lesions, which is closely related to the broad-spectrum anti-tumor components in each group of the two groups^[8]. The main active ingredients of Bupleurum in Sini Powder, paeoniflorin of Baishao and flavonoids of tangerine peel, all have certain anti-inflammatory, antioxidant, immune regulation and other biological activities. Glycyrrhizic acid has multiple effects such as anti-inflammatory and antiviral. The naringin and neohesperidin of *Fructus aurantii* can improve gastrointestinal motility. By inhibiting the nuclear factor signaling pathway, it can down-regulate the expression of pro-inflammatory factors, reduce the inflammatory response in the stomach, and also reduce the damage caused by oxidative stress to gastrointestinal tissue^[9]. Atractylodes contain a variety of amino acids and trace elements, which can enhance the function of the spleen and stomach, and the extracts of Atractylodes have the effect of inhibiting the growth of cancer cells. The combination of Huatan Xiaoyu Decoction and Sini Powder can play many roles such as sterilization and anti-inflammatory, protection of gastric mucosal barrier and promotion of local damage repair. It can actively reduce inflammatory response, reduce the disease and control the progression of the disease. It has a good effect on controlling gastric precancerous lesions^[10].

During the actual treatment of Sini Powder and Huatan Xiaoyu Decoction, in order to reduce the incidence of gastric cancer, the following matters should be paid attention to:

- (1) Dialectical regulation of medication: As the course of the disease advances, the patient's syndrome type may change, so regular follow-up visits should be made, and the medication plan should be adjusted based on the change of the syndrome type.
- (2) Reasonable control of dose and course of treatment: Traditional Chinese medicine scholars match drugs based on the patient's physique, condition and the principle of "Junchen Zuo" to synergize. If large doses of administration can increase the risk of toxic side effects, small doses of administration cannot achieve the desired effect, if short-term administration is difficult to completely cure the disease, long-term administration can increase the economic pressure of patients.
- (3) Diet adjustment: Choose fresh fruit and vegetable foods, easy-to-digest food, and eat regularly and quantitatively to avoid overeating.
- (4) Correct work and rest: Urge patients to maintain good work and rest habits, avoid overwork, stay up late, and carry out Tai Chi, race walking and other sports to enhance physical fitness.
- (5) Emotion adjustment: If long-term emotional discomfort can aggravate the disease, patients should be told to self-guide anxiety and tension, and carry out psychological counseling when necessary to solve the incentives of patients' mood swings.
- (6) Re-examination: Follow the doctor to complete the pathology, gastroscopy, evaluate the progress of the disease, and accept the follow-up of traditional Chinese medicine, dialectically adjust the treatment plan.
- (7) Reasonable medication: If the long-term intake of non-steroidal anti-inflammatory drugs can aggravate the damage of gastric mucosa, so the medicine should be taken in accordance with the doctor to avoid the adverse inducement of gastric disease.

5. Conclusion

In summary, Sini powder combined with Huatan Xiaoyu Decoction in the treatment of patients with total

gastritis and precancerous gastric lesions can improve the therapeutic effect, improve the clearance effect of *H. pylori*, and have a certain effect on controlling the progression of the disease.

Disclosure statement

The authors declare no conflict of interest.

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