

Clinical Observation on the Treatment of Increased Muscle Tone after Cerebral Infarction with Chinese Medicine Fumigation Combined with Acupuncture

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Abstract: **Objective:** To observe the effect of treating patients with increased muscle tone after cerebral infarction with Chinese medicine fumigation combined with acupuncture. **Methods:** Seventy-two patients with increased muscle tone after cerebral infarction in our hospital from February to December 2024 were selected as the research objects. They were randomly divided into two groups of 36 patients each. One group received routine treatment (the control group), and the other group received Chinese medicine fumigation combined with acupuncture treatment (the observation group). The limb function, daily activity ability, and changes in muscle tone of the patients were observed. **Results:** After treatment, the limb function and daily activity ability of the observation group were higher than those of the control group ($P<0.05$). The muscle tone level of the observation group was lower than that of the control group after treatment ($P<0.05$). **Conclusion:** Treating patients with increased muscle tone after cerebral infarction with Chinese medicine fumigation combined with acupuncture can reduce the muscle tone level, improve the limb function, and increase the activity ability of the patients.

Keywords: Chinese Medicine Fumigation; Acupuncture; Cerebral Infarction; Increased Muscle Tone

1. Introduction

Cerebral infarction is currently the most common cerebrovascular disease in clinical practice, with a consistently high incidence and high risk. Under the influence of cerebral infarction, patients are prone to various types of complications. Among them, increased muscle tone is the most common type, which can affect the patient's recovery to a certain extent [1-2].

During conventional Western medicine treatment, although the muscle tone of patients can be improved, according to clinical feedback, the overall treatment effect is not satisfactory. Treating patients with increased muscle tone after cerebral infarction from the perspective of traditional Chinese medicine has gradually been applied in clinical practice. Treating from the aspects of promoting blood circulation to remove blood stasis and regulating the meridians can help patients recover [3-4]. This study mainly observed the effect of treating patients with increased muscle tone after cerebral infarction with Chinese medicine fumigation combined with acupuncture.

2. Materials and Methods

2.1 General Information

Seventy-two patients with increased muscle tone after cerebral infarction in our hospital from February to December 2024 were selected as the research objects and randomly divided into two groups of 36 patients each. One group received routine Western medicine treatment (the control group), and the other group received Chinese medicine fumigation combined with acupuncture treatment (the observation group). In the control group, there were 20 males and 16 females, aged 56-78 years, with an average age of (63.45 ± 1.83) years. The body mass index ranged from 21 to 25kg/m^2 , with an average of $(22.35\pm 1.02)\text{kg/m}^2$. In the observation group, there were 19 males and 17 females, aged 57-79 years, with an average age of (62.99 ± 1.87) years. The body mass index ranged from 21 to 25kg/m^2 , with an average of $(22.58\pm 1.35)\text{kg/m}^2$. There was no significant difference in basic data between the two groups ($P>0.05$).

2.2 Methods

The control group received routine Western medicine treatment during the recovery period.

The patient's blood pressure was controlled, intracranial pressure was reduced, brain nerve nutrition treatment was carried out in a timely manner, the symptoms of electrolyte imbalance were improved, and baclofen tablets were used for treatment, 5 mg each time, 3 times a day. The observation group received Chinese medicine fumigation combined with acupuncture treatment.

(1) Acupuncture treatment: The selected acupoints included Neiguan, Hegu, Waiguan, Shousanli, Quchi, Quze, and Chize on the upper limbs. On the lower limbs, Sanyinjiao, Xuehai, Yanglingquan, Huantiao, Fengshi, and Taixi were selected. Conventional disposable filiform needles were used for treatment. The needles were inserted by conventional methods, and moxa cones were ignited. The needles were retained for 30 minutes, once a day.

(2) Chinese medicine fumigation treatment: 10 g of *Achyranthes bidentata*, 10 g of *Clematis chinensis*, 10 g of *Fructus Aurantii*, 12 g of *Bupleurum chinense*, 12 g of *Saposhnikovia divaricata*, 10 g of *Persica vulgaris*, 12 g of *Angelica sinensis*, 15 g of *Carthamus tinctorius*, 20 g of *Herba Speranskiae Tuberculatae*, 20 g of *Astragalus membranaceus*, and 20 g of *Caulis Lycopodii* were taken. They were soaked in 1 L of drinking water and then placed in a medical fumigator for treatment. The temperature was controlled at about 40°C. The fumigation was mainly carried out on the hemiplegic parts and limbs of the patients for 30 minutes each time, once a day.

Both groups of patients were treated continuously for 3 weeks.

2.3 Observation Indicators

Table 1. Comparison of Limb Function and Daily Activity Ability ($\bar{x} \pm s$)

Group	Number of Cases	FMA		ADL	
		Before Treatment	After Treatment	Before Treatment	After Treatment
Observation Group	36	56.69±2.45	80.45±2.68	60.06±2.68	81.34±2.68
Control Group	36	56.86±2.66	72.36±2.89	60.11±2.77	71.64±2.64
<i>t</i>	-	1.425	26.045	1.587	22.467
<i>p</i>	-	0.745	0.001	0.515	0.001

Table 2. Comparison of Muscle Tone Levels ($\bar{x} \pm s$)

Group	Number of Cases	Ashworth Score		RMS	
		Before Treatment	After Treatment	Before Treatment	After Treatment
Observation Group	36	3.85±0.25	1.36±0.36	18.45±2.11	9.05±1.34
Control Group	36	3.91±0.31	2.36±0.41	18.56±2.09	12.06±1.48
<i>t</i>	-	1.085	16.475	1.758	18.428
<i>p</i>	-	0.364	0.001	0.345	0.001

(1) Comparison of limb function and daily activity ability: Limb function was evaluated according to the FMA scale, with a score range of 0 - 100 points. The higher the score, the better the limb function. Daily activity ability was evaluated according to the ADL scale, with a score range of 0 - 100 points. The higher the score, the better the activity ability.

(2) Muscle tone level: The muscle tone levels of the patients before and after treatment were evaluated according to the Ashworth scoring method, with a score range of 0 - 5 points. The higher the score, the higher the muscle tone. Surface electromyogram tests were also performed on the patients, and the root mean square value (RMS) of the patients was counted.

2.4 Statistical Methods

SPSS 26.0 was used to analyze the relevant data in the study. Measurement data were expressed as mean \pm standard deviation and tested by *t*-test. Count data were expressed as percentages and tested by chi-square test. $P < 0.05$ indicated a statistically significant difference.

3. Result

3.1 Comparison of Limb Function and Daily Activity Ability

After treatment, the limb function and daily activity ability of the observation group were higher than those of the control group ($P < 0.05$), as shown in Table 1.

3.2 Comparison of Muscle Tone Levels

The muscle tone level of the observation group was lower than that of the control group after treatment ($P < 0.05$), as shown in Table 2.

Increased muscle tone is the most common complication in patients with cerebral infarction,

4. Discussion

which directly affects the patient's recovery. Under the influence of cerebral infarction, the nervous system function of patients is damaged to varying degrees. The regulation of muscle tone is abnormal, which easily causes the patient's muscles to be in a spastic state for a long time, resulting in abnormal increase in muscle tone and more serious damage to the patient's limb and other functions.

In traditional Chinese medicine theory, increased muscle tone is mainly classified into the category of "spasm". In treatment, it is necessary to start from the aspects of promoting blood circulation to remove blood stasis and relaxing the tendons and activating the meridians. Acupuncture treatment is the most commonly used type of external treatment in traditional Chinese medicine. By stimulating the relevant acupoints on the upper and lower limbs of the patient, it can dredge the functions of the internal organs, regulate qi and blood, improve local blood circulation, nourish the limb meridians, relieve spasm symptoms, and reduce muscle tone [5]. Chinese medicine fumigation selects drugs with the effects of promoting blood circulation to remove blood stasis and relaxing the tendons and activating the meridians. Under the action of the thermal effect, it can relieve the muscle spasm symptoms of patients and achieve the effect of promoting blood circulation, which is helpful to relieve various symptoms of patients and assist in their recovery. In this study, the observation group received Chinese medicine fumigation combined with acupuncture treatment. The observation found that compared with routine treatment, the muscle tone level of the observation group decreased significantly after treatment, and the limb function and daily activity ability were significantly improved. This indicates that under the interaction of the two traditional Chinese medicine therapies, the muscle tone of patients can be rapidly improved, and it can help restore the damaged limb function of patients, which is beneficial to the rehabilitation of patients. In addition, Chinese medicine fumigation and acupuncture treatment

have high safety. They are almost applicable to the treatment of all patients with increased muscle tone after cerebral infarction. Generally, they will not cause adverse reactions in patients, have a wide range of applicability, and strong popularization potential.

In conclusion, during the treatment of patients with increased muscle tone after cerebral infarction, Chinese medicine fumigation combined with acupuncture treatment can be carried out to help patients recover.

References

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