

Original Article

Clinical observation and nursing value analysis of traditional Chinese medicine application in the treatment of benign prostatic hyperplasia

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Abstract: Objective: To study the efficacy of traditional Chinese medicine (TCM) application in the treatment of benign prostatic hyperplasia (BPH). Methods: A retrospective study was conducted on 67 BPH patients treated from December 2019 to May 2020. According to different treatment methods, the patients were divided into control group and observation group. The control group received conventional treatment, while the observation group used TCM application. Relevant clinical indicators including total effective rate, international prostate symptom score, maximum urinary flow rate and generic quality of life inventory score were measured and compared between the two groups before and after treatment. Results: The total effective rate of treatment in the observation group was significantly higher than that in the control group (96.97% vs. 85.29%, $P<0.001$). After treatment, the international prostate symptom score of the observation group (6.15 ± 6.84) was lower than that of the control group (7.53 ± 2.51), and the maximum urinary flow rate in the observation group was higher than that in the control group (15.06 ± 2.68 vs. 13.35 ± 2.89 , both $P<0.05$). The generic quality of life inventory score of the observation group was significantly better than that of the control group ($P<0.05$). The incidence of adverse reactions in the observation group was significantly lower than that in the control group (30.30% vs. 94.12%; $Z=-4.332$, $P=0.000$). Conclusion: The use of TCM application in controlling BPH is effective. TCM application can effectively improve the prognosis, quality of life and therapeutic effect of patients, which is worthy of extensive application and promotion.

Keywords: Traditional Chinese medicine application, benign prostatic hyperplasia, therapeutic effect, nursing value

Introduction

Benign prostatic hyperplasia (BPH) is a common disease in the urology department. The initial symptoms of BPH are not severe, so it is generally ignored. With the continuous aggravation of patient's condition, it is very likely to show bladder irritation symptoms, obstruction symptoms, obstruction complications, etc. if patients do not receive professional treatment. This affects the normal life of patients to a certain extent, and even endangers their lives, bringing heavy burden on patients and their families [1]. Patients with mild BPH are mainly treated conservatively, and there is no specific medicine. Patients with more severe BPH usually receive surgical treatment, but the operation is more traumatic, and excessive bed rest time may also cause postoperative complications and adverse events [2]. The existing research shows that the use of traditional

Chinese medicine (TCM) application has a relatively clear therapeutic effect, which can effectively relieve the symptoms of BPH such as dysuria, less frequency of urination, and improve the life quality of patients [3]. Over the years, TCM has been gradually accepted by patients for its ideal therapeutic effect on BPH with few adverse reactions and low cost performance [4]. Our department carried out TCM application combined with acupuncture to treat BPH, and achieved a satisfied clinical effect. Therefore, this study takes this as a starting point to provide a basis for the efficacy and safety of TCM application in the treatment of BPH.

Materials and methods

General information

Sixty-seven patients with BPH treated in Traditional Chinese Hospital of Lu'an from

December 2019 to May 2020 were selected and divided into control group and observation group. The control group (n=34) received traditional drug therapy and nursing measures, while the observation group (n=33) was treated with TCM application. All patients or their families signed the informed consent, and this study was approved by the Ethics Committee of Traditional Chinese Hospital of Lu'an.

In order to guarantee the reliability of this study, the relevant data of two groups were compared and analyzed, and it was found that there was no significant difference in patient's conditions between the two groups ($P>0.05$), which was comparable.

Inclusion and exclusion criteria

Inclusion criteria: All patients met the standard of diagnosis and TCM syndrome differentiation according to the diagnostic criteria of BPH in "Wu Jieping Urology" [5]; male patients were 50-80 years old; the course of disease was more than 3 months; international prostate symptom score (I-PSS) >8 points; prostate weight >20 g; maximum urinary flow rate <15 mL/s (The last three items refer to the criteria recommended by the International Scientific Committee of the Benign Prostatic Hyperplasia Advisory Committee and the 2009 Chinese guidelines for diagnosis and treatment of urological disease).

Exclusion criteria: Patients who underwent medical intervention for BPH in the last 3 months; patients who had any experimental intervention for prostate disease or were enrolled in other studies; patients with other heart, lung, liver and kidney diseases.

Methods

The control group was treated with western medicine. Pushitai tablet (Nanjing Meirui Pharmaceutical Co., Ltd., China) was taken orally for 1 tablet/time, twice a day, and routine nursing was added.

The observation group was given TCM application combined with acupoint treatment, and the prescription was composed of aconite, cinnamon, clove, red halloysite and so on. The above drugs were ground into fine powder together, and 3 g of the powder was added to yellow rice wine and mixed into a paste for standby. A 2 cm \times 2 cm film was applied to

Shenque, Guanyuan and Qihai for 4 h each time, once a day [6]. Three consecutive courses of treatment were required, that is, 21 days. Nursing measures: First, it is necessary to actively communicate with patients. During communication, nursing staff should be kind and use common words, then observe the symptoms of patients and actively understand their feelings in the process of treatment, in order to be more familiar with patients' knowledge and skills of TCM application. On this basis, they can provide better care for patients. Second, nursing staffs need to reasonably manage patients' diet and strictly control the dietary indicators according to their treatment and their own actual situation. Besides, they should require patients to keep a good sleep. It is best to go to bed early and get up early, which is helpful to help patients control relevant indicators. In addition, offline peer education through WeChat and special lectures can be held to answer patients' questions systematically. At the same time, it is beneficial to help patients control related indicators and reduce complications during the use of TCM application by encouraging them to actively exercise.

Outcome measures

This study aimed to observe the relevant clinical indicators of two groups before and after treatment, including the total effective rate of treatment, I-PSS, maximum urinary flow rate and generic quality of life inventory (GQOL) scores. According to the improvement of indicators, the total effective rate was classified into three grades. Marked effective: the main symptoms were significantly improved and the maximum urinary flow rate was increased by 30%. Effective: the main symptoms were improved and the maximum urinary flow rate was increased by 10%. Ineffective: The main symptoms and various indicators did not change or even worsen. Total effective rate = (number of marked effective cases + number of effective cases)/total number of cases \times 100%. The I-PSS was based on the international prostate symptom score (except quality of life) and divided to three grades: Mild: 0-7; moderate: 8-19; severe: 20-35 [7].

Statistical analysis

All research data were analyzed with SPSS-22.0. The measurement data were performed

Table 1. Comparison of general information between the two groups ($\bar{x} \pm sd$)

Basic information	Control group (n=34)	Observation group (n=33)	t/ χ^2 /Z	P
Age (year)	66.7 \pm 7.1	64.2 \pm 7.8	1.380	0.172
Course of disease (month)			0.143	0.931
3-12	7 (20.59%)	6 (18.18%)		
13-36	10 (29.41%)	9 (27.27%)		
37-147	17 (50.00%)	18 (54.55%)		
Patients' condition			-0.601	0.548
Mild	0	0		
Moderate	10 (29.41%)	12 (36.36%)		
Severe	24 (70.59%)	21 (63.64%)		

Table 2. Comparison of therapeutic effect between the two groups (n, %)

Group	Control group	Observation group	χ^2	P
Cases	34	33		
Marked effective	18	24		
Effective	11	8		
Ineffective	5	1		
Total effective rate	29 (85.29)	32 (96.97)	5.364	<0.001

Table 3. Comparison of I-PSS between the two groups ($\bar{x} \pm sd$)

Group	Control group	Observation group	t	P
Cases	34	33		
Before treatment (score)	12.18 \pm 3.06	12.79 \pm 3.20	0.800	0.427
After treatment (score)	7.53 \pm 2.51	6.15 \pm 6.84	-2.566	0.013
t	9.513	19.809		
P	<0.001	<0.001		

with normality test, and those subject to the normal distribution were expressed as mean \pm standard deviation ($\bar{x} \pm sd$). Independent sample t-test was used for comparisons between groups, and paired sample t-test was used for intra-group comparison before and after treatment. The count data were expressed as cases/percentage (n/%) and evaluated by the χ^2 test. $P < 0.05$ indicated that the difference was statistically significant.

Results

Comparison of general information between the two groups

There were no statistically significant differences in course of disease, age and patients' con-

dition between the two groups (all $P > 0.05$), as shown in **Table 1**.

Comparison of therapeutic effect between the two groups

It was found that the total effective rate of treatment in the observation group was higher than that in the control group (96.97% vs. 85.29%, $P < 0.001$). See **Table 2**.

Comparison of I-PSS between the two groups

After treatment, the scores of patients in both groups were significantly lower than those before treatment ($P < 0.001$), and the I-PSS in the observation group was lower than that in the control group (6.15 \pm 6.84 vs. 7.53 \pm 2.51, $P < 0.05$). See **Table 3**.

Comparison of maximum urinary flow rate between the two groups

After treatment, the maximum urinary flow rate of the two groups was signifi-

cantly higher than that before treatment ($P < 0.001$), and the maximum urinary flow rate of the observation group was significantly higher than that of the control group (15.06 \pm 2.68 vs. 13.35 \pm 2.89, $P < 0.05$), as shown in **Table 4**.

Comparison of life quality scores between the two groups

After treatment, the prognostic life quality score of the observation group was better than that of the control group ($P < 0.01$). See **Table 5**.

Comparison of the incidence of adverse reactions between the two groups

There were 20 cases of nausea symptoms, 10 cases of constipation and 2 cases of ga-

Table 4. Comparison of maximum urinary flow rate between the two groups ($\bar{x} \pm sd$)

Group	Control group	Observation group	t	P
Cases	34	33		
Before treatment (mL/s)	10.16±2.36	10.36±2.06	0.367	0.715
After treatment (mL/s)	13.35±2.89	15.06±2.68	2.511	0.015
t	3.670	4.924		
P	<0.001	<0.001		

strointestinal discomfort in the control group, and the incidence of adverse reaction was 94.12%. During the treatment, there were only 5 cases of nausea symptoms, 3 cases of constipation and 2 cases of gastrointestinal discomfort in the observation group, and the incidence of adverse reaction was 30.30%, which was significantly lower than that in the control group ($Z=-4.332$, $P=0.000$). See **Figure 1**.

Discussion

With the continuous promotion of the quality of life, the average life expectancy in some regions has even exceeded 70 years [8, 9]. As China continues to increase investment in the fields of public health and medical technology, etc., it has also pushed up the life expectancy of our country to a certain extent, and our population has entered the ranks of the aging society [10, 11]. The organ functions of elderly patients decline to varying degrees with the increase of their age. Among them, there are more and more elderly patients with chronic benign prostatic hyperplasia in China. Under normal circumstances, patients will suffer from insomnia and malnutrition [12]. Research results show that BPH has become a very common disease. The prostate of most BPH patients will protrude toward the urethra or bladder due to hyperplasia, which leads to the lengthening, bending or narrowing of the posterior urethra, resulting in frequent urination, urgent urination and other symptoms [13, 14]. At the present stage, there is no specific drug in the clinical treatment of BPH. Conservative treatment is adopted for mild and moderate patients, while surgical treatment is adopted for severe patients. Failure to recover as soon as possible after surgery may lead to various complications, which poses great challenges to doctors [15, 16]. Today, there is no effective treatment for BPH, most of them only

relieve symptoms, and there is a high risk of recurrence.

In the category of traditional Chinese medicine, the occurrence of BPH is mainly caused by the weak renal function, so it can be treated with the help of TCM application, which has a more obvious effect and

has fewer side effects [17]. Through the application of drugs on Shenque acupoint, it can stimulate meridian, tonify kidney, harmonize qi and blood, and adjust Yin and Yang in the body, so as to achieve the purpose of treating internal diseases by external therapy [18]. At the same time, TCM acupoint application has the effect of magnetic field treatment, which can achieve the anti-inflammatory and analgesic effect and improve the efficacy of treatment [19]. Acupoint application therapy is a unique external treatment method in traditional Chinese medicine. Combined with appropriate nursing measures, it is conducive to improving patients' condition, easy to perform, and has clear therapeutic effect [20, 21]. In this study, the results showed that the total effective rate of treatment in the observation group (96.97%) was significantly higher than that in the control group (85.29%). After treatment, the I-PSS of the observation group (6.15 ± 6.84) was lower than that of the control group (7.53 ± 2.51), and the maximum urinary flow rate in the observation group (15.06 ± 2.68) was higher than that in the control group (13.35 ± 2.89). In addition, the prognostic life quality score of the observation group was better than that of the control group. The incidence of adverse reactions in the observation group (30.30%) was also lower than that in the control group (94.12%).

Since this study only investigated some indicators, and the scope involved was relatively small, the value of TCM application was still not deeply discussed. Further research will be conducted in the future.

In summary, TCM application has a significant effect on BPH treatment and improvement of clinical indicators ($P<0.05$), thus the use of TCM application in controlling patients' BPH is effective. TCM application can effectively improve patients' prognosis, quality of life and

Table 5. Comparison of life quality scores between the two groups ($\bar{x} \pm sd$)

Item	Time	Control group (n=34)	Observation group (n=33)
General health	Before treatment	24.45±3.15	24.84±3.12
	After treatment	23.89±3.26	35.54±4.14 ^{**##}
Physiological function	Before treatment	54.48±5.45	54.23±5.09
	After treatment	55.05±5.58	65.37±6.50 ^{**##}
Energy	Before treatment	35.02±4.21	34.65±3.21
	After treatment	35.41±3.69	45.60±4.71 ^{**##}
Body pain	Before treatment	44.07±5.12	45.85±4.15
	After treatment	44.17±4.62	64.32±7.41 ^{**##}
Social function	Before treatment	49.08±5.01	48.50±4.11
	After treatment	49.45±5.65	65.47±6.98 ^{**##}
Role of emotion	Before treatment	46.55±5.23	46.14±5.12
	After treatment	47.56±5.14	63.52±6.47 ^{**##}
Mental health	Before treatment	50.98±6.14	51.32±4.25
	After treatment	51.23±5.36	54.24±3.66 ^{**##}
Physical component summary	Before treatment	142.36±16.34	140.35±15.30
	After treatment	144.52±18.65	198.50±20.22 ^{**##}
Mental component summary	Before treatment	180.85±22.63	178.54±26.50
	After treatment	182.45±20.47	235.32±32.01 ^{**##}
Total score	Before treatment	325.36±33.25	324.14±31.04
	After treatment	323.25±35.59	427.44±44.13 ^{**##}

Note: Compared with the same group before treatment, ^{**}P<0.01; compared with the control group in the same period, ^{##}P<0.01.

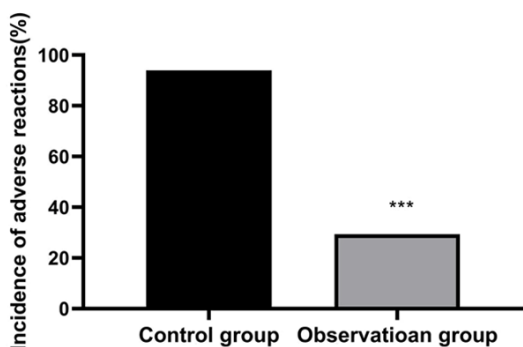


Figure 1. Comparison of the incidence of adverse reactions between the two groups. Compared with the control group, ^{***}P<0.001.

therapeutic effect, which is worthy of wide application and promotion.

Disclosure of conflict of interest

None.

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