

Effects of Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) in the Treatment of Chronic Cervicitis of Spleen Deficiency Type

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Abstract: *Objective:* To observe the effects of modified Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) in the treatment of chronic cervicitis of spleen deficiency type. *Methods:* From May 2021 to December 2022, 80 patients from our hospital (The First People's Hospital of Huangzhong District) were randomly divided into two groups (40 cases/group). Patients in the control group were treated with Western medicine, whereas patients in the observation group were treated with Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) on the basis of Western medicine. The effects (curative effect, traditional Chinese medicine [TCM] symptom scores, and incidence of adverse reactions) were compared between both groups. *Results:* Before treatment, the differences in TCM symptom scores and incidence of adverse reactions between the two groups were not statistically significant ($P > 0.05$). Compared with the control group, the observation group had significantly lower TCM symptom scores after treatment and higher curative effect ($P < 0.05$). *Conclusion:* For patients with chronic cervicitis of spleen deficiency type, Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) is effective. Significant improvement in symptoms is evident with the use of Buzhong Yiqi Decoction, and it has little side effects. Given its outstanding therapeutic advantages, its application should be advocated in clinical practice.

Keywords: Modified Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction); Spleen deficiency type; Chronic cervicitis; Symptom score

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1. Introduction

Chronic cervicitis is a common gynecological disease. Due to its long course, recurrent attacks, and difficulty in treatment, it affects patients physically and mentally and reduces the quality of life of patients. It has become a problem that plagues women, especially in women who have given birth ^[1,2]. In recent years, an increasing number of studies are focusing on the treatment of chronic cervicitis. Many studies have shown that traditional Chinese medicine (TCM) has a significant therapeutic effect on chronic cervicitis ^[3,4]. In order to study the effects of modified Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) in the treatment of chronic cervicitis of spleen deficiency type, 80 patients in our hospital were included in the study.

2. Materials and methods

2.1. General information

From May 2021 to December 2022, 80 patients, with age ranging from 25 to 55, were divided into two

equal groups according to the treatment received. Patients in the control group were treated with western medicine, whereas those in the observation group were treated with Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) on the basis of western medicine. The average age of the patients in the control group and the observation group was 40.29 ± 4.83 and 40.55 ± 4.16 , respectively; the difference between the two groups was insignificant ($P > 0.05$).

Inclusion criteria: (i) patients diagnosed based on the diagnostic criteria; (ii) patients with symptoms of spleen deficiency; (iii) patients who actively participated in the research.

Exclusion criteria: (i) patients with gynecological tumors; (ii) patients with acute genital inflammation; (iii) patients with severe dysfunction of important organs, such as liver and kidney; (iv) patients with mental disorders; (v) patients with drug allergies.

2.2. Methods

Conventional western medicine: metronidazole 250–500 mL, intravenous infusion, qd; gentamicin sulfate 8–16 U + 0.9% sodium chloride solution 200 mL, intravenous infusion, qd; Baofukang vaginal suppository, qd, after cleaning the vulva every night before going to bed.

On this basis, patients in the observation group were treated with Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction). The prescription included dried ginger 5 g, dried tangerine peel 6 g, roasted licorice 8 g, cimicifuga 10 g, angelica 10 g, *Atractylodes macrocephala* 10 g, bupleurum 10 g, codonopsis 15 g, and astragalus 30 g, along with three slices of ginger and two jujubes. They were then decocted in water. The patients were required to take 200 mL, 100 mL in the morning and in the evening. All patients were required to take the medicine immediately on the day of treatment, with each course lasting 2 months. The physicians advised the patients to avoid eating cold, oily, spicy food, and engaging in strenuous activity while receiving therapy, as well as to refrain from having sexual intercourse.

2.3. Indicators

- (i) Therapeutic effect: markedly effective and effective refer to symptom alleviation, improved surface erosion, and a reduction in TCM symptom score by more than 1/3 after treatment; ineffective refers to no difference in symptoms and signs after treatment.
- (ii) TCM symptom score: main symptoms and secondary symptoms were scored separately based on the diagnostic criteria of TCM (main symptoms: 0–6 points; secondary symptoms: 0–3 points); the tongue and pulse were not scored; the more severe the symptoms, the higher the score.
- (iii) Incidence of adverse reactions: nausea, headache, and abdominal pain.

2.4. Statistical analysis

Data were processed using SPSS 22.0. Measurement data were expressed as mean \pm standard deviation, and *t*-test was used. Enumeration data were expressed as percentage (%), and χ^2 test was used. $P < 0.05$ indicated that the difference was statistically significant.

3. Results

3.1. Curative effect

The total effective rate in the observation group was significantly higher than that in the control group ($P < 0.05$), as shown in **Table 1**.

Table 1. Comparison of curative effect

Group	Number of cases	Markedly effective	Effective	Ineffective	Total effective rate
Observation group	40	21 (52.5)	16 (40.0)	3 (7.5)	37 (92.5)
Control group	40	14 (35.0)	14 (35.0)	12 (30.0)	28 (70.0)
χ^2		2.489	0.213	6.646	6.646
<i>P</i>		0.115	0.644	0.010	0.010

3.2. TCM symptom scores

Before treatment, the differences in scores between the two groups were not statistically significant ($P > 0.05$). However, after treatment, the TCM symptom scores were significantly lower in the observation group than in the control group ($P < 0.05$), as shown in **Table 2**.

Table 2. Comparison of TCM symptom scores

Group	Number of cases	Abdominal pain (points)		Dysmenorrhea		Mammary fullness and distention		Prolonged menstruation	
		Before	After	Before	After	Before	After	Before	After
Observation group	40	5.71 ± 0.95	1.02 ± 0.21	2.96 ± 1.08	0.85 ± 0.10	2.85 ± 1.51	0.52 ± 0.09	2.89 ± 1.43	0.37 ± 0.01
Control group	40	5.84 ± 0.71	1.89 ± 0.14	2.85 ± 1.03	2.01 ± 0.35	2.51 ± 1.39	1.31 ± 0.51	2.73 ± 1.61	1.41 ± 0.24
<i>t</i>		0.693	21.801	0.466	20.953	1.048	9.648	0.470	27.383
<i>P</i>		0.490	0.000	0.642	0.000	0.298	0.000	0.640	0.000

Group	Number of cases	Mental depression		Anxiety and irritability		Nausea and vomiting	
		Before	After	Before	After	Before	After
Observation group	40	2.86 ± 1.46	0.98 ± 0.16	2.76 ± 1.63	0.73 ± 0.51	2.46 ± 1.86	0.43 ± 0.11
Control group	40	2.77 ± 2.31	1.99 ± 0.82	2.79 ± 1.04	1.96 ± 0.16	2.51 ± 1.30	2.08 ± 0.28
<i>t</i>		0.208	7.646	0.098	16.453	0.139	34.689
<i>P</i>		0.836	0.000	0.922	0.000	0.890	0.000

Note: Before and After refer to before treatment and after treatment, respectively.

3.3. Adverse reactions

The difference in incidence of adverse reactions between the two groups was not significant ($P > 0.05$), as shown in **Table 3**.

Table 3. Comparison of adverse reactions

Group	Number of cases	Nausea	Abdominal pain	Headache	Total adverse reactions
Observation group	40	1 (2.5)	0 (0.0)	0 (0.0)	1 (2.5)
Control group	40	0 (0.0)	1 (2.5)	1 (2.5)	2 (5.0)
χ^2		1.013	1.013	1.013	0.346
<i>P</i>		0.314	0.314	0.314	0.556

4. Discussion

Chronic cervicitis is one of the common inflammations of the female genitalia. Sexual intercourse, childbirth, and uterine manipulation can damage the cervix and cause epithelial infection [5]. Treatment is mainly based on physical therapy, such as laser, freezing, and microwave, destroying the erosive epithelium, accelerating the growth of new epithelium, and promoting wound healing. It is generally believed that freezing technology is effective for the treatment of chronic cervical diseases and cervical basal cell hyperplasia. TCM believes that chronic cervicitis is a “leukorrhea disease.” Due to “dampness syndrome” caused by spleen and stomach qi deficiency, patients develop symptoms of spleen deficiency and qi depression. The trapped dampness-evil leads to the damp invasion of the lower energizer, causing vaginal discharge [6,7]. Therefore, the treatment should first focus on strengthening spleen-qi supplementation, improving spleen-yang to raise qi, promoting water-damp metabolism, and eliminating dampness.

In TCM, Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) is a commonly used prescription for the treatment of spleen deficiency, from Volume 2 of the ancient book *Must-Know Medicine (Bu Zhi Yi Bi Yao)*. It has the effects of invigorating the spleen and replenishing qi, nourishing blood, and quenching wind [8]. In addition, it invigorates the middle and replenishes qi, raising yang and lifting depression. It is specifically used in the treatment of gynecological spleen deficiency, which can effectively improve the symptoms of spleen and stomach qi deficiency, clear yang not rising, and depression of middle qi. It relieves qi deficiency and targets the weak pancreas and clear yang sinking into the lower energizer. Moreover, this prescription is also effective for chronic cervicitis under the category of “leukorrhea disease” in TCM. The main cause of leukorrhea is the invasion of damp-evil. In addition, heavy diet, overwork, or excessive worry can also result in abnormal transportation and transformation, retention of dampness and turbidity, damage to the two channels, and eventually cause leukorrhea. In order to treat this disease, it is necessary to regulate the spleen and stomach, improve yang qi in the body, and ensure that it emits moisture. Buzhong Yiqi Decoction, as the main formula, can be prepared based on the patient’s situation.

Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) with astragalus can improve the blood gas level in the body and promote wound healing. *Codonopsis pilosula* and *Atractylodes macrocephala* are auxiliary drugs that can enhance the function of the spleen and stomach [9]. The ancient book *Materia Medica Justice (Ben Cao Zheng Yi)* has pointed out the characteristics of these medicines, “especially valuable ones, invigorating the spleen but not dryness...nourishing blood without being greasy, encouraging clear yang, vibrating the qi without the disadvantage of rigidity and dryness.” According to the ancient book *Materia Medica Summary (Ben Cao Hui Yan)*, *Atractylodes macrocephala* has the effect of nourishing the spleen and stomach and aiding digestion [10]. Zhang Jingyue, a TCM master, believes that cimicifuga and bupleurum can strengthen yang qi, while angelica can promote blood circulation and wound healing, relieve pain, eliminate fluid, purify blood, and promote renewal; tangerine peel can enhance strength and aid digestion, while ginger can warm the body and also aid digestion; licorice, on the other hand, can be used in conjunction with other medicines. In order to achieve the purpose of strengthening the body, dispelling dampness, and removing blood stasis, a combination of multiple drugs can be used for treatment. Modern medical research has found that *Astragalus* can enhance the body’s anti-fatigue and anti-ulcer capabilities, and it also has a wide range of antibacterial functions [11,12]; *Codonopsis* can stimulate gastrointestinal motility and improve human immunity; *Atractylodes* can regulate intestinal function; tangerine peel has antioxidant properties and can regulate the function of the stomach; bupleurum has anti-inflammatory and immune-boosting effects, while angelica can improve the body’s immune system [13,14]. In conclusion, Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) can significantly improve the syndrome of spleen deficiency and qi depression, enhance the therapeutic effect, and improve the prognosis of patients. Its significant curative effect in the treatment of chronic cervicitis of spleen deficiency type is also evident in medical literature [15].

In this study, we investigated the effects of modified Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) in the treatment of chronic cervicitis of spleen deficiency type. The total effective rate of the observation group (92.5%) was significantly higher than that of the control group (70.0%). The combination of Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) and western medicine showed a high curative effect, suggesting that the drug combination has a definite effect and could improve the long-term curative effect. Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) is a typical TCM prescription. It is safe and reliable and has been used clinically for many years without any reported adverse reaction. This study showed that the incidence of adverse reactions in the observation group was slightly lower than that in the control group, although there was no significant difference between the two groups ($P > 0.05$). Adding Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) did not increase the risk of side effects; thus, it is safe to say that the Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) regimen is safe and reliable. This result is the same as that of Guan *et al.* [16]. They claimed that cervicitis, especially chronic cervicitis, is a common disease in women of childbearing age. Their survey showed that among gynecological infectious diseases, the prevalence of chronic cervicitis was the highest. The main manifestations of chronic cervicitis include increased vaginal discharge, either viscous or purulent, and discomfort over the back, buttock, and during premenstrual period, defecation, and sexual intercourse. The long course of disease seriously affects the physical and mental health of women. In terms of long-term medication, TCM treatment not only has minimal side effects, but also has remarkable effects. *Astragalus* contained in Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) has the effect of invigorating qi, diuresis, and draining pus; *Codonopsis pilosula* invigorates qi, while *Atractylodes macrocephala* strengthens qi, removes water from the body, and promotes excretion; angelica can activate blood and remove stagnation, regulate menstruation, relieve dysmenorrhea, and balance blood qi; cimicifuga can clear away heat and detoxify, raise yang, strengthen the body, and remove dampness; bupleurum has an antipyretic effect, soothing the liver and relieving depression; licorice can nourish the spleen and stomach, restore pulse, and be used to adjust medicines; tangerine peel can regulate qi, strengthen the spleen, dehumidify, and dry; ginger can be used in conjunction with other medicines to achieve better curative effect.

In the treatment of chronic cervicitis of spleen deficiency type, the use of Buzhong Yiqi Decoction (Middle Qi Tonifying Decoction) combined with western medicine can improve the curative effect and reduce the recurrence rate. It is reliable and safe for clinical applications.

Disclosure statement

The authors declare no conflict of interest.

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