

(CASE REPORT)



## Successful treatment of Cervical Type Cervical Spondylosis with Meridian Balancing Acupuncture: A significant case study with excellent outcomes

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### Abstract

This case report presents an office worker diagnosed with Cervical Type Cervical Spondylosis who underwent Meridian Balancing Acupuncture therapy. The patient had experienced recurrent episodes of pain and stiffness over several years, with exacerbations in the past three years, which were managed with conventional, modern medical treatments. However, these interventions did not result in long-term resolution, as symptoms consistently relapsed within a few days. Due to the increasing burden of the condition, the patient opted for acupuncture treatment and was administered a prescribed Meridian Balancing Acupuncture regimen. The treatment protocol consisted of three 30-minute acupuncture sessions, administered every other day over the course of one week. Distal acupuncture points on the limbs were selected and manipulated every 5-10 minutes. During palpation of sensitive/reactive points, as well as during needling and manipulation, the patients were instructed to gradually rotate their neck in various directions to assess symptom relief. After the initial treatment, the patient experienced complete resolution of pain and stiffness, though a mild relapse was observed before the second and third sessions. By the conclusion of the treatment course, both pain and stiffness were fully resolved. A follow-up conducted four weeks post-treatment revealed no recurrence of Cervical Spondylosis symptoms.

**Keywords:** Cervical Type Cervical Spondylosis; Meridian Balancing Acupuncture; Distal Acupuncture; Dynamic Acupuncture

### 1. Introduction

Cervical Type Cervical Spondylosis is a condition characterized by the long-term degeneration of the intervertebral discs, leading to the formation of bone spurs and ligament hypertrophy. This, in turn, results in cervical canal stenosis and symptoms of nerve compression. It primarily manifests as non-specific imaging findings of discomfort in the neck and shoulder areas, with frequent recurrences that significantly reduce quality of life. The condition imposes considerable psychological and financial burdens on patients. Given the chronic nature and recurrent episodes of the condition, alternative treatment approaches are needed. Meridian Balancing Acupuncture offers both symptomatic relief and systemic therapy, providing a comprehensive approach that is essential for effectively managing the chronic nature of Cervical Type Cervical Spondylosis over time.

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## 2. Case Presentation

### 2.1. Main Complaint

The patient, Weiming Xiang, a 44-year-old female from Hangzhou, China, initially presented to our research clinic on the afternoon of June 16, 2023, with a chief complaint of pain in the neck and occipital head region, accompanied by impaired movement of the head, especially in the anterior-posterior direction. The pain had been intermittent for over a week, gradually increasing in intensity, and consistently affecting her sleep. This type of neck pain, lasting for at least one week, had been recurring once or twice a month for over three years.

### 2.2. History

The patient works in an office located near our hospital and, due to the nature of her job, is exposed to prolonged sitting in front of a computer or checking her mobile phone for several hours a day. During periods of heavy workload, the frequency and intensity of the pain increase, occasionally accompanied by headache, nausea, and vomiting. She has been suffering from this condition for more than ten years, with exacerbations occurring over the past three years. Despite seeking treatment at various facilities, including local physiotherapy, massage, scrubbing, cupping, and acupuncture, the condition showed limited improvement. Medications such as medical patches, naproxen, ibuprofen, and other analgesics provided temporary relief, but symptoms returned after one or two days.

### 2.3. Assessment

In the past week, the patient experienced daily pain, occurring one to two times a day, particularly in the afternoon or evening. The pain lasted for several hours and persisted during sleep, significantly affecting sleep quality. On some occasions, the patient reported difficulties falling asleep. She described a dull, sore pain throughout the neck, along with limited neck mobility. Moving her neck, especially when looking up or down, triggered a sharp, intense pain, described as resembling an "electric impulse." After a day of intense work, the stiffness in her neck exacerbated and was sometimes accompanied by a feeling of fullness throughout the neck, upper back, shoulders, and head. Due to the persistence and severity of her symptoms, she sought treatment. Like several of her colleagues, she was enrolled in our acupuncture research study on Cervical Type Cervical Spondylosis. Unbeknownst to her, she was randomly assigned to the Meridian Balancing Acupuncture Method (MBAM) treatment group.

### 2.4. Clinical Examination



**Figure 1** Imaging Findings

Clinical examination at Palpation revealed general stiffness and tension in the neck and proximal shoulder muscles, with several tender points in the area of the T1, C7, and C6 vertebrae. In the region of the C2 and C3 vertebrae, close to the vertebral processes, there were bilateral trigger points that caused radiating and acute pain upon pressure. At Inspection we observed impaired movement in all directions, with pain exacerbating particularly around the C7 and T1 vertebrae (GV14 - Da Zhui). Flexion and extension of the neck were especially impaired, with discomfort around the C2, C3, and occipital regions.

X-ray imaging findings: mild cervical degenerative changes, with sharpening of the vertebral body margins. Visual Analogue Scale (VAS) for pain score: 4.4; Revised Wong-Baker Faces Pain Scale (FPS) for pain score: 6; Cervical Spine Anterior-Posterior Range of Motion (AP-ROM) angle: 83°; Cervical Spine Lateral Flexion Range of Motion (LF-ROM) angle: 81°; Cervical Spine Rotation Range of Motion (R-ROM) angle: 130°.

Systematic symptoms included a pale complexion with slight red cheeks, dry lips, dry mouth, and itchy eyes. In the evening, the patient experienced weakness in the limbs and soreness in the back, when particularly fatigued by work, and complained of dizziness and/or tinnitus. She also reported dry stool every other day. Irregular delayed menstruation was noted, characterized by scanty dark red blood, which may contain clots. Her tongue appeared thin, with a dark red body, slight coating, and greasy spots. The pulse was thin and choppy.

### 2.5. Diagnosis

According to Western medicine criteria, the patient was diagnosed with Cervical Type Cervical Spondylosis, with possible osteophyte formation compressing the nerve roots and early degenerative changes in the spinal ligaments. In Traditional Chinese Medicine (TCM), the manifestations resulted in two syndromes: "Neck Tendon Impediment" and "Blood Stasis," with syndrome differentiation indicating a combination of two patterns: "Blood Stasis due to Overexertion Syndrome" and "Liver and Kidney Yin Deficiency Syndrome." Meridian syndromes were identified, particularly "Foot Taiyang Bladder Meridian Syndrome," with some manifestations of "Foot Shaoyang Gallbladder Meridian Syndrome."

### 2.6. Treatment Principles

The TCM strategy focuses on soothing the tendons and activating the collaterals of the neck area to remove the stiffness, invigorating blood circulation and resolving stasis to stop the pain. Additionally, the strategy aims to warm and invigorate the Bladder meridian, nourish Liver and Kidney Yin, and soothe the Gallbladder Meridian. In this way, we can address both the local manifestations and the internal physiological imbalances.

The MBAM treatment strategy focuses on the Kidney Meridian, Lung Meridian, or Small Intestine Meridian to address Bladder Meridian Syndrome, which can also be chosen distally. The treatment also targets the Liver Meridian, Heart Meridian, or San Jiao Meridian to address Gallbladder Meridian Syndrome, which can similarly be addressed distally, as demonstrated by the MBAM six meridian correspondences summarized in Table 1 below.[1, 2]

**Table 1** Neck Type Cervical Spondylosis two sick Meridian Six Balancing Correspondences Scheme

Sick Meridian	Internal Correspondence	External Correspondence	Same Name Correspondence	Opening-Closing-Pivot Correspondence	Opposite Correspondence	Time Correspondence	Consecutive Time Correspondence
Foot Taiyang BL	Kidney		Small Intestine	Lung	Lung		Small Intestine
Foot Shaoyang Gallbladder	Liver		San Jiao	Heart	Heart		San Jiao

In particular, we can focus on the Liver Meridian on the leg to nourish the Yin, resolve stasis, soothe the tendons, and address the Gallbladder Meridian. The Kidney Meridian on the leg can also nourish Yin, and support the Yang in the Bladder Meridian. The Lung Meridian on the arm can invigorate the Bladder Meridian and activate the collaterals to remove stiffness. And San Jiao Meridian is the "Same Name Correspondence" related with Gall Bladder Meridian, nourishing and soothing tendons, ligaments and collaterals, it can also address stagnation.

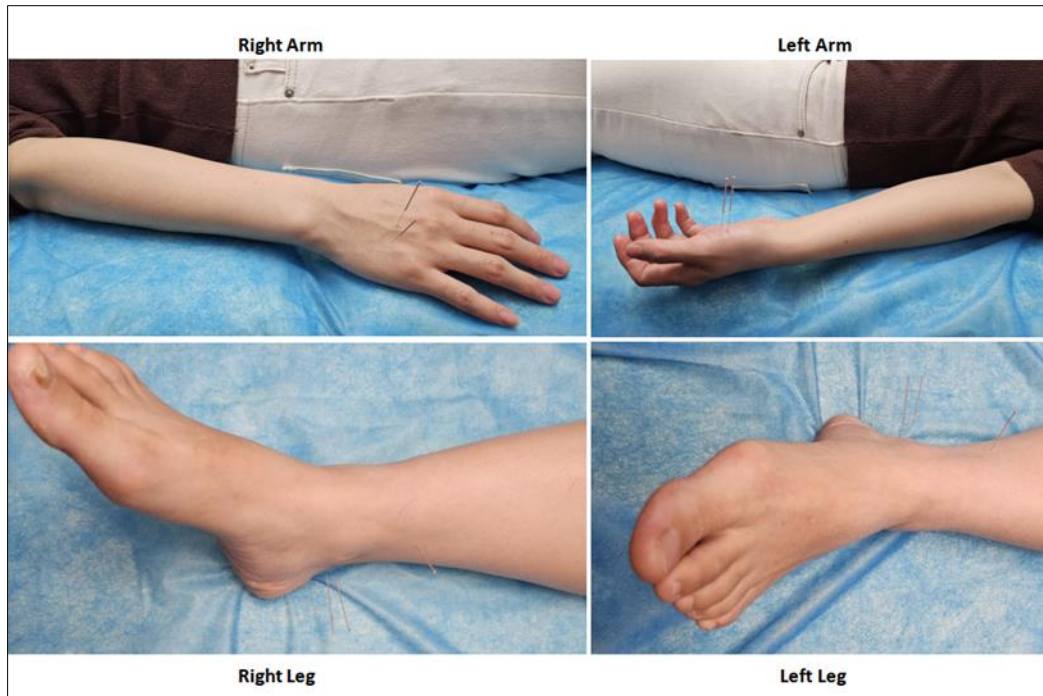
The MBAM "five tissues correspondences" principle suggests focusing the treatment on the ankle, following the "Lower-Leg/Trunk Reverse Holographic Correspondence" to address the tendons in the neck. It also recommends focusing on the metacarpal area for needling to address the nerve roots near the C2-C3 vertebra, following the "Hand/Trunk Direct Holographic Correspondences", as illustrated in the table below[3, 4].

**Table 2** Limb-Trunk Holographic Correspondences

Arm	Leg	Reverse Forearm	Reverse Lower leg	Hand	Foot	Trunk
Fingers	Toes	Tip of the Elbow	Top of the Knee	Distal Fingers	Distal Toes	Top of the head
Hand	Foot	Elbow region	Knee region	Proximal Fingers	Proximal Toes	Head-Face
Wrist	Ankle	Elbow distal region(LI10)	Knee distal region(LI10)	Distal Metacarpus	Distal Metatarsus	Neck-Nape
Forearm	Lower Leg	Arm proximal 1/3	Leg proximal 1/3	Central Metacarpus	Central Metatarsus	Thoracic Back-Chest
Elbow	Knee	Arm middle 1/3	Leg middle 1/3	Proximal Metacarpus	Proximal Metatarsus	Waist-Lumbar 2-Umbilicus
Upper Arm	Thigh	Arm distal 1/3	Leg distal 1/3	Metacarpus root	Metatarsus root	Lower Abdomen-Lower Back
Shoulder Joint	Hip Joint	Wrist	Ankle	Metacarpus root	Metatarsus root	Genital-Sacrum-Bladder
Shoulder	Hip	Metacarpus	Metatarsus	Wrist	Ankle	Genital-Coccyx
Top Of Shoulder	Hop Of The Hip	Fingers	Toes	Wrist	Ankle	Testicles-Anus

## 2.7. MBAM Treatment

To address the issue in the first treatment, the Lung Meridian was primarily selected on the left arm as the treating meridian. Palpation of the hand at the level of the thenar eminence revealed that the most sensitive point was found near Lung 10 (Yu Ji - 鱼际). Upon applying strong pressure to this point, the patient experienced an immediate reduction in pain and stiffness.[5] Two needles were inserted at intervals of 0.5 cun in this sensitive/reactive location[6], resulting in consistent pain reduction, especially at C2-C3, and improved neck movement in the anterior-posterior direction. On the right arm, the San Jiao Meridian was chosen. Palpation revealed two sensitive points on the back of the hand, between the 3<sup>rd</sup> and 4<sup>th</sup> metacarpals, and between the 4<sup>th</sup> and 5<sup>th</sup> metacarpals at the level of SJ3(Zhongzhu - 中渚). By pressing these points, the patient again experienced a reduction in symptoms. One needle was inserted at each sensitive/reactive point, and rotation movement was completely free of pain in this direction. Using the same procedure, the Liver and Kidney Meridians were selected on both legs. Sensitive/reactive points were found in proximity to KI5 (Shuiquan - 水泉) on both legs, where two needles were inserted on each side. Another sensitive/reactive point was found distal to LV5 (Ligou - 蠡沟), where one needle was inserted on each side. The insertion of these last needles was accompanied by almost complete relief of pain and stiffness. The treatment session lasted about 30 minutes, during which the needles were stimulated three times. The patient was instructed to check for symptom relief and assess neck movement. At the end of the treatment, the symptoms had completely disappeared. The patient underwent three similar treatment sessions every other day, with slight changes in point selection based on the patient's slightly different manifestations, symptom release, and sensitive/reactive points. In the second session, SI3(Houxi - 后溪) was added to better address the Bladder Meridian at the occiput. In the third session, the points on the San Jiao Meridian were not administered, as there was no pain or stiffness in rotation or lateral flexion, and only eight needles were used.



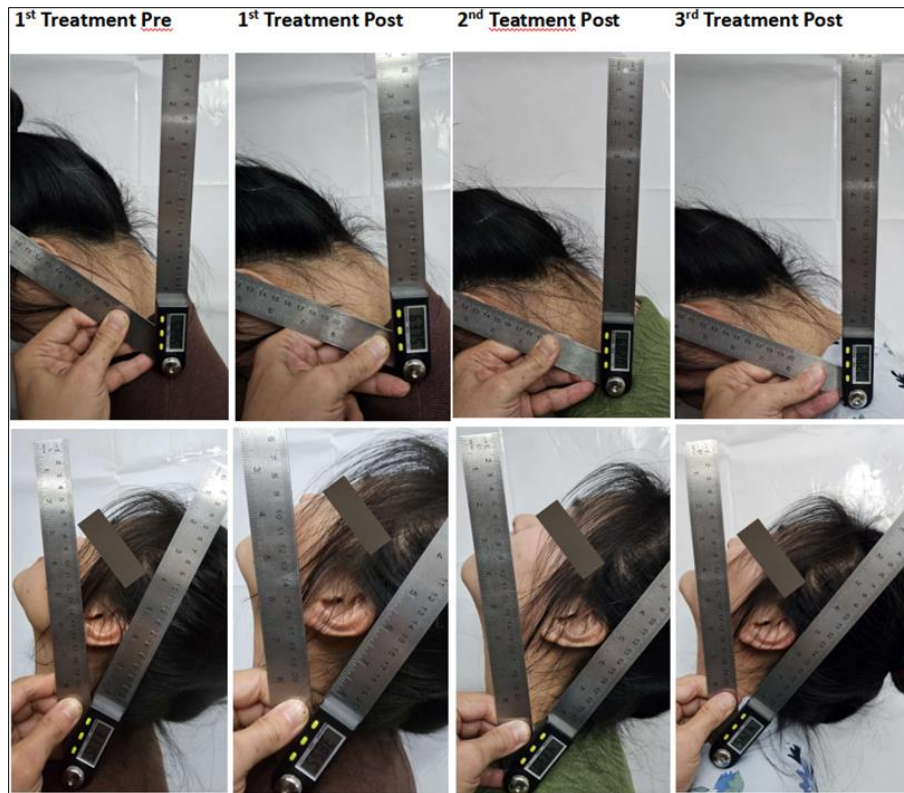
**Figure 2** MBAM Acupuncture Prescription

### 3. Results

**Table 3** Evaluation Indexes Outcome

Evaluation Indexes	1 <sup>st</sup> Treatment		2 <sup>nd</sup> Treatment		3 <sup>rd</sup> Treatment		4-weeks Follow Up
	Pre	Post	Pre	Post	Pre	Post	
VAS	4.4	0	1.6	0	1.3	0	0
FPS	6	0	2	0	1	0	0
AP - ROM	83°	101°	84°	111°	99°	109°	102°
LF - ROM	81°	88°	85°	88°	86°	89°	85°
R - ROM	130°	136°	130°	139°	136°	140°	135°

The patient experienced complete relief of pain at the end of each treatment session, and the curative effect persisted at the four-week follow-up. Movement improvement was also significantly enhanced after the first treatment, with angles similar to the follow-up measurements. Before the second and third sessions, there was a slight relapse of pain symptoms, but almost no stiffness in the lateral flexion and rotation directions. A high peak angle for anterior-posterior ROM was achieved during the second session, when we added the SI3 point. After the three-session therapy, pain and stiffness were completely resolved, and a follow-up after four weeks revealed no recurrence of symptoms.



**Figure 3** Anterior-Posterior ROM

#### 4. Discussion

With changes in modern lifestyles, the incidence of Cervical Type Cervical Spondylosis has become a critical public health issue. This phenomenon is closely related to maintaining poor posture for extended periods and the lack of physical activity in the modern work environment. The incidence is higher among office workers and those who frequently use computers and mobile phones. Prolonged usage of these devices and the associated forward neck flexion have become significant factors contributing to degenerative changes of the cervical vertebrae[7, 8]. Epidemiological data from China indicate that the prevalence among individuals over 40 years old is as high as 30%-50%[9]. Regarding gender differences, studies suggest that women, likely due to hormonal levels and fragility in spine structure, tend to have a slightly higher prevalence[10]. Notably, our patient is a 44-year-old woman, who presents with irregular and scanty menstruation, a history of office work, and prolonged exposure to anterior neck flexion.

According to Traditional Chinese Medicine (TCM) etiology and pathology, Cervical Type Cervical Spondylosis can be categorized into three main TCM Syndromes and four main Meridian Syndromes. The TCM syndromes are "Wind-Cold Obstruction," "Blood Stasis due to Overexertion," and "Liver-Kidney Yin Deficiency"[11, 12]. Based on the Meridian approach, which is informed by pain location and restricted movement, the main meridians involved are "Governor Vessel," "Foot Taiyang Bladder Meridian," "Foot Shaoyang Gallbladder Meridian," "Hand Taiyang Small Intestine Meridian," and "Hand Shaoyang Triple Energizer Meridian"[13, 14]. A disease such as cervical spondylosis cannot be cured without addressing both the physiological root and the symptomatic manifestations. In general, by treating only the local symptoms—such as pain and stiffness in the neck—temporary, total or partial relief of the manifestations can be achieved. However, these symptoms often relapse after a certain period, making the treatment less effective in the long term.

The Principles of Correspondence and Balance in human physiology and the meridian network are ancient, profound, and broad. The "Yellow Emperor's Inner Canon" emphasizes that acupuncture should balance the Yin and Yang aspects of human physiology by using distal acupuncture points to address the disease[15]. The Meridian Balancing Acupuncture Method is a treatment approach based on the principle of correspondence and balance between Yin and Yang applied to the meridian network and physiology of TCM. Its theoretical foundation originates from the Yin-Yang theory in the "Book of Changes" (Yijing - 易经), and it focuses on using distal acupoints according to the core principles in the Yellow Emperor's Classic.

To resolve our case of Cervical Type Cervical Spondylosis using MBAM, we utilized distal acupoints needling, which extends beyond merely addressing the local symptoms of pain and stiffness in the neck and upper back to harmonizing the meridian network and addressing internal syndromes. During the treatment sessions, with repeated symptom evaluation at needle insertion and manipulation, the MBAM dynamic procedure allowed us to perform real-time assessments and adjust treatment based on immediate feedback from the patient. This adaptability facilitates refinements in needle placement and technique, ensuring a personalized treatment experience for our patient. Additionally, we encouraged the patient to perform neck movements during treatment, which released the tension in the neck, upper back, shoulders, and head, enhancing both the therapeutic effect and the patient comfort.

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## 5. Conclusion

In conclusion, with a few needles on the limbs and a reduced risk of adverse events, particularly in delicate regions like the cervical spine and lungs, MBAM offers a safe yet potentially more effective treatment option for the management of Cervical Type Cervical Spondylosis. The efficacy of Meridian Balancing Acupuncture in treating this case of Cervical Type Cervical Spondylosis suggests a need for further exploration and potential integration into mainstream clinical practice to effectively address the therapeutic challenges associated with this condition.

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## Compliance with ethical standards

### *Disclosure of conflict of interest*

The first authors Massimo Bondi, the second coauthor Jianqiao Fang, and the corresponding author Xiaomei Shao declare no conflicts of interest in this work.

### *Statement of ethical approval*

An informed consent forms was obtained from the patient for this case report prior the treatment This case study has been extracted from a research reviewed and approved by the Medical Ethics Review Committee of the Affiliated Third Hospital of Zhejiang Chinese Medical University, project number: ZSLL-KY-2022-022-01. The research was sponsored by National Administration of Traditional Chinese Medicine. The research strictly adheres to the Declaration of Helsinki

### *Statement of informed consent*

Informed consent was obtained from the patient for this case report.

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