

Clinical Efficacy of Acupuncture Combined with Massage on Cervical Spondylopathy of Vertebral Artery Type and Its Effect on Hemodynamics of Patients

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Abstract: Objective: To investigate the clinical efficacy of acupuncture combined with massage on cervical spondylopathy of vertebral artery type and its effect on hemodynamics of patients. **Methods:** Sixty patients with vertebral artery type cervical spondylosis treated in our hospital from July 2017 to October 2019 were selected as the research subjects and randomly divided into 2 groups of 30 cases each. The control group was treated with acupuncture, and the observation group was treated with acupuncture combined with massage, and the clinical efficacy and hemodynamic index of the two groups were compared after 1 month of treatment [peak systolic blood velocity (PSV), pulsatile index (PI), time mean flow velocity (TMFV)]. **Results:** There was no statistical difference in the PSV, PI, and TMFV between the two groups before treatment ($P > 0.05$). After treatment, the observation group had a higher treatment efficacy than the control group with PSV and TMFV increasing and PI decreasing in both groups, and the change in the observation group was greater than that in the control group, and the difference was statistically significant ($P < 0.05$). **Conclusion:** Acupuncture combined with massage on cervical spondylopathy of vertebral artery type can improve the clinical efficacy and improve the hemodynamic index of patients, which is worthy of clinical application.

Keywords: Cervical spondylopathy of vertebral artery type; Acupuncture; Massage; Hemodynamics

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Cervical spondylopathy of vertebral artery type is a disease of the vertebral artery affected by the stimulation of the sympathetic nerves in the neck, which leads to comprehensive symptoms such as dizziness and blurred vision. The disease is caused by irritation or compression of the vertebral artery due to various mechanical and dynamic factors, resulting in narrowing and flexing of the blood vessels, which leads to insufficient blood supply to the vertebral-basal artery. Non-operation therapy is the basic therapy of the disease, especially those caused by cervical instability, which can be cured without leaving sequelae. Acupuncture and massage have exact clinical effects in treating the disease. It is a characteristic physical therapy of traditional Chinese medicine, which can reduce the compression and stimulation of nerve roots, thereby alleviating symptoms and achieving the purpose of dredging the meridians and activating blood circulation^[1]. Based on this, the clinical efficacy of acupuncture combined with massage on cervical spondylopathy of vertebral artery type and its effect on hemodynamics of patients were analyzed as follows.

1 Information and method

1.1 General information

With the approval of the medical ethics committee of our hospital, 60 patients with cervical spondylopathy of vertebral artery type treated in our hospital from July 2017 to October 2019 were selected as the study subjects and randomly divided into 2 groups, 30 patients in each group. The control group included 17 males

and 13 females. The age ranged from 30 to 70 years old, with an average age of (54.16±7.89). The course of disease was 5 months-3 years, with an average year of (1.84±0.57). The observation group included 16 males and 14 females. The age ranged from 30 to 71 years old, with an average age of (54.23±7.85). The course of disease was 6 months-3 years, with an average year of (1.87±0.55). The difference of general information of the two groups was not statistically significant ($P > 0.05$) and comparable.

1.2 Inclusion criteria

(1) Inclusion criteria: All patients were diagnosed with cervical spondylopathy of vertebral artery type by vertebral angiography; No major mental illness; Patients and their families signed informed consent. (2) Exclusion criteria: Patients with primary diseases such as liver, kidney, heart and brain blood vessels diseases; Patients who do not cooperate with treatment; Patients with vertigo diseases.

1.3 Method

1.3.1 Control group

Acupuncture points of Dazhui, Fengchi, Dashi, Zusanli etc. with the slight-reinforcing method; acupuncture points of Yuzhen, Fenglong, Hegu, and cervical spine with the slight-reducing method. Light acupuncture to 2-4 lateral acupoints of the affected area at a time, and keep the needle for 30min after needle sensation, 1 time / day, 10 times for 1 course, 3 courses per treatment.

1.3.2 Observation group

Add massage to the control group: (1) acupuncture points of neck spine, Fengfu, Jianjing, Fengchi, Tianzong, Hegu, Quchi and Waiguan. Ask the patient to sit upright, first apply stone method on the shoulder and back for 5mins, and then relax the cervical spine muscles with massage and finger-press method for 5mins. Press on Fengchi, Tianzong, and Jianjing. If the cord shape can be found, apply the plucking method

5-10 times, then use stone method and massage on the affected upper limb, knead the acupoints of Qurou and Hegu, and apply oblique traction to the neck and finally rub the shoulder. Treatment is performed every other day, 15 times for 1 course of treatment, and 2 courses per treatment.

1.4 Evaluation Index

(1) Compare the clinical efficacy of the two groups after 1 month of treatment. Cure: Headache, dizziness and other symptoms of the patient completely disappeared and normal activities can be achieved; Significantly effective: Headache, dizziness and other symptoms of the patient disappeared but occasionally occurred; Effective: Headaches, dizziness and other symptoms of the patient improved compared with before treatment, but normal activities were affected with occasional pain. Ineffective: The patient's symptoms are unchanged or worse than before treatment. Total effective rate = cure rate + significantly effective rate+ effective rate. (2) Cranial Doppler ultrasound was performed before and after 1 month of treatment in the two groups of patients, and the hemodynamic parameters including PSV, PI, and TMFV were compared between the two groups.

1.5 Statistical method

SPSS22.0 software was used for data processing, and $\bar{x} \pm s$ was used to represent measurement data. Independent sample t test was used between groups and paired sample t test was used within groups. Count data was expressed by percentage, χ^2 test was used. $P < 0.05$ was considered statistically significant.

2 Result

2.1 Efficacy

The effective rate of treatment in the observation group was higher than that in the control group, and the difference was statistically significant ($P < 0.05$). See table 1.

Table 1. Comparison of efficacy between the two groups n(%)

groups	cure	significantly effective	effective	ineffective	total effective rate
control group(n=30)	4(13.33)	11(36.67)	7(23.33)	8(26.67)	22(73.33)
observation group(n=30)	11(36.67)	10(33.33)	8(26.67)	1(3.33)	29(96.67)
χ^2	-	-	-	-	4.706
P	-	-	-	-	0.030

2.2 Hemodynamics

There was no statistically significant difference in PSV, PI and TMFV between the two groups before treatment ($P>0.05$). After treatment, PSV and TMFV

in the two groups increased and PI decreased, and the change range of the observation group was greater than that of the control group, with statistically significant differences ($P<0.05$). See table 2.

Table 2. Comparison of hemodynamics between two groups ($\bar{x} \pm s$)

groups	PSV(cm/s)		PI		TMFV(cm/s)	
	before treatment	after treatment	before treatment	after treatment	before treatment	after treatment
control group(n=30)	50.71±11.62	54.69±10.57 ^a	1.24±0.52	1.01±0.37 ^a	22.74±5.36	24.07±4.51 ^a
observation group(n=30)	50.79±11.53	60.31±9.46 ^a	1.27±0.50	0.78±0.19 ^a	22.69±5.41	27.13±4.26 ^a
<i>t</i>	0.027	2.170	0.228	3.029	0.036	2.702
<i>P</i>	0.979	0.034	0.821	0.004	0.971	0.009

Note: ^a $P < 0.05$ compared with that of the same group before treatment.

3 Discussion

Cervical spondylopathy of vertebral artery type is more common than spinal type cervical spondylosis. Most of the causes are due to vertebral instability, which mainly causes headache and dizziness. It is easy to be cured or improved by non-surgical treatment, so fewer patients are hospitalized and choose surgery.

The results of this study show that the efficacy of the observation group was higher than that of the control group after treatment. PSV and TMFV were increased and PI was decreased in both groups. And the change in the observation group was greater than that in the control group, indicating that acupuncture combined with massage for cervical spondylosis of vertebral artery type can improve clinical efficacy and improve hemodynamic index of patients. Acupuncture is a part of China's medical heritage, and it is also a unique method of treating diseases in China. It belongs to the method of "cure internal disease with external treatment", which treats through the conduction of meridians and acupoints, and the application of certain operations. Acupuncture clinically diagnoses the cause according to the diagnosis and treatment methods of traditional Chinese medicine, finds out the key to the disease, identifies the nature of the disease, and then formulates the corresponding acupoints for treatment, which can dredge meridian, recuperate the vitality, relatively balance yin and yang, and reconcile the function of the viscera, so as to achieve the purpose of preventing and treating diseases^[2]. Acupuncture has advantages of a wide range of adaptability, rapid and

significant curative effects, simple and easy operation, economical medical costs, and few side effects^[3]. Tuina, also known as "massage," manipulates specific parts of the body's surface by hand to adjust the physiological and pathological conditions of the body based on the theory of internal organs and meridians of traditional Chinese medicine and the combination of anatomy and pathological diagnosis of western medicine. With meridian and acupuncture, the traditional Chinese medicine perform treatment by pushing, holding, lifting, pinching, kneading, etc. on the human body, so it has the titles of "Anqiao" and "Qiaoyin"^[4]. Tuina is a natural and physical therapy without drug use, which usually acts on the patient's body surface, injured area, discomfort parts, specific acupoints, and painful places. It uses a variety of methods and strengths, to achieve the effects of dredging the meridians, recuperating the vitality, healing wounds and pain, strengthening healthy qi to eliminate pathogens, reconciling yin and yang, and prolonging life^[5]. Massage therapy is economical and simple, does not require special medical equipment, and is not subject to the constraints of time, place, and climate conditions, which can be performed anytime and anywhere. It is stable and reliable, easy to learn and use, and has no side effects. For healthy people, it can enhance the body's immunity and achieve health effects. For patients, it can resolve local symptoms and accelerate the functional recovery of affected area to achieve a good therapeutic effect^[6].

In summary, acupuncture combined with massage on cervical spondylopathy of vertebral artery type can improve clinical efficacy and improve hemodynamic

index of patients, which is worthy of clinical promotion.

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