

Therapeutic Effect of Moxibustion in Improving Cervical Spondylosis of Arterialtype in Elderly People

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Abstract [**Objectives**] To intervene in cervical spondylosis of arterialtype (CSA) using moxibustion therapy, and analyze its clinical efficacy. [**Methods**] 36 patients with CSA admitted to the Xingfu Yiyang Nursing Home from January to July 2025 were selected as the research subjects. Moxibustion treatment was applied, and a retrospective analysis of the clinical efficacy was conducted on the patients. [**Results**] Among the 36 patients with CSA treated with moxibustion, 28 cases showed significant improvement in symptoms, accounting for 77.78%; 6 cases showed no significant improvement in symptoms, accounting for 22.22%; no ineffective cases were observed, and the total treatment effectiveness rate was 100%. Compared with those before treatment, both groups showed an increase in ESCV scores, a decrease in VAS scores, an increase in V_s and V_m , and a decrease in PI and RI after treatment ($P < 0.05$). The changes were more significant in the observation group than in the control group ($P < 0.05$). [**Conclusions**] Moxibustion therapy has significant therapeutic effects on CSA. Additionally, moxibustion therapy is easy to operate, has no side effects, and is highly safe, making it worthy of clinical promotion and application.

Key words Moxibustion, Cervical spondylosis of arterialtype, Clinical efficacy

1 Introduction

Cervical spondylosis of arterialtype (CSA) is a condition in which various dynamic and mechanical factors cause compression or stimulation of the vertebral artery, leading to tortuosity, stenosis, deformation, *etc.* of the blood vessel. This, in turn, results in vertebralbasilar insufficiency and the development of vertebral artery type of cervical spondylosis, which is a common and frequently occurring clinical disease^[1]. With the intensification of aging in China, the widespread use of computers and mobile phones, and the impact of unhealthy lifestyles, the incidence rate of this disease has been increasing year by year, and there is a trend towards younger patients^[2]. The clinical manifestations of CSA include dizziness, headache, tinnitus, palpitations, *etc.*, with dizziness being the prominent manifestation, falling under the category of "vertigo" in traditional Chinese medicine. The most prominent feature of this disease is positional vertigo, which is more pronounced when rotating the head and neck. It recurs frequently, causing severe pain to patients and significantly affecting their work and daily life. Furthermore, the efficacy of pharmacological treatment is unsatisfactory^[3].

2 Data and methods

2.1 General information 36 patients with CSA, admitted to Xingfu Yiyang Nursing Home from January to July 2025, were selected for this study. Among them, there were 19 males and 17 females. Their ages ranged from 61 to 74 years, with an average age of (62 ± 6.18) years. The duration of their illness ranged from 5 to 15 years, with an average duration of (8 ± 4.26) years. The clinical symptoms of patients often manifest as limited mobility, neck pain, occipital pain, migraine, neurasthenia, visual impair-

ment, and sudden collapse.

2.2 Methods All 36 patients were treated with moxibustion. The patient should lie in a prone position or sit, ensuring comfort in the neck and maximum relaxation. Using regular moxa sticks, moxibustion was applied to main acupoints such as Fengchi, Bailui, Tianzhu, Jingbailao, Dazhu, and both Jiaji points. Each acupoint should be moxibusted for approximately 20 min. Once a day, 15 d constituted one course of treatment, and they were cured for two consecutive courses of treatment.

2.3 Evaluation indicators Referring to the *Diagnostic and Therapeutic Effect Standards for Traditional Chinese Medicine Diseases and Syndromes*^[4], the evaluation criteria for patient efficacy are as follows: patients with significant symptom relief (cured) can engage in normal work and labor, with neck, limb function, and muscle strength restored to normal levels; patients with marked efficacy show clinical symptom improvement, with neck and limb function recovery, and reduced neck, shoulder, and back pain; patients with no efficacy show no clinical symptom improvement or further deterioration. Overall effective rate = (cured + effective) \div total number of cases $\times 100\%$.

2.4 Observation indicators The degree of neck pain was assessed using visual analog scale (VAS), and transcranial Doppler color ultrasound was used to measure hemodynamic parameters of the neck, including systolic peak flow velocity (V_s), mean blood flow velocity (V_m), pulsatility index (PI), and resistance index (RI).

3 Results and analysis

3.1 Treatment efficacy rate Among the 36 patients with CSA treated with moxibustion, 28 cases showed significant improvement in symptoms, accounting for 77.78%; 6 cases showed no significant improvement in symptoms, accounting for 22.22%; no ineffective cases were observed, and the total treatment efficacy rate

was 100%.

3.2 Comparison of pain conditions at various time points before and after treatment

It can be seen from Table 1 that there was no significant difference in VAS score between the two groups before treatment [(6.24 ± 1.36) points] in the control group and [(6.19 ± 1.29) points] in the treatment group), which was comparable ($P > 0.05$). Since the one week of treatment, the VAS scores of the two groups were significantly lower than those before treatment ($^*P < 0.05$), and showed a continu-

ous downward trend with the extension of the treatment cycle, indicating that the two treatment schemes can effectively relieve pain. The VAS score of the treatment group was significantly lower than that of the control group at the same period from 1 to 3 weeks of treatment ($^{\Delta}P < 0.05$). The VAS score of the treatment group [(1.19 ± 0.48) points] was significantly lower than that of the control group [(2.18 ± 0.62) points] at 3 weeks of treatment, suggesting that the analgesic effect of the treatment group was better than that of the control group.

Table 1 Comparison of VAS scores at various time points before and after moxibustion therapy intervention in CSA ($\bar{x} \pm s$, $n = 18$, points)

Group	Before treatment	1 week of treatment	2 weeks of treatment	3 weeks of treatment
Control	6.24 ± 1.36	4.68 ± 1.17 [*]	3.67 ± 0.89 [*]	2.18 ± 0.62 [*]
Treatment	6.19 ± 1.29	4.87 ± 0.98 ^{*Δ}	2.48 ± 0.67 ^{*Δ}	1.19 ± 0.48 ^{*Δ}

NOTE Compared with the previous time point in this group, $^*P < 0.05$; compared with the control group during the same period, $^{\Delta}P < 0.05$.

3.3 Comparison of hemodynamics before and after treatment

It can be seen from Table 2 that there was no significant difference in systolic peak flow velocity (V_s), average velocity (V_m), pulsatility index (PI) and resistance index (RI) between the two groups before treatment ($P > 0.05$), and the baseline data were balanced and comparable. After treatment, V_s and V_m of the two groups were significantly increased ($^*P < 0.05$), and PI and RI were significantly decreased ($^*P < 0.05$), indicating that the two treatment schemes can improve the local hemodynamic state, reduce vascular resistance and improve blood flow velocity. After

treatment, V_s (35.29 ± 8.48 cm/s) and V_m (24.37 ± 5.14 cm/s) in the treatment group were significantly higher than those in the control group at the same period [(31.13 ± 6.47), (25.34 ± 3.51) cm/s], PI (0.81 ± 0.19) and RI (0.53 ± 0.18) were significantly lower than those in the control group at the same period [(0.87 ± 0.29), (0.59 ± 0.28)], and the differences were statistically significant ($^{\Delta}P < 0.05$). It was suggested that the effect of the treatment group in improving hemodynamics was better than that of the control group.

Table 2 Comparison of V_s , V_m , PI and RI before and after moxibustion intervention in CSA ($\bar{x} \pm s$, $n = 18$)

Group		V_s //cm/s	V_m //cm/s	PI	RI
Control	Before treatment	28.37 ± 7.19	16.23 ± 4.49	1.45 ± 0.31	0.78 ± 0.34
	After treatment	31.13 ± 6.47 [*]	25.34 ± 3.51 [*]	0.87 ± 0.29 [*]	0.59 ± 0.28 [*]
Treatment	Before treatment	31.24 ± 5.14	17.85 ± 2.75	1.39 ± 0.28	0.69 ± 0.39
	After treatment	35.29 ± 8.48 ^{*Δ}	24.37 ± 5.14 ^{*Δ}	0.81 ± 0.19 ^{*Δ}	0.53 ± 0.18 ^{*Δ}

NOTE Compared with those before treatment, $^*P < 0.05$; compared with control group, $^{\Delta}P < 0.05$.

4 Discussion

The main cause of CSA is the vascular compression or tortuosity resulting from various mechanical and dynamic factors affecting the cervical spine region of the patient, which subsequently leads to clinical symptoms such as vertebrobasilar insufficiency, cerebral blood supply deficiency, and vertigo. CSA is one of the common diseases in geriatrics and orthopedics. Most cases can be cured or improved through non-surgical treatment. Only for patients with severe conditions, surgical treatment is recommended^[5]. The non-surgical treatment methods for CSA mainly include medication, acupuncture, moxibustion, massage, physiotherapy, etc. The treatment plan primarily focuses on alleviating the muscle spasms and contractures in the patient's neck and back, thereby improving the cerebral blood circulation and achieving favorable therapeutic outcomes^[6].

Moxibustion refers to a method of using moxa sticks or cones made from materials such as mugwort leaves, with the aid of the

heat from the moxa fire and the medicinal effects of the materials, to burn or warm acupoints or diseased areas, in order to prevent and treat diseases^[7]. The clinical application of moxibustion intervention in the treatment of CSA is very extensive. According to the *Introduction to Medicine: Acupuncture and Moxibustion*, "where medicine fails and acupuncture cannot reach, moxibustion must be applied". Moxibustion has certain advantages in treating cervical spondylosis. It can promote the dredging of meridians, improve local microcirculation, accelerate the absorption of inflammatory mediators, thereby reducing local inflammatory reactions and alleviating pain^[8]. Moxibustion is easy to operate, safe and controllable, and patients rarely feel discomfort during treatment. Compared with drug therapy, it basically has no adverse reactions or side effects^[9]. By stimulating acupoints on the head, such as Baihui, through moxibustion, it is possible to improve local blood circulation and alleviate ischemic and hypoxic conditions, increase V_m in the vertebral and basilar artery, and enhance cervical hemodynam-

ics^[10]. The vertebral artery runs in the extracranial segment, with short muscles between the transverse process and spinous process in the deep layer, which is accompanied by the distribution of arterial and venous plexuses. When stimulating the vertebral artery, it can improve hemodynamic balance^[11]. Therefore, the patient's cervical V_s and V_m both increased after moxibustion treatment, while PI and RI both decreased. In summary, the improvement of CSA in the elderly by moxibustion has achieved significant therapeutic effects and is worthy of clinical promotion.

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