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Clinical Efficacy of Western Medicine Combined with Chinese Medicine for Pelvic Inflammatory Disease (Damp-Heat and Stasis Type)

Yao Chen[1], Yu Cao[2], Huifang Li[3]*

[1]Beijing Tongrentang Hospital of Traditional Chinese Medicine, Beijing 100062, China

[2]Beijing Hospital of Integrative Medicine, Beijing 100039, China

[3]Capital Medical University, Beijing 100069, China

***Corresponding author:** Huifang Li, Lihuifang0917@126.com

Abstract: *Objective*: This study was undertaken to evaluate the clinical efficacy of Western medicine combined with Chinese medicine for pelvic inflammatory disease (damp-heat and stasis type). *Methods*: Seventy-four patients who were diagnosed with pelvic inflammatory disease (damp-heat and stasis type) by our hospital during July 2021 to July 2022 were randomized into two groups: the participants in the control group received conventional Western medicine treatment, and the participants in the study group received Western medicine combined with Chinese medicine. *Results:* After treatment, the total effectiveness of the control group (72.98%) was significantly lower than that of the study group (94.59%), ($P < 0.05$); the whole blood viscosity high cut, whole blood viscosity low cut, fibrinogen and plasma viscosity of the control group were all lower than those of the study group ($P < 0.05$); the levels of CRP, IL-6, and TNF-α in the control group were higher and IL-2 levels in the control group were lower than those in the study group ($P < 0.05$). *Conclusion:* Western medicine combined with Chinese medicine is more effective in curing damp-heat and stasis-type pelvic inflammatory disease by improving the blood rheological indexes and lowering the level of inflammatory factors.

Keywords: Combination of Chinese and Western medicine; Pelvic inflammatory disease (damp-heat stasis type); Treatment effect; Inflammatory factor; Fibrinogen; Plasma viscosity

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1. Introduction

As a common infectious disease of the upper female genital tract, pelvic inflammatory disease (PID) mainly includes pelvic peritonitis, endometritis, ovarian ducts ovarian cysts, and tubal inflammation. The main manifestations of patients are abnormal leucorrhea, lumbosacral pain and abdominal pain, which are easily recurring. If treatment is not complete, patients may have a combination of pelvic inflammatory including, pelvic stasis syndrome, and infertility [1,2]. According to traditional Chinese medicine (TCM), pelvic inflammatory disease is a result of stasis, dampness, and heat in the peritoneum of the uterus, leading to imbalance of Qi and blood in the flushing process, the most common of which is the damp-heat and stasis type. In this paper, the effect of Western medicine combined with Chinese medicine for damp-heat and stasis type PID are analyzed [3].

2. Materials and methods

2.1. General information

74 patients who were diagnosed with damp-heat and stasis-type pelvic inflammatory disease in our hospital during July 2021 to July 2022 were randomly divided into a control group and a study group, with both groups consisting of 37 cases each. General information between the control and study group was comparable ($P > 0.05$). The duration of disease in the control group was 1-9 years, with a mean of (4.01 ± 1.33) years, and the age was 27–52 years, with a mean of (38.45 ± 3.37) years. The duration of disease in the study group was 1–9 years, with a mean of (4.13 ± 1.15) years, age 27-52 years, mean (40.16 ± 3.22) years. The inclusion criteria are as follows [4]: diagnosed with damp-heat and stasis type PID, families signed an informed consent form, and married. The exclusion criteria are as follows: history of psychiatric disorders, presence of severe cardiovascular and cerebrovascular diseases, presence of severe dysfunction of liver and kidney functions, presence of endometriosis, and contraindications to the drugs used.

2.2. Methods

Conventional Western medicine was used to treat the patients in the control group, that is, 0.5g of ornidazole injection + 3g of ceftizoxime by intravenous drip once a day. The study group was treated with a combination of TCM and Western medicine. In the study group, the same dosage of ornidazole and ceftizoxime as the control group was administered, with the addition a Chinese medicine prescription of pelvic inflammatory disease I, including ingredients such as 9g Sargentgloryvine stem, Hawthorn Fruit, Danshen Root, Curcuma Zedoary, Common Burreed Rhizome, Red Peony Root, Oriental Waterplantain Rhizome, 15g Corydalis Tuber, 12g wild Chrysanthemum flower, Pilose Asiabell Root, Dandelion, Chinese yam, Nutgrass Galingale Rhizome, Chinese Angelica Root, Coix seed, Spreading Hedyotis Herb, Largehead Atractylodes Rhizome, Dahurian Patrinia Herb; 200 mL of the decoction was consumed warm half an hour before meals in the morning and evening. Next, an enema was given, consisting of 9g of Houttuymia Herb, Trigonella, Radix Codonopsis, leech, Bitter Ginseng, Radix Rehmanniae, Inula, Ziziphiopogon, Curcuma, 15g of Dandelion, 12g of turtle shells, Tu Fu Ling, and several other herbs like Red Vine, Atractylodes Macrocephalae, and Swordlike Atractylodes Rhizome. The patient was instructed to empty the bowel before the evening treatment. Both the control and study group were treated for five consecutive days and the treatment effect was observed.

2.3. Observation indicators.

The treatment was deemed effective if the adnexa and uterus were in a normal state on ultrasound examination, the signs and clinical symptoms disappeared, and menstruation and leucorrhea returned to normal with improvements of clinical symptoms as well as ultrasound examination of the adnexal adhesions and the uterus after treatment. On the other hand, the treatment was deemed ineffective if the aforementioned criteria are not met.

Changes in blood rheological parameters, including whole blood viscosity high cut, whole blood viscosity low cut and fibrinogen and plasma viscosity before and after treatment of the two groups were observed and compared.

The levels of inflammatory factors, including CRP (C-reactive protein), IL-6 (interleukin-6), TNF-α (tumour necrosis factor-α) and IL-2 (interleukin-2) of both groups before and after treatment were also observed and compared.

2.4. Statistical analysis

SPSS 20.0 was used to analyze the data, and the χ^2 (%) test for counts and the t-test ($x \pm s$) test for measures were performed, with a $P < 0.05$ indicating a significant difference.

3. Results

3.1. Comparison of treatment results

The total effective rate of treatment in the control group (72.98%) was significantly lower than in the study group (94.59%) ($P < 0.05$), as shown in **Table 1**.

Table 1. Comparison of treatment outcomes (cases, %)

Group	Cases	Visible effect	Effective	Ineffective	Efficiency
Control	37	14 (37.84)	13 (35.14)	10 (27.03)	72.98%
Experimental	37	20 (54.05)	15 (40.54)	2 (5.41)	94.59%
χ^2	/				5.067
P	/				< 0.05

3.2. Comparison of blood rheology indicators

After treatment, the whole blood viscosity high cut, whole blood viscosity low cut, fibrinogen and plasma viscosity of the control group were all higher than those of the study group than ($P < 0.05$), as shown in **Table 2**.

Table 2. Comparison of blood rheology indices ($\bar{x} \pm s$)

Group	Time	High whole blood viscosity cut (mPa.s)	Low whole blood viscosity cut (mPa.s)	Fibrinogen (g/L)	Plasma viscosity (mPa.s)
Control	Pre-treatment	5.05 ± 0.82	12.82 ± 5.25	4.85 ± 1.16	1.92 ± 0.19
	Post-treatment[a]	4.62 ± 0.76	10.80 ± 4.92	3.30 ± 0.98	1.60 ± 0.17
Experimental	Pre-treatment	5.07 ± 0.72	13.01 ± 5.10	4.91 ± 1.07	1.94 ± 0.23
	Post-treatment[ab]	3.31 ± 0.41	8.01 ± 2.14	2.33 ± 0.69	1.19 ± 0.11

Note: intra-group comparison [a]P < 0.05; inter-group comparison [b]P < 0.05

3.3. Comparison of inflammatory factor indicators

After treatment, CRP, TNF-α and IL-6 levels of the control group were higher and IL-2 level of the control group was lower than those in the study group (P < 0.05), as shown in **Table 3**.

Table 3. Comparison of inflammatory factor indicators ($\bar{x} \pm s$)

Group	Cases	CRP (g/L)		TNF-α (ng/ml)		IL-6 (ng/ml)		IL-2 (ng/ml)	
		Pre-treatment	Post-treatment	Pre-treatment	Post-treatment	Pre-treatment	Post-treatment	Pre-treatment	Post-treatment
Control	37	30.48 ± 5.89	11.23 ± 2.33	2.47 ± 0.16	1.62 ± 0.39	2.74 ± 0.37	1.55 ± 0.29	3.21 ± 0.86	4.08 ± 0.95
Experim-ental	37	30.57 ± 5.63	4.42 ± 1.07	2.38 ± 0.22	1.03 ± 0.21	2.68 ± 0.43	0.86 ± 0.16	3.16 ± 1.04	6.14 ± 1.14
t-value		1.478	15.193	1.824	12.618	1.273	13.852	1.365	14.098
P		> 0.05	< 0.05	> 0.05	< 0.05	> 0.05	< 0.05	> 0.05	< 0.05

4. Discussion

In Western medicine, it is believed that the pathogenesis of pelvic inflammatory disease is mainly due to

the inflammatory reaction caused by infecting pathogens, and causes inflammation of the pelvic organs leading to tissue scarring and fibrosis, adhesions, or congestion, thus affecting local blood circulation and reducing the metabolic capacity and antioxidant capacity of the body's tissues [5,6]. However, long-term application of antibiotics can lead to drug resistance and increase the chance of secondary infection, which not only fails to improve the therapeutic effect but also leads to exacerbation of the disease in some patients due to prolonged treatment [7].

In Chinese medicine, pelvic inflammatory disease is classified as a range of diseases such as dysbiosis, abdominal pain in women, infertility and dysmenorrhea. Pelvic inflammatory disease is mainly caused by unresolved damp-heat and damp-heat infiltration leading to prolonged damp-heat stagnation and entanglement of the disease, which affects the patient's Qi and blood flow while causing stasis of blood, stasis of the rhizome and irregularity of the uterine vessels [8-9]. Treatment should follow the principles of resolving stasis and reducing firmness, clearing heat and dampness, supporting the root, relieving pain and activating blood flow [10]. The traditional Chinese medicine decoction used in this study is mainly composed of Stem of Sargentgloryvine, Hawthorn Fruit, Danshen Root, Curcuma Zedoary, Common Burreed Rhizome, Red Peony Root, Oriental Waterplantain Rhizome, Corydalis Tuber, Wild Chrysanthemum Flower, Pilose Asiabell Root, Dandelion, Chinese yam, Nutgrass Galingale Rhizome, Chinese Angelica Root, Coix seed, Spreading Hedyotis Herb, Largehead Atractylodes Rhizome, Dahurian Patrinia Herb. These herbs can regulate menstruation: Danshen regulates menstruation and activates blood circulation, relieves pain and eliminates blood stasis; Common Burreed Rhizome relieves pain, regulates Qi, and breaks blood; Red Peony resolves blood stasis, cools the blood and clears heat; Spreading Hedyotis Herb has diuretic properties and reduces swelling, it also has anti-inflammatory and antibacterial properties, and resolves heat.

The pelvic cavity of women is rich in blood transport, and the rectal mucosa and pelvic cavity are only separated by a wall. Therefore, the application of Chinese medicine enema can ensure that full absorption of the medicine by the pelvic cavity, accelerate the blood circulation in the pelvic cavity, while ensuring that the drug reaches the lesion directly, which is conducive to the improvement of the treatment effect [11,12]. The present results showed that the whole blood viscosity high cut, whole blood viscosity low cut, fibrinogen and plasma viscosity in the control group were all higher than those in the study group after treatment ($P < 0.05$), indicating that Western medicine combined with Chinese medicine treatment can effectively improve the blood rheological indexes of patients with pelvic inflammatory disease caused by dampness and heat. This is because Chinese herbal enemas can reach the lesions directly and accelerate pelvic blood circulation while promoting tissue regeneration and repair; at the same time, they can accelerate inflammation absorption and the body's metabolism [13]. Abnormal blood rheology can reduce the rate of absorption of inflammatory substances in the organism and aggravate the inflammatory response [14]. The results also showed that the total effective rate of treatment in the control group was lower than that in the study group, and the CRP, TNF-α, and IL-6 levels in the control group were higher and IL-2 in the control group was lower than those in the study group after treatment ($P < 0.05$), indicating that the Western medicine combined with Chinese medicine treatment can lower the level of inflammatory factors effectively in the organism, which is beneficial to the treatment effect. This is because that Chinese herbal medicine internal and enema treatment has the effect of regulating Qi and blood, clearing heat and dampness, while Western medicine combined with Chinese medicine treatment has the effect of accelerating local metabolism and blood circulation, counteracting exudative and proliferative inflammation and eliminating connective tissue proliferation [15].

5. Conclusion

In conclusion, Western medicine combined with Chinese medicine is more effective in curing pelvic

inflammatory disease with damp-heat and stasis and can effectively improve patients' blood rheological indexes, lower the level of inflammatory factors, thus improving the therapeutic effect.

Disclosure statement

The authors declare no conflict of interest.

References

[1] Li C, Huo Y, Liu X, et al., 2020, Study on the Efficacy of Yin Qiao Hong Jao Tang on Secondary Infertility in Chronic Pelvic Inflammatory Disease Caused by Damp-Heat and Stagnation. Journal of Changchun University of Traditional Chinese Medicine, 36(3): 529–532.

[2] Liu Y, Liu Z, Zhou D, et al., 2020, A Randomized, Double-Blind, Double-Model, Positive Drug-Parallel Controlled, Multi-center Clinical Study of Jinying Capsule in the Treatment of Pelvic Inflammatory Disease (Damp-Heat-Embedded Evidence). Chinese Journal of Practical Gynecology and Obstetrics, 36(2): 163–167.

[3] Hu CHF, Jian H, Chen J, et al., 2020, Clinical Observation on the Treatment of the Sequelae of Pelvic Inflammatory Diseases with Damp-Heat and Stagnation Evidence by Combining the Internal Administration of Qing-Heat and Blood-regulating Tang with Wu-Wei Disinfecting Drink Enema. Chinese Journal of Experimental Formulary, 26(20): 111–116.

[4] Lu Y, Lou J, Feng X, et al., 2021, Efficacy and Safety of Gynostemma Capsule Combined with Antibacterial Drugs in the Treatment of Pelvic Inflammatory Diseases: A Randomized Controlled Clinical Study. Chinese Journal of Obstetrics and Gynecology, 22(4): 383–385.

[5] Li LL, Xu ZZ, Zhang AJ, et al., 2022, Clinical Efficacy of Combined Enema with Electromagnetic Wave for Chronic Pelvic Inflammatory Disease. Chinese Patent Medicine, 44(6): 1810–1814.

[6] Wang X, Feng C, Gulinur Z, et al., 2020, Clinical Effect Analysis of Combined Chinese and Western Medicine in the Treatment of Giant Pelvic Abscess in Women. Chinese Maternal and Child Health Care, 35(8):1404-1407.

[7] Wang Y, Cai M, Wei S, et al., 2020, Experience of Mr. Wang Jojiu, a Famous Gynecologist of Sichuan School, in Treating the Sequelae of Pelvic Inflammatory Diseases. Sichuan Traditional Chinese Medicine, 38(3): 50–52.

[8] Stewart LM, Stewart C, Spilsbury K, et al., 2020, Association Between Pelvic Inflammatory Disease, Infertility, Ectopic Pregnancy and the Development of Ovarian Serous Borderline Tumor, Mucinous Borderline Tumor and Low-Grade Serous Carcinoma. Gynecologic Oncology, 156(3): 611–615.

[9] Gao ZY, Liu SH, Li XJ, et al., 2020, Effects of Combined Chinese and Western Medicine Therapy on Inflammatory Factors and Blood Rheology in Patients with Chronic Pelvic Inflammatory Disease. Sichuan Traditional Chinese Medicine, 38(3): 179–182.

[10] Blaikie L, Kay G, Lin P, 2020, Synthesis and In Vitro Evaluation of Vanillin Derivatives as Multi-Target Therapeutics for the Treatment of Alzheimer's disease. Bioorganic & Medicinal Chemistry Letters, 30(21):127505.

[11] Xu X, Zong CH, Liu J, et al., 2020, Study on the Distribution of Symptoms and Medication Pattern of Chronic Pelvic Pain in the Treatment of Pelvic Inflammatory Disease Sequelae in Chinese Medicine Based on Data Mining. World Journal of Integrated Chinese and Western Medicine, 15(12): 2166–2172.

[12] Yang Y, Chi TV, Zeng S, et al., 2020, Tracking Evidences of Coptis Chinensis for the Treatment of

Inflammatory Bowel Disease from Pharmacological, Pharmacokinetic to Clinical Studies. Journal of Ethnopharmacology, 268(6): 113573.

[13] Shao M, Qu Q, Yan H, 2021, Efficacy of Gui Zhi Fu Ling Wan Combined with Hexi Jiao Zemeran Huang Wan Plus Reduction in the Treatment of cold and Stasis Type Pelvic Inflammatory Masses. Journal of Modern Traditional Chinese and Western Medicine, 30(11): 1225–1228.

[14] Zhang S, Zhang L, Long K, et al., 2020, Evaluation of Clinical Efficacy of Integrated Traditional Chinese and Western Medicine in the Treatment of Acute Respiratory Distress Syndrome. Medicine, 99(25): e20341.

[15] Liu Y, Zeng S, Li Y, et al., 2020, The Effect of Acupoint Application of Traditional Chinese Medicine for the Treatment of Chronic Obstructive Pulmonary Disease: A Protocol for Systematic Review and Meta-Analysis. Medicine, 99(43): e22730.