Case Study

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MARMA CHIKITSA - A NON-INVASIVE AYURVEDIC APPROACH TO CERVICAL RADICULOPATHY: A CASE STUDY

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ABSTRACT

Cervical radiculopathy, commonly known as a "pinched nerve," occurs due to compression or irritation of a cervical nerve root, leading to radiating neck pain, muscle weakness, and sensory disturbances in the upper limb. In Ayurvedic literature, a condition known as Vishwachi, classified as a Vata-dominant Nanatmaja Vyadhi, presents with clinical features closely resembling cervical radiculopathy, a degenerative disorder of the cervical spine. This case study evaluates the role of Marma Chikitsa as a non-pharmacological therapeutic approach in the management of cervical radiculopathy. A 45-year-old female patient presented with a two-month history of vertigo, neck rigidity, tingling sensations, and pain radiating from the cervical region to the right arm. Clinical examination revealed positive Spurling's test and neck distraction test, confirming cervical radiculopathy. Conventional management options such as physiotherapy, heat therapy, cervical collars, analgesics, and steroids are commonly employed, however, pharmacological interventions may provide inconsistent relief and are often associated with adverse effects. Since pain significantly interferes with daily activities, effective pain management remains the primary therapeutic goal. Marma Chikitsa was administered by stimulating Kshipra, Indrabasti, Kurpara, Ani, Kakshadhar, Krikatika, and Amsa Marma points. Each Marma received 15–18 stimulations of 0.8 seconds once daily for 15 consecutive days. Post-treatment outcomes demonstrated significant symptomatic improvement, with Visual Analog Scale (VAS) scores reducing from 7 to 2 and Neck Disability Index scores improving from 52 to 18. Additional benefits included reduced pain, stiffness, and tingling sensations, improved range of motion, and restoration of hand function. The findings suggest that Marma Chikitsa is a safe, non-invasive treatment option, though larger clinical studies are required to establish its broader efficacy.

Keywords: Cervical radiculopathy, Marma Chikitsa, Marma Sthana, Pain management, VAS score, neck disability index.

INTRODUCTION

Cervical radiculopathy, commonly referred to as a "pinched nerve," occurs when a nerve root in the cervical spine becomes compressed or irritated. This condition results in pain, weakness, and numbness along the distribution of the affected nerve, significantly impairing daily activities and overall quality of life. Typically, this impingement manifests as neck pain with radiating arm pain or numbness, sensory deficits, or motor dysfunction involving the neck and upper extremities.

In individuals in the third and fourth decades of life, disc trauma and herniation are the primary causes of nerve root impingement. Disc degeneration becomes the predominant etiology during the fifth and sixth decades of life. In the seventh decade, nerve root compression most commonly results from foraminal narrowing secondary to arthritic changes.[1] Tobacco use accelerates disc dehydration, compromises nutritional supply to the vertebral end plates, and promotes pro-inflammatory processes, thereby increasing the risk of clinically significant spinal disorders. Furthermore, occupations that involve prolonged neck flexion, repetitive overhead arm activities, and heavy upper-limb loading are associated with a higher likelihood of requiring surgical intervention. Cervical radiculopathy affects approximately 203 per 100,000 individuals annually, with surgery required in nearly 20% of cases.[2] Among musculoskeletal disorders, neck pain ranks as the second most prevalent condition after low back pain in the general population.[3] Conventional management strategies primarily include analgesics and non-steroidal anti-inflammatory drugs; however, these often provide incomplete symptom relief and may be associated with adverse effects. Ayurvedic literature describes a condition known as Vishwachi, which closely resembles cervical radiculopathy and is considered a degenerative disorder of the cervical spine.[4] Vishwachi affects the neck and upper limb and is characterized by symptoms such as Ruk (pain), Stambha (stiffness), Toda (pricking pain), Bahu Karmakshayakari (functional impairment)[5], and Bahu Chestapaharana (restricted arm movements).[6] It is classified as a Vataja Nanatmaja Vyadhi. The concept of Marma holds a unique and significant place in Ayurvedic Sharir. Classical Ayurvedic texts provide extensive descriptions of Marmas, which are defined as vital points formed by the firm union of Mamsa (muscle), Sira (vessels), Snayu (ligaments), Asthi (bones), and Sandhi (joints). These Marmas are considered the primary seats of Vayu, Soma, and Tejas, as well as the three fundamental qualities- Sattva, Rajas, and Tamas. Marma therapy is utilized in the management of a wide range of conditions, from common ailments to various neuromuscular disorders.

Case Presentation

A 45-year-old woman presented to the Outpatient Department of Pt. Khushilal Sharma Government (Autonomous) Ayurveda College and Institute, Bhopal, Madhya Pradesh, with chief complaints of vertigo, neck stiffness, tingling sensation, and pain radiating from the neck to the right upper limb. She was employed in a desk-based occupation that required prolonged computer use and writing, resulting in sustained cervical strain.

The patient reported a gradual onset of symptoms approximately two months prior to presentation. Initially, she experienced pain, numbness, and tingling in her right hand upon waking in the morning. These symptoms persisted throughout the day and progressively worsened over time. The pain was predominantly localized to the upper cervical region and radiated down the right arm, with intensity increasing during routine daily activities.

On clinical examination, sensory responses were normal, cervical curvature was preserved, and bilateral neck muscle symmetry was maintained. However, Spurling's test and the cervical distraction test were positive, indicating nerve root irritation. Radiological evaluation revealed features of cervical spondylosis, including reduced disc height at the C6–C7 level and the presence of posterior vertebral osteophytes.

The patient had previously undergone conservative management with non-steroidal anti-inflammatory drugs (NSAIDs), which provided only minimal and temporary relief. She had no history of trauma and no associated comorbidities such as hypertension, diabetes mellitus, thyroid disorders, or peripheral vascular disease.

Diagnostic Criteria

Pain Assessment (Visual Analogue Scale- VAS)

Pain intensity was evaluated using the Visual Analogue Scale (VAS), a widely accepted and validated tool for subjective pain assessment. The standard VAS pain scale ranges from 0 to 10, where:
0 indicates no pain
1–3 indicates mild pain
4–6 indicates moderate pain
7–10 indicates severe pain

Spurling's Test

Spurling's test is a clinical provocative maneuver used to assess cervical nerve root compression. The test is performed by extending, rotating, and laterally flexing the neck toward the symptomatic side while applying gentle axial compression. Reproduction of arm pain, numbness, or tingling constitutes a positive test result.

Neck Distraction Test (Cervical Distraction Test)

The cervical distraction test is used to evaluate cervical nerve root involvement. During the test, the examiner gently applies traction by lifting the patient's head, thereby reducing pressure on the cervical nerve roots. Alleviation of radicular symptoms in the arm or shoulder suggests cervical nerve root compression.

Neck Disability Index (NDI)

The Neck Disability Index is a validated, self-administered questionnaire designed to assess the impact of neck pain on functional activities and quality of life. It measures disability related to daily living, including personal care, work, and recreation.

Cervical Range of Motion (ROM)

Cervical range of motion refers to the extent of neck movement in flexion, extension, lateral flexion, and rotation. Assessment of cervical ROM is essential for evaluating functional limitations and monitoring therapeutic outcomes. It is typically measured through visual estimation or with the use of a goniometer or inclinometer.

Table 1: Timeline

Day	Treatment Status	VAS Score	Neck Disability Index (NDI)	Spurling's Sign	Cervical Distraction Test	Clinical Outcome
Day 1 (Baseline)	Marma Chikitsa initiated	7	52	Positive	Positive	Severe pain, functional disability and active nerve root irritation
Day 7 (Mid-treatment)	Marma Chikitsa continued	4	35	Positive	Positive	Moderate pain improvement in functional ability
Day 15 (Post-treatment)	Marma Chikitsa completed	2	18	Negative	Negative	Minimal pain, mild residual disability, and resolution of nerve root irritation

METHODOLOGY

The patient underwent Marma Chikitsa once daily in the morning. Stimulation was applied to Kshipra, Indrabasti, Kurpara, and Ani Marma, along with Kakshadhar Marma, Krikatika, and Amsa Marma points. Each Marma point was stimulated for approximately 0.8 seconds, repeated 15–18 times per session. The therapy was administered once daily for a total duration of 15 days, as detailed in Table 2.

Marma stimulation was performed using consistent, direct pressure applied with the pulp of the thumb, while the patient was positioned comfortably in a seated posture. (Figures 1-3)

Table 2: Duration and frequency of Marma stimulation

Marma Sthana	Frequency	Duration
Kshipra Marma	0.8 sec	15-18 Times Once a day
Indrabasti Marma	0.8 sec	15-18 Times Once a day
Kurpara Marma	0.8 sec	15-18 Times Once a day
Ani Marma	0.8 sec	15-18 Times Once a day
KakshadharMarma	0.8 sec	15-18 Times Once a day
Krikatika Marma	0.8 sec	15-18 Times Once a day
Amsa Marma	0.8 sec	15-18 Times Once a day

FIgure 1: Kshipra Marma

Figure 2: Ani, Karpura and Indrabasti Marma

Figure 3: Krikatika and Amsa Marma

Sites of Marma therapy

Outcome Measurement

Outcome measures included the Visual Analogue Scale (VAS) for assessing pain intensity and the Neck Disability Index (NDI) for evaluating the level of disability. The NDI is a widely accepted and standardized tool for assessing disability in patients with neck pain and demonstrates high validity and reliability. Cervical range of motion (ROM) was measured using a goniometer. The VAS has been shown to exhibit strong reliability, with a reported reliability coefficient of 0.94

Ethical Consideration: The present case study was conducted in accordance with the Indian Council of Medical Research (ICMR) National Ethical Guidelines for Biomedical and Health Research Involving Human Participants. Written informed consent was obtained from the patient prior to initiation of treatment. Confidentiality of patient identity and clinical information was strictly maintained throughout the study

RESULTS

Over the 15-day treatment period, the patient with cervical radiculopathy demonstrated significant clinical improvement. Pain intensity, as measured by the Visual Analogue Scale (VAS), decreased from 7 at baseline to 4 on Day 7 and further to 2 by Day 15. Functional disability, assessed using the Neck Disability Index (NDI), showed marked improvement, with scores reducing from 52 at baseline to 35 on Day 7 and 18 at the completion of treatment. Cervical spine range of motion (ROM) exhibited progressive improvement across all planes, including flexion, extension, lateral flexion, and rotation, reflecting enhanced functional mobility. Furthermore, Spurling's test, which was positive at baseline, became negative by Day 15. Similarly, the cervical distraction test converted from positive on Day 1 to negative by Day 15, indicating clinical resolution of cervical nerve root irritation.

Table 3: Before and after treatment

Assessment Parameter	Baseline (Day 1)	Mid-treatment (Day 7)	Post-treatment (Day 15)
Pain (VAS, 0–10)	7	4	2
Neck Disability Index (NDI, %)	52	35	18
Cervical ROM (Degrees)			
– Flexion	20°	40°	50°
– Extension	28°	35°	55°
– Right Lateral Flexion	20°	30°	45°
– Left Lateral Flexion	30°	45°	55°
– Right Rotation	25°	40°	60°
– Left Rotation	55°	65°	70°

DISSCUSSION

In the modern era, the extensive use of computers and digital devices has contributed to a rising incidence of cervical radiculopathy (CR). This study demonstrates the potential efficacy of Marma Chikitsa in the management of cervical radiculopathy by addressing its underlying pathophysiological mechanisms while providing significant symptomatic relief. Marma Chikitsa, an important therapeutic modality in Ayurveda, involves the stimulation of specific vital points to enhance the circulation of Prana within the body.Cervical radiculopathy is classified as a Vataja Nanatmaja Vyadhi, and therefore responds favorably to therapeutic interventions that pacify Vata Dosha. The close relationship between Prana and Vata underpins the effectiveness of Marma Chikitsa in this condition. Among the five subtypes of Vata, Vyana Vayu has the strongest association with Marma, as it governs movement, circulation, and the distribution of Prana throughout the body, including the skin and peripheral structures. Marma Chikitsa has been shown to reduce neck pain and stiffness by relaxing hypertonic muscles and relieving muscular spasms.[7] The results of the present study demonstrated marked clinical improvement, with VAS pain scores decreasing from 7 to 2 over a 15-day treatment period, indicating substantial pain relief. Similarly, the Neck Disability Index score improved from 52 to 18, reflecting enhanced upper limb function and a significant reduction in functional disability. Furthermore, Spurling's sign and the cervical distraction test, which were positive at baseline, became negative by Day 15, suggesting resolution of cervical nerve root irritation. Marma Sthanas are considered "doorways" or entry points to the body's internal pathways. Gentle stimulation of these points initiates a cascade of beneficial physiological responses by promoting balance in vital bodily functions, including energy flow and tissue healing. The probable mechanism by which Marma Chikitsa alleviates pain in cervical radiculopathy can be explained through modern neurophysiological concepts such as the descending

analgesic pathways and the gate control theory of pain. Stimulation of Marma points activates inhibitory pathways within the brain and spinal cord, thereby reducing the transmission of pain signals. Additionally, Marma Chikitsa enhances spinal gating mechanisms by stimulating large-diameter A-fibers, which inhibit nociceptive signal transmission to higher centres.[8] This therapeutic stimulation may also facilitate the release of endogenous opioids such as endorphins, resulting in decreased pain intensity and duration. By removing obstructions in the body's energy channels and restoring equilibrium among vital forces, Marma Chikitsa supports internal healing and functional recovery.

CONCLUSION

This case study indicates that Marma Chikitsa may be an effective therapeutic intervention for the management of cervical radiculopathy, as evidenced by significant reduction in pain intensity and improvement in functional capacity. As a non-invasive and safe Ayurvedic modality, it represents a potential alternative or adjunctive treatment option with a low risk of adverse effects. Although the findings of this case are promising, further well-designed randomized clinical trials with larger sample sizes and long-term follow-up are necessary to rigorously evaluate its efficacy, establish reproducibility, and facilitate the integration of Marma Chikitsa into evidence-based clinical management protocols for cervical radiculopathy.

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