

Clinical observation on warm needling moxibustion plus tuina for cervical spondylosis of vertebral artery type

温针灸配合推拿治疗椎动脉型颈椎病的临床观察

Xu Jia (许佳), Shen Zhi-fang (沈志方), Wu Yin-jun (吴银君), Bian Xiao-dong (边晓东)
Jiaying Hospital of Traditional Chinese Medicine, Zhejiang 314001, China

Abstract

Objective: To observe the clinical effect of warm needling moxibustion plus Kai Qing Long Suo tuina therapy (opening the Qing Long lock, one type of 'Eight and a Half Locks' tuina therapy) for cervical spondylosis of vertebral artery type (CSA).

Methods: Sixty patients with CSA were randomly allocated into an observation group or a control group, with 30 cases in each group. The observation group was treated with warm needling moxibustion plus Kai Qing Long Suo tuina therapy, while the control group was treated with warm needling moxibustion alone. Warm needling moxibustion was conducted once every other day and tuina was conducted once a day, 7-day treatments for one course. The clinical efficacy and vertebral artery blood flow was observed after one course of treatment.

Results: After treatment, the total effective rate was 93.3% in the observation group versus 80.0% in the control group, and there was a significant difference between the two groups ($P < 0.05$). After treatment, the systolic blood flow velocity of vertebral artery increased in both groups, with statistical significance compared with that before treatment (both $P < 0.05$), and the blood flow velocity in the observation group was faster than that in the control group, with statistical significance between the two groups ($P < 0.05$).

Conclusion: Both warm needling moxibustion plus Kai Qing Long Suo tuina therapy and warm needling moxibustion alone are both effective for CSA, can improve the systolic blood flow velocity of vertebral artery. The curative effect of warm needling moxibustion plus Kai Qing Long Suo tuina therapy is better than that of warm needling moxibustion alone.

Keywords: Acupuncture Therapy; Warm Needling Moxibustion; Tuina; Massage; Vertebrobasilar Insufficiency; Vertigo; Cervical Spondylosis

【摘要】目的: 观察温针灸配合开青龙锁推拿疗法(八把半锁推拿疗法之一)治疗椎动脉型颈椎病(CSA)的临床疗效。**方法:** 将60例CSA患者随机分为观察组和对照组,每组30例。观察组接受温针灸加开青龙锁推拿疗法治疗,对照组单用温针灸治疗。温针灸隔日1次,推拿每日1次,7日为1疗程,1个疗程后观察疗效,并观察椎动脉血流变化情况。**结果:** 治疗后观察组总有效率93.3%,对照组为80.0%,两组总有效率差异有统计学意义($P < 0.05$)。治疗后,两组患者收缩期椎动脉血流速度均增快,与本组治疗前有统计学意义(均 $P < 0.05$),且观察组血流速度快于对照组,组间差异有统计学意义($P < 0.05$)。**结论:** 温针灸加开青龙锁推拿疗法及单独温针灸治疗CSA均有效,均可提高椎动脉血流速度,且温针灸加开青龙锁推拿疗法的疗效优于单独温针灸治疗。

【关键词】 针刺疗法; 温针疗法; 推拿; 按摩; 椎底动脉供血不足; 眩晕; 颈椎病

【中图分类号】 R246.2 **【文献标志码】** A

In recent years, the prevalence of cervical spondylosis of vertebral artery type (CSA) has become higher and higher, accounting for 20%-30% of cervical spondylosis due to the aging population, lifestyle changes and other factors. Today it tends to affect more and more young people. The clinical manifestations of CSA are vertigo, blurred vision, tinnitus, headache, neck pain and autonomic nerve dysfunction. It may lead to cerebral infarction and can seriously affect the quality of life

(QOL) of patients. Therefore, more and more attention has been paid to CSA^[1-6].

There are many therapies for CSA, such as warm needling moxibustion, tuina and Western medicine. Although they all can produce certain curative effects, limitations still exist^[7-8]. In order to explore an effective therapeutic strategy of CSA, we used warm needling moxibustion plus Kai Qing Long Suo tuina therapy (opening the Qing Long lock, one type of 'Eight and a Half Locks' tuina therapy) to treat CSA in the Acupuncture and Tuina Department of Jiaying Hospital of Traditional Chinese Medicine between May 2016 and March 2018. The report is given as follows.

Author: Xu Jia, bachelor, physician of traditional Chinese medicine.
E-mail: aituina@163.com

1 Clinical Materials

1.1 Diagnostic criteria^[9]

Neck stiffness and pain; headache, dizziness, and tinnitus that aggravate with the change in body position; temporary vertigo, dizziness, nausea and vomiting, or even sudden faint when rotating or extending the neck; positive Spurling test and Eaton test, nodules in suboccipital triangle muscle, cervical vertebral tenderness, spinous processes and transverse processes of the cervical spine show irregular arrangement; cervical spine X-ray showed abnormal curvature of the cervical spine, accompanied by bone hyperplasia, narrowed intervertebral foramen and intervertebral space; transcranial Doppler ultrasound showed insufficient blood supply of vertebrobasilar artery.

1.2 Inclusion criteria

Met the above CSA diagnostic criteria; aged between 30 and 65 years, without gender limitation; no treatment was taken in the previous week; willing to participate in the study and sign informed consent.

1.3 Exclusion criteria

Acute cervical disc herniation, or cervical spine fracture, dislocation, tuberculosis, tumor, or infection; ophthalmogenic or otogenic vertigo patients, or vertigo caused by intracranial tumors, arteriosclerosis or high blood pressure; unconscious or people with severe mental illness that failed to cooperate; patients with severe cardiovascular, hepatic, renal or hematopoietic system primary diseases.

1.4 Statistical methods

Statistical analysis was performed using SPSS version 17.0 statistical software. The rate was compared using the Chi-square test. Measurement data were expressed as mean \pm standard deviation ($\bar{x} \pm s$) and analyzed by *t*-test. $P < 0.05$ indicated that the difference was statistically significant.

1.5 General data

Sixty patients with CSA who met the inclusion criteria were all from the Acupuncture and Tuina Clinic of Jiaying Hospital of Traditional Chinese Medicine between May 2016 and March 2018. They were randomly divided into two groups based on their visiting sequence, with 30 cases in each group. The youngest patient in the observation group was 30 years old while the oldest was 65 years old. The shortest duration was 2 months and the longest was 10 years in the observation group. The youngest patient in the control group was 32 years old while the oldest was 63 years old. The shortest duration was 2.5 months and the longest was 8 years in the control group. There were no significant differences in the general data between the two groups (all $P > 0.05$), indicating that the two groups were comparable (Table 1).

Table 1. Comparison of general data between the two groups

Group	n	Gender (case)		Mean age ($\bar{x} \pm s$, year)	Mean duration ($\bar{x} \pm s$, year)
		Male	Female		
Observation	30	8	22	47.5 \pm 17.5	5.1 \pm 4.9
Control	30	11	19	47.5 \pm 15.5	4.1 \pm 3.9

2 Treatment Methods

2.1 Observation group

2.1.1 Warm needling moxibustion

Acupoints: Baihui (GV 20), Fengfu (GV 16), Fengchi (GB 20), Taiyang (EX-HN 5), Tianzhu (BL 10), Jingbailao (EX-HN 14), Neiguan (PC 6), cervical Jiaji (EX-B 2) points and Ashi points.

Method: The patient took a prone position with pillows under the chest and forehead, while the both hands naturally placing on both sides of the head to expose the neck. The filiform needles (Huatuo Brand) of 0.30 mm in diameter and 40 mm in length were used to perpendicularly puncture cervical Jiaji (EX-B 2) points, and puncture Fengchi (GB 20) with the needle tip pointing toward opposite inner canthus, without lifting-thrusting or twisting. The handles of the needles at Fengchi (GB 20), Jingbailao (EX-HN 14) and cervical Jiaji (EX-B 2) points were attached with moxa balls sized of olive pit, which were then ignited for warm needling moxibustion. Each acupoint was given 2 moxa balls, and the needles were retained for 20 min. Cupping on the neck was operated subsequently. The treatment was given once every other day, 7 d as a course of treatment, and the curative effect was observed after one course of treatment.

2.1.2 Tuina

Kai Qing Long Suo tuina therapy was used in the observation group.

Location^[10]: Qing Long Suo is located in the trapezius muscle at the neck-shoulder junction, one on the left and one on the right. It is known as 'well lock' or 'shoulder tendons'.

Unlocking method: The patient took a sitting or a prone position. The doctor sat or stood behind the patient with his feet apart. The doctor stood ordinarily (when the patient took a sitting position) or took horse-riding squat (when the patient took a prone position). The 'butterfly manipulation' was used, that is, four fingers folded together and slightly flexed, opposite to the thumb. The trapezius muscle was pinched with the lateral edges of the index finger and the thumb (Figure 1). According to the patient's endurance, it can be lifted vigorously. Strength should increase gradually and the movement should be gentle. The two sides should be operated simultaneously for 15-20 min, once

a day, 7 treatments as a course. The curative effect was observed after one course of treatment.

2.2 Control group

Warm needling moxibustion was used alone for

patients in the control group. The treatment methods, acupoints and treatment course were same as those of the observation group.



Figure 1. Kai Qing Long Suo tuina therapy

3 Therapeutic Efficacy Observation

3.1 Criteria for clinical efficacy^[9]

Recovery: Dizziness, headache and other symptoms and positive signs disappeared.

Improvement: Vertigo and headache and positive signs were significantly alleviated, but there was still discomfort in the neck, or occasional dizziness, but it did not affect work and life.

Failure: Symptoms and signs did not improve.

3.2 Treatment results

3.2.1 Comparison of clinical effect

After treatment, the total effective rate in the observation group was 93.3%, versus 80.0% in the control group. There was a significant difference in the

total effective rate between the two groups ($P<0.05$), indicating that the curative effect of the observation group was higher than that of the control group (Table 2).

3.2.2 Comparison of blood flow velocity

Before treatment, there were no significant differences in the left vertebral artery (LVA), right vertebral artery (RVA) and basilar artery (BA) blood flow velocities between the two groups (all $P>0.05$). After treatment, there were significant intra-group differences in LVA, RVA and BA blood flow velocities in the two groups (all $P<0.05$), and the blood flow velocities of the LVA, RVA and BA in the observation group were all higher than those in the control group (all $P<0.05$). The detail is shown in Table 3.

Table 2. Comparison of clinical efficacy between the two groups (case)

Group	n	Recovery	Improvement	Failure	Total effective rate (%)
Observation	30	23	5	2	93.3 ¹⁾
Control	30	16	8	6	80.0

Note: Compared with the control group, 1) $P<0.05$

Table 3. Comparison of mean blood flow velocity of vertebral artery between the two groups ($\bar{x} \pm s$, cm/s)

Group	Time	LVA	RVA	BA
Observation	Before treatment	22.20±1.72	22.07±1.51	29.95±1.38
	After treatment	29.07±1.52 ¹⁾²⁾	30.92±1.47 ¹⁾²⁾	37.18±1.51 ¹⁾²⁾
Control	Before treatment	22.45±1.82	22.15±1.77	29.05±1.93
	After treatment	26.15±1.91 ¹⁾	26.23±1.68 ¹⁾	33.22±1.37 ¹⁾

Note: Intra-group comparison, 1) $P<0.05$; inter-group comparison, 2) $P<0.05$

4 Discussion

Currently, there is no specific treatment for CSA. Although warm needling moxibustion has certain curative effect on CSA, it has certain limitations^[11]. Headache, dizziness, and tinnitus caused by CSA are due to the inability of qi and blood to nourish the brain and marrow from the perspective of traditional Chinese medicine (TCM)^[12]. Meanwhile, Western medicine believes that the main cause of CAS is vertebrobasilar insufficiency caused by compression or stimulation to the vertebral artery resulting from cervical degeneration^[13-16].

'Eight and a Half Locks' tuina is an empirical method for emergencies, and it is a treasure in traditional Chinese medicine. Wang ZL^[10] summarized 'Eight and a Half Locks' tuina from folk massage, which has enriched the clinical application of 'Eight and a Half Locks' tuina. The therapy includes two Qing Long Suo, two Bai Hu Suo, two Zi Jin Suo, two Fan Hun Suo and one Zong Suo. It has the function of restoring yang to save from collapse. Kai Qing Long Suo tuina therapy can improve local microcirculation by dredging meridians and collaterals, strengthening the body and dispelling pathogenic factors, harmonizing yin and yang, and increasing the blood flow velocity of the carotid artery, so as to achieve the purpose of unblocking the blockage and circulating the blood.

Acupuncture and tuina can regulate the body circulation safely with fewer side effects^[17-19]. In this study, the warm needling moxibustion plus Kai Qing Long Suo tuina therapy can warm meridians and dredge collaterals, relax tendons, promote blood circulation, and disperse blood stasis, so as to activate qi and blood and to relieve spasmodic pain. This method can significantly reduce neck and shoulder pain, dizziness, tinnitus, nausea and vomiting.

The results showed that the clinical effect of warm needling moxibustion plus tuina for CSA was better than warm needling moxibustion alone, suggesting that warm needling moxibustion plus tuina could play a synergistic role^[20-23], so that it deserves further popularization.

Conflict of Interest

The authors declared that there was no potential conflict of interest in this article.

Statement of Informed Consent

Informed consent was obtained from the patients in this study.

References

- [1] Yu L, Wang L, Zhou ZY. Effect of acupuncture on hemodynamics of vertebrobasilar artery in patients with cervical spondylosis of vertebral artery type. *Shanghai Zhenjiu Zazhi*, 2018, 37(4): 444-447.
- [2] Fan ST. Clinical observation on cervical chiropractic for cervical spondylosis of vertebral artery type. *J Acupunct Tuina Sci*, 2018, 16(2): 115-119.
- [3] Sun DL, Chen YF, Zhou S, Zhang HM, Sheng F, Lü Q, Ni CH, Cao PY, Cai RL, Qian XL, Zhang J, Ma HF. A multicenter clinical study on electroacupuncture and massotherapy plus behavior therapy for cervical spondylosis. *Shanghai Zhenjiu Zazhi*, 2017, 36(9): 1092-1098.
- [4] Zhang CW. Clinical study on three-step massage combined with rectification technique treatment of vertebral artery type of cervical spondylosis. *Zhongyi Xuebao*, 2015, 30(11): 1685-1688.
- [5] Lee CC, Su YC, Ho HC, Hung SK, Lee MS, Chou P, Huang YS. Risk of stroke in patients hospitalized for isolated vertigo: a four-year follow-up study. *Stroke*, 2011, 42(1): 48-52.
- [6] Zhu WJ. Clinical effect observation on liver-regulating and blood-tonifying acupuncture for cervical spondylosis of vertebral artery type. *J Acupunct Tuina Sci*, 2017, 15(5): 382-386.
- [7] Luo KT, Gao F, Zhan DW, Yang XB, Shen LH. Comparative study on heat-sensitive moxibustion versus warm needling for cervical spondylosis of vertebral artery type. *Shanghai Zhenjiu Zazhi*, 2014, 33(12): 1135-1137.
- [8] Yang Y, Yang WH. A comparative study of usual Chinese medicine therapy methods for cervical spondylosis of vertebral artery type. *Nanjing Zhongyiyao Daxue Xuebao*, 2012, 28(3): 282-286.
- [9] State Administration of Traditional Chinese Medicine. *Criteria of Diagnosis and Therapeutic Effects of Diseases and Syndromes in Traditional Chinese Medicine*. Nanjing: Nanjing University Press, 1994: 186.
- [10] Wang ZL. Discussion on 'Eight and a Half Locks' in folk massage therapy. *Anmo Yu Daoyin*, 1992, (6): 1-3.
- [11] Wang WF. Acupuncture and moxibustion for treatment of cervical spondylosis of vertebral artery type clinical progress. *Xiandai Zhenduan Yu Zhiliao*, 2013, 24(7): 1539-1541.
- [12] Fan BH, Wang P, Xu QZ, Gu HY. Observation on vertigo in *Internal Classic of Medicine*. *Zhejiang Zhongyi Zazhi*, 2017, 42(12): 687-688.
- [13] Deng ZX. Acupuncture and moxibustion combined with massage for treatment of cervical spondylosis of vertebral artery type. *Xiandai Zhenduan Yu Zhiliao*, 2015, 26(8): 1737-1739.
- [14] Ye C, Chen J, Shi YM, Liu PY, Liu XC, Qu Y, Li CG, Li PY. The characteristics of TCD in patients with cervical spondylosis of different syndromes and their correlation with age and syndrome. *Xiandai Zhongxiyi Jiehe Zazhi*, 2018, 27(22): 2406-2411.

Received: 28 August 2018/Accepted: 20 September 2018

- [15] Zhu LJ, Chen SX, Zhou HL, Wang J. Comparative study of X-ray plain and CT and MRI in diagnostic efficacy and detection rate of cervical spondylosis. *Shijie Zuixin Yixue Xinxu Wenzhai*, 2018, 18(A4): 37-38.
- [16] Wang Q, Liu LB, Li J, Lü DP. Pilot study on clinical treatment and curative effect of vertebral artery type of cervical spondylosis. *Zhongguo Jixu Yixue Jiaoyu*, 2016, 8(13): 88-89.
- [17] Wang HG, Wang YJ, Peng FZ. Clinical study on 45 cases of vertebral artery type of cervical spondylosis treated with acupuncture, moxibustion, massage and Chinese herbal compress. *Shijie Zhongxiyi Jiehe Zazhi*, 2014, 9(11): 1215-1217.
- [18] Hu MZ. Clinical observations on the efficacy of acupuncture plus cervical spinal correction in treating cervical spondylosis vertebral arteriopathy. *Shanghai Zhenjiu Zazhi*, 2010, 29(6): 377-379.
- [19] Wu JS. Clinical observation on treating 300 cases of cervical syndrome with combined therapy. *Zhongyiyao Daobao*, 2007, 13(12): 48-49.
- [20] Fan R, Liu YJ. Effect of warm acupuncture and massage on osteoprotegerin, bone Gla-protein and calcitonin in patients with knee osteoarthritis. *Zhongguo Xiandai Yixue Zazhi*, 2015, 25(16): 86-89.
- [21] Gu ZP. Scapulohumeral peri-arthritis treated with warm acupuncture and massage. *Zhejiang Zhongyiyao Daxue Xuebao*, 2007, 31(3): 370-371.
- [22] Liu X. Efficacy of warm acupuncture plus massage on ankylosing spondylitis. *Zhonghua Yixue*, 2018, 10(6): 106-107.
- [23] Gao Q, Wu C, Xi MJ. Observation on the effect of warm needling moxibustion combined with manipulation in treatment of cervical vertigo. *Xiandai Zhongxiyi Jiehe Zazhi*, 2016, 25(15): 1608-1611.

Translator: Wu Jiang-yun (吴江昀)