

Observation on the Curative Effect of Auricular Acupoint Sticking Combined with Acupoint Sticking in the Treatment of Diabetic Constipation

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Abstract: The study was conducted to observe the clinical effect of acupoint and auricular point application on diabetes patients with constipation. Around 104 patients with diabetes and constipation were selected from the Hospital Shaanxi University of Chinese Medicine from February 2021 to February 2022 as the study subjects. They were divided into groups by drawing lots. The experimental group carried out the combined analysis of acupoint and auricular point application based on the treatment methods of the control group. Meanwhile, the control group carried out the traditional treatment, and the evaluation index, including the improvement of constipation and the clinical effective rate data were included in the analysis. This study showed that, the total effective number of patients, times of defecation per week, time of defecation, and interval of defecation in the experimental group were greater, compared to control group ($p < 0.05$). In summary, diabetes patients with constipation, the auricular plaster and acupoint application can effectively improve the constipation symptoms, shorten the defecation time, improve the cure rate of the disease, and ensure the normal defecation cycle in the patients.

Keywords: Auricular acupoint pressing; Acupoint application; Diabetes constipation; Treatment effect

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1. Introduction

Diabetes constipation is a clinical complication of diabetes^[1], which belongs to peripheral neuropathy, and happens at high incidence in diabetes patients. It has been reported that most of the diabetes patients have high blood glucose indicators, which can induce abnormal gastrointestinal and neurological functions, which can seriously affect the quality of life of patients, subsequently increased the risk of adverse complications^[2]. The clinical effect is not ideal due to the influence of tolerance, medication compliance, constipation, and other factors, therefore with the progress of traditional Chinese medicine, treatment methods, such as auricular point sticking and acupoint application has used frequently, which can fully improve the patients' constipation symptoms, gradually restore the patients' normal defecation law, and shorten the patients' defecation time under the condition of ensuring their life, health, and safety^[3,4]. The study subjects are 104 patients with diabetes constipation collected from the hospital from February, 2021 to February, 2022. The improvement of constipation and clinical efficiency indicators after acupoint and auricular point application are summarized in this article.

2. Data and methods

2.1. Clinical data

Around 104 patients with diabetes constipation admitted in the hospital between February 2021 to February 2022 were selected for this study. The selected patients were grouped as follows; According to the method of drawing lots, the male to female ratio of 52 cases in the control group was 27:25, the age summary was ≥ 53 , ≤ 73 , and the average age was (63.42 ± 1.71) years old; In the experimental group, the ratio of female to male was 26:26, the total age was ≥ 52 , ≤ 74 , and the mean age was (63.38 ± 1.92) years old. The sex and age baseline data of 104 patients were not statistically significant ($p > 0.05$), meaning data obtained from these groups can be statistically compared.

The diagnostic evaluation of constipation as described below:

- (1) Patients defecate less than 3 times a week.
- (2) At least one quarter of defecation requires manual support.
- (3) The rectum may be blocked most of the time.
- (4) Most of the stool after defecation is dry, or hard or massive.
- (5) Most patients have a sense of exhaustion when defecating.
- (6) Some patients feel laborious when defecating.

Meanwhile, the diagnostic evaluation of diabetes is as follows:

- (1) The blood glucose index measured at random was more than 11.1mmol/l.
- (2) The blood glucose 2 hours after meal was more than 11.1mmol/l.
- (3) The fasting blood glucose was 7.0mmol/l.

The inclusion criteria for the study are as follows:

- (1) The study was approved by the Ethics Committee.
- (2) The basic data of the patients is complete.
- (3) The cardiopulmonary function of the patients is normal.
- (4) The cognition of the patients is normal.
- (5) The family members and patients signed the information form.

The exclusion criteria for the study are as follows ^[5]:

- (1) Patients with hereditary mental disorder.
- (2) The whole experiment is not completed by the patients.
- (3) It does not match the clinical diagnostic assessment.
- (4) Patients have recently used laxative drugs.
- (5) Patients who are allergic to experimental drugs.
- (6) Patients with pregnant diabetes.
- (7) Patients who have poor compliance.

2.2. Methods

The routine treatments include the following: clinical guidance for patients to maintain a healthy diet and normal exercise to control their own body weight and made adjustments to poor lifestyle habits; using insulin or other hypoglycemic drugs to control blood sugar, and taking oral laxative drugs, according to the doctor's advice ^[6].

The acupoint and auricular point application treatments include the following: for acupoint application, the traditional Chinese medicine is made into a paste, and the local acupoints of the patients is disinfected and cleaned with alcohol cotton swabs ^[7]; the drugs are then placed on the corresponding acupoints, such as left and right Tianshu points, Shenque points, Guanyuan points, and others, and the drugs should be effectively fixed ^[8]; the acupoint application is performed once a day, each application lasts for 5 hours, and half a month is the duration of the treatment; auricular point pressing refers to selective parts on the

patient's body, including Pizhixia, Jiaogan points, Shenmen points, constipation points, Sanjiao points, lung, large intestine, rectum, double ears, and other points are stuck and pressed using the seeds of semen Platycladus; the rubbing and pressing process is repeated multiple times with the weight alternating, and it should be applied and pressed 5 times a day, 4 minutes each time, one week is the duration of the treatment, and the two ears are treated alternately [9].

2.3. Observation indicators

Below are the indicators which were recorded in this study:

Clinical effect: (1) Invalid: The symptoms of constipation were aggravated and adverse reactions occurred; (2) Valid: The constipation was improved but not smooth enough, and the stool was dry; (3) Remarkable effect: The patient had a smooth bowel movement, the symptoms of constipation disappeared, and the stool characteristics were normal [10].

Improvement of constipation; the patients' weekly defecation frequency, defecation interval, defecation time, and other indicators were summarized.

2.4. Statistical methods

The number of patients and clinical treatment effect in this study was counted by %, and X^2 value was given. The weekly defecation frequency, defecation interval, and defecation time of patients were counted by ($\pm s$). The SPSS21.0 software was used to summarize the data. Chi square value, t value, and p value were analyzed. If a p was below 0.05 ($p < 0.05$), indicating the value is statistically significant.

3. Results

3.1. Treatment effect

After evaluation, the total effective number of patients in the experimental group was better, than in the control group ($p < 0.05$) as shown in **Table 1**.

Table 1. Treatment effect of two groups (%)

Group	Number of cases	Remarkable effect	Valid	Invalid	Total effective rate
Control group	52	17	23	12	76.9%
Experience group	52	40	11	1	98.1%
X^2		-	-	-	10.6374
p		-	-	-	0.0011

3.2. Improvement of constipation

The frequency, time, and interval of defecation in the experimental group were better, compared to the control group ($p < 0.05$) as shown in **Table 2**.

Table 2. Comparative analysis of defecation frequency (week), defecation interval (d), and defecation time (min) between the two groups

Group	Number of cases	Defecation frequency	Defecation interval	Defecation time
Control group	52	2.17±0.65	4.28±1.07	14.92±1.13
Experience group	52	5.29±0.73	2.75±1.16	4.82±0.96
t		23.0177	6.9911	49.1201
p		0.0000	0.0000	0.0000

4. Discussion

Diabetes is a chronic metabolic lifelong disease with a high clinical incidence. With the change in blood glucose index, the peripheral nerve function and gastrointestinal function of the patients become much worse than before, resulting in adverse complications, such as constipation and diabetes foot. In addition, diabetes constipation has a high incidence in the clinical setting. In the past, western medicine was used to treat the symptoms of diabetes constipation, however the improvement effect was not ideal, and even sometimes led to adverse drug reactions. With the progress of traditional Chinese medicine, acupoint application and auricular point pressing have been shown to give remarkable clinical effects [11]. Auricular point sticking and pressing can effectively restore the patient's autonomic nerve function, and effectively regulate the patient's gastrointestinal system and cerebral cortex function. Selecting the corresponding acupoints for kneading and pressing has the effects of promoting blood circulation and removing blood stasis, guiding stagnation and smoothing Qi, dredging the viscera, improving the patient's gastrointestinal peristalsis, and lastly eliminating the patient's constipation symptoms. Traditional Chinese medicine acupoint application is important to boil the paste on specific acupoints, thereby it can directly infiltrate into the patient's gastrointestinal system. The application of prescriptions includes; Borneol which can help to unblock the orifices; Mirabilite which can improve the characteristics of the stool; Rhubarb has the effect of regulating the intestines and stomach, purging Heat, and defecating, and also can improve the penetration of traditional Chinese medicine application; Fructus Aurantii Immaturus and Magnolia officinalis can help to move Qi and eliminate fullness [12-14]. Therefore, the combination of multiple drugs plays an important role in strengthening the vital energy and regulating the intestines and stomach [2].

After the treatment of traditional Chinese medicine acupoint application, it can effectively improve the gastrointestinal function of patients, restore the normal defecation law of patients, and improve the stool properties. According to the summary of research indicators, the total effective number of patients, times of defecation per week, the time of defecation and the interval of defecation in the experimental group were better, compared to the patients in the control group ($p < 0.05$). It can be seen that on the basis of traditional treatment, the combined treatment of the Acupoint Application of traditional Chinese medicine and pressing beans at ear points can effectively improve the constipation symptoms of patients, restore the normal defecation function of patients, and shorten the defecation time. Based on the evaluation of scholars, acupoint massage combined with application has a significant intervention effect on elderly diabetes constipation. The observation group is better, than the control group in terms of defecation times (weeks), defecation time, defecation character improvement time, adverse reaction rate, and clinical treatment efficiency have been shown in a previous study, therefore the data from this study is consistent with previous study [15].

In short, the auricular plaster and acupoint application for diabetes patients with constipation can effectively improve the constipation symptoms, restore the gastrointestinal function, and improve the treatment effect of the disease. In the future, the clinical sample size can be increased for in-depth analysis.

Disclosure statement

The authors declare no conflict of interest.

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