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EFFICACY OF MARMA CHIKITSA IN THE PAIN MANAGEMENT OF CERVICAL SPONDYLOSIS: A PILOT STUDY

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ABSTRACT

Background: Cervical spondylosis is a rapidly increasing degenerative musculoskeletal disorder of the cervical spine, driven by modern lifestyle factors such as prolonged computer/mobile use and faulty posture, resulting in degenerative changes in the cervical vertebrae and intervertebral discs. In Ayurveda, this condition is correlated with Vata-predominant disorders described under Greeva Stambha (cervical stiffness) and Manyastambha.[4,5] **Objective**: This pilot study was designed to evaluate the safety and preliminary efficacy of Marma Chikitsa (Ayurvedic vital-point stimulation therapy) alone, administered for 15 consecutive days, in patients with cervical spondylosis, and to correlate the outcomes with modern objective assessment tools. **Materials and Methods**: The present study was conducted as an open-label, single-arm clinical study involving 10 patients who constituted the Marma Chikitsa. Patients diagnosed with cervical spondylosis received Marma Chikitsa for 15 days, followed by a 7th-day follow-up period. Selected Marma Sthanas included Ansa, Ansaphalaka, Krikatika, Kakshadhara, Vidhura, Kshipra,

Manibandha, Ani and Urvi. Each Marma was stimulated 15–18 times according to the marma chikitsa protocol. Clinical parameters including pain, stiffness, tingling sensation and cervical range of motion were assessed before and after treatment. Statistical analysis was performed using the Wilcoxon signed-rank test. Assessment was carried out using the Visual Analogue Scale (VAS), and cervical range of motion (ROM), recorded on Day 0 and Day 15. **Results: Overall interpretation:** All parameters showed statistically significant improvement by Day 15, with **$p < 0.05$** for every parameter. The greatest percentage improvement was observed in **Pain (89.47%)**, followed by **Stiffness (83.33%). Conclusion**: The findings suggest that Marma Chikitsa may be beneficial in reducing symptoms and improving cervical functional mobility in patients with cervical spondylosis. As this was a single-arm pilot study with a limited sample size, larger controlled studies with longer follow-up are required to confirm these preliminary findings.

KEYWORDS: Cervical Spondylosis, Greeva Shoola, Greeva Stambha, Manyastambha, Marma Chikitsa, VAS, Pilot Study.

1. INTRODUCTION

Cervical spondylosis is a chronic degenerative disorder characterized by age-related wear and tear of the intervertebral discs, facet joints, and associated ligaments of the cervical spine, leading to osteophyte formation, reduced disc height, and, in some cases, compression of the nerve root or spinal cord. Clinically, it presents with neck pain, stiffness, pain radiating to the shoulder and arm, paresthesia, and restricted cervical mobility.[4,5]

From an Ayurvedic perspective, the clinical manifestations of cervical spondylosis can be interpreted predominantly through the involvement of Vata Dosha, particularly in association with degeneration, pain, stiffness and restricted movement.[1–3] The therapeutic management of Vata-related disorders includes various approaches aimed at restoring functional balance and relieving pain.[1–3] Modern medicine commonly employs NSAIDs, muscle relaxants, physiotherapy, and, in severe cases, surgical intervention; however, prolonged NSAID use is associated with gastrointestinal and renal adverse effects.[4,5] Against this background, Marma Chikitsa — a specialized Ayurvedic therapeutic technique involving manual stimulation of specific anatomical Marma sthanas (vital points described as junctions of Mamsa, Sira, Snayu, Asthi, Sandhi, and Prana) — offers a non-pharmacological, minimally invasive alternative for the management of Vata-predominant musculoskeletal disorders such as cervical spondylosis.[7]

Therefore, the present pilot study was undertaken to assess the clinical safety and preliminary efficacy of a standardized 15-day Marma Chikitsa protocol, administered as a stand-alone intervention, in patients with cervical spondylosis, using modern objective assessment tools (VAS and ROM), thereby laying the groundwork for a larger randomized controlled trial (RCT) in the future.

2 AIM

To evaluate the efficacy of **Marma Chikitsa** in the Pain management of cervical spondylosis.

3. OBJECTIVES

1. To assess the effect of Marma Chikitsa on pain associated with cervical spondylosis.
2. To evaluate its effect on cervical stiffness.
3. To assess improvement in tingling sensation of the hand.
4. To evaluate improvement in cervical range of movements.
5. To assess the overall clinical response following Marma Chikitsa.

4 MATERIALS AND METHODS

4.1 Study Design

The present investigation was an **open-label, single-arm analysis** involving **10** patients who received Marma Chikitsa as part of the Marma Chikitsa Protocol

4.2 Setting and Duration

The study was conducted in the MARMA CHIKITSA OPD Of P.G. Department of Rachna Sharir, Pt. Khushilal Sharma Government (Autonomous) Ayurveda College and Hospital, Bhopal

4.3 Sample Size

A total of N = 10 patients fulfilling the inclusion and exclusion criteria were enrolled using convenience sampling. As this is a pilot study intended to generate preliminary data.

4.4 Inclusion Criteria

- Patients of either sex, aged between 25–65 years.
- Patients clinically diagnosed (neck pain, stiffness, restricted movement) and radiologically confirmed (X-Ray Cervical Spine AP/Lateral with cervical spondylosis.
- Symptom duration of more than 3 months (chronic/sub-acute cases).

- Patients willing to provide written informed consent for participation.

4.5 Exclusion Criteria

- Patients with cervical myelopathy or significant neurological deficit (motor weakness).
- Fracture, tumor, tuberculosis, or other infective/malignant causes of the cervical spine.
- Pregnant and lactating women.
- Uncontrolled diabetes, cardiac disease, or other significant comorbidities.
- Patients who underwent cervical spine surgery or received injection therapy within the past 1 month.

4.6 Treatment Protocol

All enrolled patients received Marma Chikitsa, administered once daily for 15 consecutive days, with no adjunctive Basti, Snehana–Swedana, or internal medication. A mild lubricant (e.g., plain Til Taila) was used only to reduce friction during point stimulation, and not as a therapeutic Snehana procedure.

PROTOCOL OF MARMA CHIKITSA

Sr.No	*Marma*	Stimulation Time	Sitting Of *Marma Chikitsa*	Total Time
1.	*Ansa*	0.8 sec	Once a day	15 Days
2.	*Ansaphalaka*	0.8 sec	Once a day	15 Days
3.	*Krikatika*	0.8 sec	Once a day	15 Days
4.	*Kakshadhara*	0.8 sec	Once a day	15 Days
5.	*Vidhura*	0.8 sec	Once a day	15 Days
6.	*Kshipra*	0.8 sec	Once a day	15 Days
7.	*Manibandha*	0.8 sec	Once a day	15 Days
8.	*Ani*	0.8 sec	Once a day	15 Days
9.	*Urvi*	0.8 sec	Once a day	15 Days

- **Technique**: Each Marma point was stimulated using gentle sustained digital pressure (Marma Abhighata-varjita/non-traumatic pressure technique) combined with circular (Pratiloma–Anuloma) finger movements.
- **Session duration**: Approximately[15–20] minutes per sitting, covering all Nine Marma Sthanas in a fixed sequence.
- **Diet and Lifestyle (Pathya-Apathya):** Vata-pacifying diet, avoidance of prolonged neck flexion in a single posture, and advice on the use of a suitable pillow — advised as general lifestyle measures, without any additional internal or external Ayurvedic therapy.



4.7 Assessment Criteria

Patients were assessed at baseline (Day 0) and post-treatment (Day 15) using the following objective and subjective parameters:

Diagnosis

Subjective Criteria

In present study Subjective criteria for assessment as follows –

1. *Shula* (Pain in cervical region)
2. *Graha* (Stiffness)
3. *Chimchimayana Hasta* (Tingling sensation in hand)

Objective Criteria

Restricted movement of cervical spine-

(a) Flexion

(b) Extension

(c) Rt. and Lt.Lateral rotation

(d) Rt. and Lt. Lateral Flexion

Grading System

Ayurvedic parameters — graded scoring scale (0–3) for severity of Greeva Stambha, Shoola, and Supti (numbness).

Pain

S.No.	Criteria	Grading
1.	No pain	0
2.	Mild pain without radiation/occasionally relived on rest	1
3.	Moderate pain without radiation/relived after taking pain killer	2
4.	Severe pain with radiation/not relived fully even after taking pain killer	3

Stiffness

S.No	Criteria	Grading
1	No Stiffness	0
2	Mild Stiffness relived without medication	1
3	Moderate Stiffness relived by local application	2
4	Severe Stiffness relived by Oral medication	3

Tingling Sensation In Hand

S.No	Criteria	Grading
1	No tingling Sensation	0
2	Occasionally	1
3	Upto 1 hour	2
4	Upto 2 hour	3

RESTRICTED MOVEMENT

Cervical Range of Motion (ROM) — flexion, extension, lateral flexion, and rotation measured using a goniometer.

- **Flexion**

S.No	Criteria	Grading
1	No restriction able to touch interclavicular line	0
2	Upto 2 cm difference between the chin and interclavicular line	1
3	More than 2-4 cm difference between the chin and interclavicular line	2
4	More than 4 cm difference	3

- **Extension**

S.No	Criteria	Grading
1	Normal 130 degree	0
2	Moving upto 120 degree	1
3	Moving upto 110	2
4	Moving < 110 degree	3

- **Rt. And Lt. Lateral Rotation**

S.No	Criteria	Grading
1	Complete rotation	0
2	Rotation with mild difficulty	1
3	Rotation on side only	2
4	No rotation	3

- **Rt. AND Lt. Lateral Flexion**

S.No	Criteria	Grading
1	Normal ear touch to shoulder up	0
2	Upto 3 cm difference between the ear and shoulder	1
3	More than 3-5 cm difference between the ear and shoulder	2
4	More than 5 cm difference	3

VAS FOR PAIN ASSESSMENT

The visual analog scale (vas) is a validated, subjective, measure for acute and chronic pain

Sr.No	Pain	Grade
1	VAS range in between 0-2	0
2	VAS range in between 2-4	1
3	VAS range in between 4-6	2
4	VAS range in between 6-8	3
5	VAS range in between 8-10	4

Pain was assessed using a graded VAS-based scoring system, with scores ranging from Grade 0 to Grade 4 corresponding to VAS ranges of 0–2, 2–4, 4–6, 6–8 and 8–10, respectively.

4.8 Statistical Analysis

Pre- and post-treatment scores were compared using the Wilcoxon Signed-Rank Test for paired non-parametric data. A p-value < 0.05 was considered statistically significant. Statistical analysis was performed using GraphPad InStat 3 software.

5. RESULTS

5.1 Demographic Data

Parameter	Number (n)	Percentage (%)
Total Patients	10	100 %

Male	0	0%
Female	10	100%
Age Group 25–40 years	4	40 %
Age Group 41–65 years	5	50%

3.2 Pre vs Post Treatment Comparison

Parameter	Mean ± SD (Day 0)	Mean ± SD (Day 15)	% Change	p value
Pain (VAS-based Grade)	1.90 ± 0.738	0.20 ± 0.422	89.47%	0.00195
Stiffness	1.80 ± 0.422	0.30 ± 0.483	83.33%	0.00195
Tingling sensation	1.70 ± 0.949	0.50 ± 0.850	70.59%	0.00391
Cervical Flexion (°)	2.30 ± 0.4831	0.70 ± 0.675	69.57%	0.00195
Cervical Extension (°)	2.00 ± 0.816	0.40 ± 0.516	80.00%	0.00391
Left lateral flexion	2.30 ± 0.483	0.50 ± 0.527	78.26%	0.00195
Right lateral flexion	1.70 ± 1.252	0.40 ± 0.699	76.47%	0.01563
Right lateral rotation	2.00 ± 0.667	0.50 ± 0.527	75.00%	0.00391
Left lateral rotation	1.50 ± 0.527	0.30 ± 0.483	80.00%	0.00195

Overall interpretation: All parameters showed statistically significant improvement by Day 15, with **$p < 0.05$** for every parameter. The greatest percentage improvement was observed in **Pain (89.47%)**, followed by **Stiffness (83.33%)**

5.3 Overall Response

Response Category	Number (n)	Percentage (%)
Marked relief (>75%)	4	40%
Moderate relief (50–75%)	5	50%
Mild relief (25–50%)	1	10%
No relief (<25%)	0	0%

Among 10 patients, 40% showed complete relief, 50% moderate relief, and 10% mild relief, with no patients showing no relief.

6. DISCUSSION

The findings of the present study indicate that Marma Chikitsa produced considerable improvement in both subjective symptoms and functional parameters in patients with cervical spondylosis.

The improvement in **pain** may be understood in relation to the therapeutic stimulation of Marma Sthanas and its possible influence on pain perception and neuromuscular regulation. In Ayurveda, pain is predominantly associated with Vata Dosha, and therapeutic interventions directed towards Vata disorders are considered important for alleviating pain and restoring normal function.

A substantial improvement was also observed in **stiffness**. Restriction of movement and stiffness may be associated with altered muscle tone, mechanical restriction and degenerative changes. Stimulation of selected Marma Sthanas may contribute to relaxation of the surrounding musculature and improvement in mobility.

The improvement in **tingling sensation** is particularly noteworthy. Although the present study cannot establish a specific neurophysiological mechanism, the observed clinical response may indicate a possible influence of Marma stimulation on sensory and neuromuscular pathways.

The functional parameters showed marked improvement, particularly **flexion and right lateral flexion**. Improvement in these parameters suggests enhanced cervical mobility following treatment.

- From a contemporary perspective, the therapeutic response observed following Marma stimulation may potentially involve mechanisms related to **neuromodulation, altered sensory input, muscle relaxation and modulation of pain pathways**. However, these mechanisms remain hypothetical in the context of the present clinical study and require confirmation through objective investigations such as electromyography, nerve conduction studies and neurophysiological assessments.[7]
- ***Marma Chikitsa* and Endorphins – the natural painkillers**

Endorphins are endogenous opioid peptides that act as natural pain-relieving substances produced mainly by the hypothalamus and pituitary gland in response to pain, stress, or physical stimulation. They exert their analgesic effect by binding to opioid receptors present in the brain and spinal cord, thereby inhibiting the transmission of pain signals and reducing pain perception. Endorphins may also be released from other tissues, including the spinal cord, immune cells, and gastrointestinal tract. Their release contributes to analgesia, relaxation, and a sense of well-being, making them an important component of the body's natural pain modulation system.

7. CONCLUSION

The present open-label, single-arm secondary analysis demonstrated considerable improvement in pain, stiffness, tingling sensation and cervical range of movements following Marma Chikitsa in patients with cervical spondylosis. The preliminary findings suggest that Marma Chikitsa may have therapeutic potential as an approach for improving symptoms and functional mobility in cervical spondylosis.

However, because of the **small sample size, absence of a control group and short follow-up**, these findings should be interpreted as preliminary. Larger randomized controlled studies with objective neurophysiological assessment and longer follow-up are warranted to establish the efficacy and mechanism of Marma Chikitsa.

REFERENCES

1. Agnivesha. Charaka Samhita, Chikitsa Sthana, Vatavyadhi Chikitsa Adhyaya 28. Edited by Vaidya Yadavji Trikamji Acharya. Varanasi: Chaukhamba Surbharati Prakashan.
2. Sushruta. Sushruta Samhita, Nidana Sthana, Vatavyadhi Nidana Adhyaya 1. Edited by Kaviraj Ambikadutta Shastri. Varanasi: Chaukhamba Sanskrit Sansthan.
3. Vagbhata. Ashtanga Hridaya, Nidana Sthana, Adhyaya 15. Edited by Pt. Hari Sadashiva Shastri Paradkar. Varanasi: Chaukhamba Surbharati Prakashan.
4. Kuo DT, Tadi P. Cervical Spondylosis. In: StatPearls. Treasure Island (FL): StatPearls Publishing, 2024.
5. Theodore N. Degenerative Cervical Spondylosis. New England Journal of Medicine, 2020; 383(2): 159–168.
6. Sushruta. Sushruta Samhita, Sharira Sthana, Marma Adhyaya 6. Edited by Kaviraj Ambikadutta Shastri. Varanasi: Chaukhamba Sanskrit Sansthan.
7. Gorman P. Marma Points of Ayurveda and Their Relationship to Acupuncture and Trigger Points. Journal of Ayurveda and Integrative Medicine.