

Efficacy of Acupuncture Combined with Spinal Massage in the Treatment of Idiopathic Scoliosis and Its Influence on Spinal Function

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Abstract: Objective: To observe the effect of acupuncture combined with spinal massage in the treatment of patients with idiopathic scoliosis and its influence on spinal function. **Methods:** A total of 78 patients with idiopathic scoliosis admitted to our hospital from January to December 2024 were selected as the research subjects and randomly divided into two groups. One group (control group, 39 cases) received routine rehabilitation combined with acupuncture treatment, and the other group (observation group, 39 cases) received spinal massage on the basis of the control group. The TCM symptom scores and spinal function of the patients were evaluated. **Results:** The TCM symptom scores of the observation group after treatment were lower than those of the control group ($P<0.05$). The spinal function of the observation group after treatment was higher than that of the control group ($P<0.05$). **Conclusion:** Acupuncture combined with spinal massage for patients with idiopathic scoliosis helps relieve various symptoms, improve spinal function, and facilitate patient recovery.

Keywords: Acupuncture; Spinal Massage; Idiopathic Scoliosis; Spinal Function

1. Introduction

Idiopathic scoliosis is the most common spinal disease in clinical practice, with a high incidence. Its pathogenesis is complex, and the disease course is long, directly affecting patients' daily physiological activities. In traditional Chinese medicine (TCM) theory, idiopathic scoliosis is classified into the categories of "back stiffness" and "turtle back," which are related to poor qi and blood circulation and kidney qi deficiency. Treatment needs to focus on promoting blood circulation and removing blood stasis, relieving muscle

spasm and activating collaterals, and balancing qi and blood^[1-2]. Massage therapy is widely used in the treatment of idiopathic scoliosis. Under the action of professional massage techniques, it can reduce dislocated muscles and bones and improve local microcirculation^[3]. This study mainly observed the specific effect of acupuncture combined with spinal massage in the treatment of patients with idiopathic scoliosis.

2. Materials and Methods

2.1 General Data

A total of 78 patients with idiopathic scoliosis admitted to our hospital from January to December 2024 were selected as the research subjects and randomly divided into two groups. One group (control group, 39 cases) received routine rehabilitation combined with acupuncture treatment, and the other group (observation group, 39 cases) received spinal massage on the basis of the control group. In the control group, there were 20 males and 19 females, aged 10-18 years, with an average age of (14.34 ± 1.02) years. The body mass index (BMI) was 21-25 kg/m², with an average of (22.56 ± 1.01) kg/m². In the observation group, there were 21 males and 18 females, aged 9-17 years, with an average age of (13.24 ± 1.11) years. The BMI was 21-25 kg/m², with an average of (22.25 ± 1.22) kg/m². There was no significant difference in baseline data between the two groups ($P>0.05$).

2.2 Methods

The control group received routine rehabilitation combined with acupuncture treatment. Patients were guided to actively participate in rehabilitation training, maintain a scientific sitting posture in daily life, and carry out shoulder traction, anti-flat back, and walking training. Patients were guided to watch relevant exercise videos to help them master the

correct exercise methods, 15 minutes each time, twice a day. Acupuncture treatment was given to the patients, with selected acupoints including Kunlun (BL60), Chengshan (BL57), Weizhong (BL40), Zusanli (ST36), and Yinlingquan (SP9). Routine sterile filiform needles were used, inserted straight to ensure soreness at the acupoint site. After deqi, the needles were retained, and moxa sticks were ignited, once a day for 30 minutes. The observation group received spinal massage on the basis of the control group. First, the muscles on both sides of the spine were relaxed by kneading and rolling methods. If the lesion was in the upper thoracic vertebra, the upper thoracic traction-shoulder pulling method was used. Patients were guided to lie prone, and the rehabilitation doctor placed the left hand against the spinous process of the convex side and the right hand held the front of the shoulder, massaging from bottom to top. For patients with lower thoracic lesions, the pad-fist pressure-elbow pulling method was used. Patients were guided to lie supine, and the rehabilitation doctor placed the left hand on the patient's elbow and massaged downward in combination with the patient's breathing frequency. For patients with whole thoracic lesions, they were guided to lie prone, and the rehabilitation doctor placed both hands on both sides of the thoracic scoliosis and massaged toward the healthy side according to the patient's lesion condition. Each session lasted 20 minutes, and massage was given every other day.

2.3 Observation Indicators

(1) Comparison of TCM symptom scores:

Table 1. Comparison of Symptom Scores between the Two Groups ($\bar{x} \pm s$)

Group	Number of Cases	Pain		Functional Limitation		Swelling	
		Before Treatment	After Treatment	Before Treatment	After Treatment	Before Treatment	After Treatment
Observation	39	3.22 ± 0.23	1.02 ± 0.22	3.25 ± 0.22	0.72 ± 0.15	3.35 ± 0.15	0.45 ± 0.23
Control	39	3.19 ± 0.18	1.45 ± 0.11	3.21 ± 0.23	1.35 ± 0.22	3.25 ± 0.23	1.52 ± 0.15
t	-	1.415	16.425	1.485	8.425	1.725	11.747
P	-	0.215	0.001	0.515	0.001	0.325	0.001

3.2 Comparison of Negative Psychological Scores

Table 2. Comparison of Spinal Function between the Two Groups ($\bar{x} \pm s$)

Group	Number of Cases	BASFI		BASDAI	
		Before Nursing	After Nursing	Before Nursing	After Nursing
Observation	39	6.05 ± 0.23	2.35 ± 0.23	6.11 ± 0.16	3.25 ± 0.23
Control	39	6.11 ± 0.31	3.23 ± 0.31	6.12 ± 0.23	4.05 ± 0.35

Based on the Diagnostic and Therapeutic Criteria for TCM Syndromes, the scores of main symptoms (including functional limitation, swelling, and pain) before and after treatment were statistically analyzed. The score range for a single symptom was 0-4 points, and a higher score indicated more severe symptoms. (2) Comparison of spinal function: Before and after nursing, the spinal function of patients was evaluated using the Bath Ankylosing Spondylitis Functional Index (BASFI) and Bath Ankylosing Spondylitis Disease Activity Index (BASDAI), with a score range of 0-10 points. Nurses scored according to the recovery of patients' spinal function, and a higher score indicated worse spinal function.

2.4 Statistical Methods

In this study, data related to the two groups were processed using SPSS 20.0. Measurement data such as TCM symptom scores and spinal function scores that conformed to the normal distribution were expressed as mean \pm standard deviation ($\bar{x} \pm s$) and tested by t-test. Enumeration data were tested by chi-square test and expressed as percentage (%). ($P < 0.05$) indicated that the difference was statistically significant.

3. Results

3.1 Comparison of Symptom Scores between the Two Groups

The TCM symptom scores of the observation group after treatment were lower than those of the control group ($P < 0.05$), as shown in Table 1.

The spinal function of the observation group after treatment was higher than that of the control group ($P < 0.05$), as shown in Table 2.

t	-	0.644	16.513	0.492	10.016
P	-	0.521	<0.001	0.624	<0.001

recovery of patients' spinal function.

4. Discussion

The pathogenesis of idiopathic scoliosis is complex, related to patients' daily living habits and genetics, mainly affecting adolescents, and directly influencing their daily life. Some patients with severe symptoms may even experience pain and activity limitation, reducing their quality of life. In the treatment of patients with idiopathic scoliosis, more effective treatment plans are needed to promote the rapid recovery of damaged spinal function.

Acupuncture treatment is widely used in patients with idiopathic scoliosis. Acupuncture at Kunlun (BL60), Chengshan (BL57), Weizhong (BL40), Zusanli (ST36), and Yinlingquan (SP9) can achieve the effects of strengthening the body and supporting the root, reducing swelling and relieving pain, relieving muscle spasm and activating collaterals, and regulating qi and blood, promoting the recovery of damaged functions. In spinal massage treatment, massaging the spine and surrounding soft tissues can release spinal adhesions, relieve spasm, improve local blood circulation, accelerate the recovery of soft tissue function, alleviate the stimulation of spinal nerve roots, and gradually help the spine return to its normal position^[4-5]. Observations showed that under the action of acupuncture combined with spinal massage, the spinal function of the observation group recovered more significantly, and the corresponding symptoms of patients were rapidly relieved, indicating that this treatment measure can quickly improve the corresponding symptoms and help patients recover.

In summary, carrying out acupuncture combined with spinal massage in the treatment of patients with idiopathic scoliosis helps the

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