

Clinical Study on Treatment of Chronic Prostatitis with Lingze Tablets Combined with TCM Herbal Acupoint Plasters

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Abstract: *Objective:* To study the therapeutic effect of Lingze tablets combined with traditional Chinese medicine herbal acupoint plasters on chronic prostatitis. *Methods:* A total of 64 patients with chronic prostatitis who were admitted to the Andrology Clinic of Shuyang County Hospital of Traditional Chinese Medicine from March 2021 to March 2023 were randomly divided into a treatment group and a control group, with 32 cases in each group. The control group took Lingze tablets orally, 4 tablets/time, 3 times/d; the treatment group took the same medication along with traditional Chinese medicine acupoint herbal plasters. The two groups of patients were treated continuously for 6 weeks, and the differences in the relevant indexes of the curative effect were observed. *Results:* The NIH-Chronic Prostatitis Symptom Index (NIH-CPSI) scores of the two groups significantly reduced after treatment ($P < 0.05$), and the scores of the patients in the treatment group were lower than those in the control group ($P < 0.05$). The treatment received in the treatment group achieved an efficacy of 96.88%, which was significantly higher than that of the control group, which was 81.25% ($P < 0.05$). The maximum flow rate (MFR), average flow rate AFR, and urine output of the patients of both groups improved significantly after treatment ($P < 0.05$). However, the experimental group showed better improvements in these indicators ($P < 0.05$). *Conclusion:* Lingze tablets combined with traditional Chinese medicine acupoint herbal plasters can significantly improve the symptoms and urodynamic function of patients with chronic prostatitis.

Keywords: Chronic prostatitis; Lingze tablet; Traditional Chinese medicine; Acupoint herbal plasters

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1. Introduction

Chronic prostatitis is a common male urinary system disease that causes great pain and distress among its patients. Although there are many traditional treatment methods for this disease, such as antibiotics and oral Chinese medicine, these methods are rather ineffective. Therefore, finding an effective treatment method is of great significance for improving the quality of life of patients and reducing symptoms. Lingze tablet has the effects of nourishing the kidney, activating blood circulation, dispelling stagnation and diuresis, and is widely used in clinical treatment of various mild and moderate benign prostatic hyperplasia^[1,2]. Traditional Chinese

medicine (TCM) has achieved remarkable curative effects in the treatment of many diseases^[3,4]. However, the effect of Lingze tablets combined with TCM acupoint herbal plasters in the treatment of chronic prostatitis have not been studied extensively. Therefore, this study aims to investigate the efficacy of Lingze tablets combined with TCM acupoint herbal plasters in the treatment of chronic prostatitis, in order to provide patients with better treatment options, improve their quality of life, and relieve pain through this study. If this treatment method is proven effective, it will provide a new option for the treatment of chronic prostatitis, and provide a theoretical and practical basis for further research on TCM treatment of this disease.

2. Materials and methods

2.1. Clinical data

A total of 64 patients with chronic prostatitis who were admitted to the Andrology Clinic of Shuyang County Hospital of Traditional Chinese Medicine from March 2021 to March 2023 were included in this study. They were divided into a treatment group and a control group according to the random number table method, with 32 cases in each group. The ages of the patients in the treatment group ranged from 27 to 59 years (average of 42.37 ± 3.78 years), and the course of disease ranged from 4 months to 7 years, with an average of 3.12 ± 0.65 years. The age of patients in the control group was 25–60 years (average of 41.89 ± 3.53 years old) years old, and the course of disease ranged from 5 months to 6 years, with an average of 3.08 ± 0.57 years. There was no significant difference in the baseline data of the patients ($P > 0.05$).

2.2. Diagnostic criteria

Diagnostic criteria based on Western medicine: (1) The clinical symptoms include urinary urgency, frequent urination, dysuria, nocturia, and urethral drip; pain in the urethra, perianal area, pubic area, lumbosacral area, and penile and pelvic regions; insomnia, depression, anxiety. and other symptoms. (2) The following indicators were measured during a rectal examination: prostate texture and size, tenderness, nodules, pelvic floor muscle tension, pelvic wall tenderness. (3) Color ultrasound of the prostate showed that the size of the prostate exceeded 4 cm*3 cm*2 cm. (4) Imaging examination: Organic lesions of the urinary tract were excluded; if the findings were consistent with items (1), (2), and (3), the diagnosis can be confirmed^[5].

Diagnostic criteria based on TCM: incomplete urination, frequent urination, urinary urgency; pain in testis, perineum, lumbosacral, and lower abdominal discomfort or pain; secondary manifestations of damp scrotum. Besides, tongue symptoms include red tongue with yellow and greasy coating; while pulse symptoms include slippery, astringent or slippery pulse. If the main symptoms were present along with two secondary manifestations, and that the tongue and pulse's condition were consistent with the aforementioned characteristics, the diagnosis can be confirmed^[6].

2.3. Inclusion and exclusion criteria

2.3.1. Inclusion criteria

(1) Patients who fulfilled the diagnostic criteria of Western medicine and TCM, (2) patients who had been sick for more than 3 months, (3) patients who were ≥ 18 years old, (4) patients who had history of similar treatments in the past half month, (5) patients who were informed about the study and voluntarily signed the informed consent.

2.3.2. Exclusion criteria

(1) Patients with abnormal urination and pelvic region pain caused by other diseases such as prostate cancer and

overactive bladder, (2) patients with mental disorders, (3) patients with severe cardiovascular or cerebrovascular diseases, (4) patients with severe liver and kidney insufficiency.

2.4. Methods

The two groups of patients underwent the same routine intervention methods: taking appropriate physical exercise, avoiding spicy food, quitting smoking and drinking, and not staying up late.

2.4.1. Control group

The control group took Lingze tablets (Zhejiang Zuoli Pharmaceutical Co., Ltd.; product batch number 20200004; specification 0.58g/tablet): 4 tablets/time; 3 times/d; for 6 weeks of continuous treatment.

2.4.2. Treatment group

Oral Lingze tablets were used in combination with acupoint herbal plasters. The following acupoints were selected: Zhongji, Guanyuan, Shuidao, Qihai, Shenshu, and Dazhui. The composition of the ingredients in the plaster: *Prunella vulgaris*, *Patrinia*, dandelion, *Viola* (10 g each); *Evodia* (5 g), cinnamon (5 g), and white mustard seed (5 g). The ingredients were ground into powder and mixed evenly. An suitable amount of glycerin and white vinegar, were added into the powder and mixed evenly. The mixture was then applied to patches. The patches were then placed on the Zhongji, Guanyuan, Shuidao, Qihai, Shenshu, and Dazhui acupoints of the patient. The plasters were applied for 15 minutes each time. A course of treatment lasted for 3 weeks as a course of treatment and the patients underwent 2 courses of treatment in total.

2.5. Evaluation of treatment indicators

2.5.1. Symptoms and changes in condition

The National Institutes of Health-CP Symptom Index (NIH-CPSI) was used to evaluate the symptoms and conditions of patients: pain (0–21 points), urinary symptoms (0–10 points), and the impact of symptoms on the quality of life (0–12 points). The total score ranged from 0 to 43 points, and the higher the score, the more severe the symptoms and condition of the patient ^[7].

2.5.2. Evaluation of clinical efficacy

(1) Cured: NIH-CPSI score decreased by over 90%, prostatic fluid microscopic examination returned to normal, and lecithin bodies increased to over 75%. (2) Very effective: NIH-CPSI score decreased by over 60% but less than 90%, prostatic fluid microscopic examination showed significant improvement and lecithin bodies increased. (3) Effective: The NIH-CPSI score decreased by over 30% but did not reach 60%. Microscopic examination of prostatic fluid and lecithin bodies both improved compared to before treatment. (4) Ineffective: Did not meet any of the above evaluation criteria ^[8].

2.5.3. Urodynamic indicators

The following urodynamic indicators were detected before and after treatment using a multi-lead urodynamic apparatus: maximum flow rate (MFR), average urinary flow rate (AFR) and urine output ^[9].

2.6. Statistical analysis

SPSS 26.0 software was used for statistical analysis. The measurement data were expressed in the form of mean \pm standard deviation, and were analyzed using *t*-test; the count data were expressed in the form of cases and

percentages, and were analyzed using the χ^2 test. $P < 0.05$ indicates statistical significance.

3. Results

3.1. Comparison of NIH-CPSI scores between the two groups

The NIH-CPSI scores of the two groups significantly improved after treatment ($P < 0.05$), and the scores of the treatment group were lower than those of the control group ($P < 0.05$), as shown in **Table 1**.

Table 1. Comparison of NIH-CPSI score changes between the two groups before and after treatment (mean \pm standard deviation)

Group	Before treatment	After treatment	<i>t</i>	<i>P</i>
Control group	28.31 \pm 4.74	16.47 \pm 2.38	12.628	0.000
Treatment group	28.25 \pm 4.36	11.22 \pm 2.03	20.031	0.000
<i>t</i>	0.053	9.494	-	-
<i>P</i>	0.958	0.000	-	-

3.2. Comparison of the clinical efficacy of the two treatments

After treatment, the total efficacy of treatment in the treatment group reached 96.88%, significantly higher than that of the control group, which was 81.25% ($P < 0.05$), as shown in **Table 2**.

Table 2. Comparison of the clinical efficacy of the two groups of patients (*n* [%])

Group	Total number of cases	Cured	Very effective	Effective	Ineffective	Total effective rate
Control group	32	10 (31.25)	11 (34.38)	5 (15.63)	6 (18.75)	26 (81.25)
Treatment group	32	16 (50.00)	12 (37.50)	3 (9.38)	1 (3.13)	31 (96.88)
χ^2						4.010
<i>P</i>						0.045

3.3. Comparison of urodynamic indicators between the two groups

After treatment, the MFR, AFR, and urine output of the two groups were significantly greater than those before treatment ($P < 0.05$); at the same time, the levels of the above urodynamic indexes in the treatment group were greater than those in the control group ($P < 0.05$). See **Table 3**:

Table 3. Comparison of urodynamic indicators between the two groups before and after treatment (mean \pm standard deviation)

Group	MFR (ml/s)		AFR (ml/s)		Urine output (ml)	
	Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
Control group	19.61 \pm 2.35	23.63 \pm 2.01	11.76 \pm 1.25	15.62 \pm 1.43	335.14 \pm 12.63	371.54 \pm 10.68
Treatment group	19.13 \pm 2.26	27.58 \pm 2.14	11.48 \pm 1.31	18.81 \pm 1.09	331.28 \pm 14.26	462.83 \pm 11.12
<i>t</i>	0.833	7.611	0.875	10.036	1.146	33.494
<i>P</i>	0.408	0.000	0.385	0.000	0.256	0.000

4. Discussion

Chronic prostatitis is a common male urinary system disease. The traditional treatment method mainly involves relieving pain and improving symptoms through oral antibiotics and other anti-inflammatory drugs. However, the therapeutic effect of oral anti-inflammatory drugs alone is limited^[10]. Therefore, finding more effective treatment methods has become an important topic of clinical research.

In this study, a different set of treatment was given to the control group and the treatment group. By comparing the NIH-CPSI scores of the two groups of patients before and after treatment, it was found that the scores of the two groups of patients significantly reduced after treatment, and the scores of patients in the treatment group were lower than the control group. This shows that Lingze tablets combined with TCM herbal acupoint plasters can significantly improve the symptoms of patients with chronic prostatitis and improve the patients' quality of life. The total efficacy of the treatment received in the treatment group was also significantly higher than that in the control group, further affirming the effectiveness of Lingze tablets combined with TCM herbal acupoint plasters.

In addition, the urodynamic indicators MFR, AFR and urine output of the two groups of patients also improved after treatment, and the levels of these indicators of the patients in the treatment group were higher than those in the control group. This shows that Lingze tablets combined with TCM herbal acupoint plasters can not only relieve symptoms, but also improve urodynamic function, which is very important for patients with chronic prostatitis, because the improvement of urodynamic indicators can reduce symptoms such as dysuria and frequent urination, and improve the quality of life^[11].

The effectiveness of TCM herbal acupoint plasters may be attribute dto the pharmacological effects of TCM and the selection of acupoints. Chinese medicine can relieve inflammation and improve symptoms by regulating the patient's immune system and anti-inflammatory response^[12,13]. TCM herbal acupoint plasters can stimulate the nerves and blood vessels around the acupuncture points to promote blood circulation and metabolism, and improve inflammatory responses. Therefore, TCM herbal acupoint plasters can comprehensively exert the therapeutic effects of TCM to achieve a better curative effect^[14,15].

However, this study also has some shortcomings. First, the sample size of the study is relatively small, and there may be some bias. Secondly, this study only observed the short-term effect, and the long-term effect is still unknown. In addition, the mechanism of action of the TCM herbal acupoint plasters were not studied.. Therefore, further studies are still needed to verify these aspects.

5. Conclusion

In summary, Lingze tablets combined with TCM herbal acupoint plasters can significantly improve the symptoms and urodynamic function of patients with chronic prostatitis. However, due to certain limitations in the study, further studies are needed to verify the long-term efficacy and mechanism of TCM herbal acupoint plasters. It is hoped that more research can be carried out in the future to provide more effective methods for the treatment of chronic prostatitis.

Disclosure statement

The authors declare no conflict of interest.

References

- [1] Zhang G, Wu G, 2022, Clinical Efficacy of Lingze Tablets Combined with Tamsulosin and Levofloxacin Tablets in the Treatment of Benign Prostatic Hyperplasia with Prostatitis of Kidney Deficiency, Blood Stasis and Dampness Obstruction. *Clinical Rational Drug Use*, 15(12): 108–111.
- [2] Li H, Sun Y, Liu S, 2022, Clinical Efficacy of Lingze Tablets Combined with Tamsulosin Hydrochloride Sustained-release Capsules in the Treatment of Benign Prostatic Hyperplasia. *China Andrology*, 36(1): 85–89.
- [3] Hong Y, Zhou Y, Qian H, 2023, The Application of Pain Management Combined with Acupoint Sticking Therapy in the Rehabilitation of Patients with Lower Urinary Tract Syndrome After Transurethral Resection of the Prostate. *Chinese Sexology*, 32(3): 142–146.
- [4] Zou Y, Chen Y, 2022, Effect of Acupoint Sticking Combined with Auricular Point Sticking on Postoperative Bladder Spasm in Patients with Benign Prostatic Hyperplasia. *Guangming Traditional Chinese Medicine*, 37(14): 2601–2604.
- [5] Wang C, Wang Y, Zhang J, *et al.*, 2022, Clinical Study on Lingze Tablets Combined with Tamsulosin Hydrochloride in the Treatment of Benign Prostatic Hyperplasia of Kidney Deficiency and Blood Stasis Type. *New Chinese Medicine*, 54(4): 80–83.
- [6] Yuan S, Gong X, Huang X, *et al.*, 2021, Single-Arm, Open, Multi-Center Phase IV Clinical Study and Safety Evaluation of Lingze Tablets in the Treatment of BPH With Kidney Deficiency, Blood Stasis and Dampness Type. *Chinese Journal of Andrology*, 27(8): 733–737.
- [7] Zhao M, Sha K, Wang Y, 2023, Observation on the Curative Effect of Lingze Tablets Combined with Aprelate in the Treatment of Benign Prostatic Hyperplasia. *Modern Drugs and Clinics*, 38(5): 1203–1207.
- [8] Zhao Y, Yin Q, Lin H, *et al.*, 2023, Effects of Psychological Intervention Combined with Acupoint Application of Yanlitong Paste on the Prognosis and Quality of Life of Patients with Benign Prostatic Hyperplasia Under the Stress and Coping Mode. *Journal of Clinical Psychosomatic Diseases*, 29(2): 100–105.
- [9] Meng F, Li H, Zhao Q, *et al.*, 2021, Observation on the Curative Effect of Lingze Tablets in the Treatment of Benign Prostatic Hyperplasia in the Real World. *Chinese Journal of Andrology*, 35(4): 40–44.
- [10] He W, Chen Q, 2021, Jisheng Shenqi Pills Combined with Acupoint Application in the Treatment of 23 Cases of Benign Prostatic Hyperplasia with Damp-Heat Stagnation Due to Kidney Deficiency. *Hunan Journal of Traditional Chinese Medicine*, 37(10): 57–59.
- [11] Hao Z, Xia L, Wang J, *et al.*, 2019, Clinical Research on Qilong Decoction Combined with Acupoint Application on Volume Changes of Benign Prostatic Hyperplasia. *New Chinese Medicine*, 51(3): 173–175.
- [12] Liang Q, Liu B, Zhang S, *et al.*, 2020, Systematic Evaluation of the Clinical Efficacy of Acupoint Sticking Therapy in the Treatment of Chronic Prostatitis. *Journal of Guangzhou University of Traditional Chinese Medicine*, 37(5): 996–1002.
- [13] Sun T, Huang X, Yao S, *et al.*, 2020, Observation on the Curative Effect of Prostate No. 2 Prescription Combined with Enema and Acupoint Application in the Treatment of Chronic Prostatitis. *Chinese General Medicine*, 18(4): 662–665.
- [14] Yan Y, Liu L, Qian W, *et al.*, 2023, Research Progress on External Treatment of Chronic Prostatitis with Traditional Chinese Medicine. *Chinese Modern Doctor*, 61(11): 125–128.
- [15] Luo G, Chi Z, Mao Q, *et al.*, 2023, Research Progress in the Treatment of Benign Prostatic Hyperplasia with Traditional Chinese and Western Medicine in the Past Five Years. *Chinese Folk Therapy*, 31(4): 106–110.

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