

CASE STUDY

Alleviating Shoulder Pain and Enhancing Scapular Joint Range of Motion in *Avabahuka* (Frozen Shoulder) through *Marma Chikitsa*: A Case Study

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ABSTRACT

Frozen shoulder, medically termed adhesive capsulitis, is a debilitating condition that restricts shoulder mobility and causes pain. This ailment is frequently linked to medical conditions such as diabetes and hypothyroidism. This case study explored *Marma Chikitsa*, an *Ayurvedic* treatment, as an alternative to conventional pharmacological and physiotherapy interventions. A 31-year-old male with persistent right shoulder pain and rigidity who was unresponsive to NSAIDs and physiotherapy underwent treatment with *Marma Chikitsa*. Therapy involved applying pressure and gently stimulating specific *Marma* points on the shoulder twice daily. Pain assessment done by using the NRS-11 scale and goniometric measurements of shoulder function were performed. After treatment, the patient's pain decreased from 7 to 1 on the NRS-11 scale, with significant improvements in shoulder movement: abduction increased from 60° to > 160°, flexion from 70° to >160°, and extension from 30° to 60°. *Marma Chikitsa* may improve energy and blood circulation, promote muscle relaxation, and reduce pain in frozen shoulder patients. This non-invasive, integrative approach offers a safe, effective, and affordable alternative to traditional interventions, showing promise as a potential treatment and management method for frozen shoulder.

1. INTRODUCTION

Adhesive capsulitis, commonly referred to as frozen shoulder, is a disabling condition marked by shoulder joint stiffness and discomfort, resulting in limited range of motion (ROM).^[1] This condition, referred to as "*Avabahuka*" in *Ayurvedic* medicine, significantly affects an individual's quality of life and daily activities.^[2] While conventional treatments such as physical therapy, corticosteroid injections, and, in severe cases, surgical interventions are commonly employed,^[3,4] there is growing interest in alternative approaches, particularly those rooted in traditional medical systems.^[5]

Marma Chikitsa, an ancient *Ayurvedic* therapy, has garnered attention for its potential in addressing musculoskeletal disorders.^[6] This

therapeutic technique focuses on manipulating specific vital points (*Marmas*) in the body to restore balance and promote healing.^[7] Despite its long-standing use in traditional medicine, scientific evidence supporting the efficacy of *Marma Chikitsa* in treating frozen shoulder remains limited.^[8]

This case study aimed to explore the potential of *Marma Chikitsa* in alleviating shoulder pain and improving the scapular joint ROM in a patient diagnosed with *Avabahuka*. This study adds to the expanding research on non-traditional approaches for treating frozen shoulders by recording the therapeutic procedures and results.^[9]

The literature review reveals a paucity of empirical studies that specifically examine the effects of *Marma Chikitsa* on frozen shoulders. However, several studies have investigated the broader application of *Ayurvedic* therapies in managing musculoskeletal disorders.^[9,10]

Recent research has also explored the integration of traditional therapies with conventional treatments for frozen shoulders. Chan

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et al.^[11] demonstrated the potential synergistic effects of combining acupuncture with physical therapy to improve shoulder function and reduce pain. This finding underscores the importance of investigating complementary approaches, such as *Marma Chikitsa*, in conjunction with established treatments.

Furthermore, growing interest in personalized medicine has led to investigations into the role of genetic factors in frozen shoulder susceptibility and treatment response.^[12] This emerging field of research may provide insights into tailoring treatments, including alternative therapies such as *Marma Chikitsa*, to individual patient profiles.

2. CASE PRESENTATION

A 31-year-old male visited the outpatient department (OPD) at the *Marma Chikitsa* Unit, *Sanjivani Ayurved Chikitsalya*, located at the *Rajasthan Ayurved University* Campus in Jodhpur, Rajasthan. He complained of dull, aching pain and restricted movement of his right shoulder joint, which persisted for 15 days. Over the past 4 months, he experienced severe agonizing and pricking pain in his right upper limb. Despite receiving treatment, including NSAIDs, antacids, and painkiller gel for topical application from a physician, he did not experience significant relief.

The physician recommended NSAIDs, antacids, and a course of intensive daily physical therapy as part of the treatment plan. No cause or catalyst was identified.

The patient then went to the *Ayurvedic* OPD at the *Marma Chikitsa* Unit, *Sanjivani Ayurved Chikitsalya*, located at the *Rajasthan Ayurved University* Campus in Jodhpur, Rajasthan, for *Ayurvedic* treatment.

2.1. History

The patient had K/C/O – AVSD (atrioventricular septal Defect/AV Canal) since birth. The patient was on *Ayurveda* treatment for AVSD (Akika Pishti with Milk cream, *Arjuna Twaka Ksheera Paka Kalpana*) treatment.

The patient reported a good appetite and a mixed diet. Sleep had been reduced for the past 2 months, whereas micturition and bowel habits remained normal. No history of addiction. The family history was not specific, and there were no significant maternal or paternal medical conditions. The patient was married and had a single son. On general examination, the patient was in good general condition, with a pulse rate of 78 beats/min and blood pressure of 130/84 mmHg. No icterus, pallor, or lymphadenopathy was observed.

A systemic examination revealed an additional abnormal heart sound on cardiac auscultation (S1S2), whereas the central nervous system examination indicated that the patient was conscious and oriented. Abdominal examination revealed a soft, non-tender abdomen.

A local examination of the right shoulder revealed normal muscle tone with no evidence of deformity or muscular atrophy. Mild tenderness was noted; however, the local temperature remained normal. However, there was a significant restriction in movement, accompanied by severe pain. The Lift-off test was positive, indicating subscapularis muscle dysfunction, and the drop-arm test was positive, suggesting a rotator cuff tear. The ROM was significantly restricted and painful, with active ROM measurements as follows: abduction at 60°, flexion at 70°, extension at 30°, and external rotation possible with difficulty.

The numerical rating scale (NRS)-11 score for pain in the right shoulder was 7, which indicated a high level of discomfort.

2.2. Investigations

The results of the blood tests and biochemical analyses were found to be approximately within the normal ranges. A radiograph of the shoulder joint taken 1 month prior showed no abnormalities.

2.3. Assessment Criteria

The assessment criteria outlined here provide a comprehensive framework for evaluating shoulder joint conditions, focusing on three key aspects: pain, stiffness, and ROM [Tables 1-5].

2.4. Management

2.4.1. Pre-procedural method

Before the procedure, we provided a comprehensive explanation to the patient. The necessary authorization was secured for medical intervention. Subsequently, the patient was placed in a position designed to provide optimal comfort during the procedure.

2.4.2. Procedural method

Marma Chikitsa was done as per the following:

After properly screening the patient and the affected area, *Marma Chikitsa* should be carefully performed.

Fingertips were used to apply direct pressure to the *Marma points* (vital points) on both sides of the shoulder region (*Amas Marma*, *Amas Phalaka Marma*, and *Kakshadhara Marma*) twice daily. Deep breathing with an open mouth should be encouraged during the procedure.

Each *Marma* point was stimulated at least 16–18 times by applying a constant tolerable pressure of 0.8s (cardiac cycle) followed by relaxation in a continuous rhythmic pattern. The same procedure was performed 2 times daily. The patient was advised to take complete rest for 10 min in a comfortable manner (Case timeline: Table 6).

3. DISCUSSION

This case report highlights the effectiveness of *Marma Chikitsa* in alleviating pain and improving the ROM in a patient with *Avabahuka* (frozen shoulder). Mentioned in [Graphs 1 and 2] standard approaches for treating adhesive capsulitis generally include the use of NSAIDs, injections of corticosteroids, and physical therapy, while surgical procedures are typically reserved for cases that do not respond to these initial treatments.^[1] However, the present case underscores the potential of *Marma Chikitsa* as a non-invasive and holistic alternative. The significant reduction in pain (NRS-11 scale from 7 to 1) and improvement in shoulder mobility post-treatment support the therapeutic benefits of this ancient *Ayurvedic* technique [Table 7 and Figure 1].

3.1. Comparative Analysis with Conventional Therapies

Frozen shoulders are commonly managed with NSAIDs, physiotherapy, and intra-articular corticosteroid injections. While these approaches are effective in many cases, they may not provide long-lasting relief and can have side effects, such as gastrointestinal irritation, dependency, and joint degeneration.^[2,3] Studies indicate that nearly 10% of patients experience persistent symptoms despite pharmacological and physical therapy.^[4] In contrast, *Marma Chikitsa* offers a drug-free, side-effect-free alternative that appears to provide sustained improvement, as observed in this case.

Physiotherapy remains the cornerstone of conservative treatment, which focuses on stretching and strengthening exercises to restore shoulder mobility.^[5] However, some studies have suggested that physiotherapy alone may not be sufficient for all patients, particularly those with severe pain and restricted movement.^[6] The integration of alternative therapies, such as acupuncture and *Ayurveda*-based treatments, has shown promising results in improving outcomes in musculoskeletal disorders.^[7,8]

3.2. Mechanism of Action of *Marma Chikitsa* in Frozen Shoulder

Marma Chikitsa involves stimulating specific energy points (*Marmas*), which are believed to regulate the flow of *Prana* (life energy) and enhance blood circulation, reducing pain and inflammation.^[9] From a modern perspective, pressure on *Marma* points may stimulate mechanoreceptors and nociceptors, modulate pain perception, and promote neuromuscular relaxation.^[10] Similar mechanisms have been proposed for acupuncture and trigger point therapy, both of which are recognized for their effectiveness in pain management.^[11]

The therapeutic effects of *Marma Chikitsa*, in this case, are consistent with the findings of previous studies on *Ayurvedic* interventions for musculoskeletal disorders. Studies on *Abhyanga* (*Ayurvedic* massage) and *Swedana* (herbal formulation) have demonstrated benefits in relieving muscle stiffness and joint immobility, which may complement the effects of *Marma Chikitsa*.^[11,12]

3.3. Long-Term Sustainability and Future Implications

A key advantage of *Marma Chikitsa* is its non-invasive nature and minimal risk of adverse effects. The patient, in this case, reported sustained improvements even several months post-treatment, suggesting that this therapy could offer long-term benefits without recurrence, often seen with conventional treatments. Given its affordability and accessibility, *Marma Chikitsa* could be particularly beneficial for individuals in resource-limited settings where advanced physiotherapy or surgical options may not be readily available.

This case also raises important questions regarding the integration of *Ayurvedic* therapies with conventional treatment protocols. Mounting evidence supports the use of multifaceted approaches in addressing musculoskeletal conditions, with additional studies necessary to investigate the combined benefits of *Marma Chikitsa* when integrated with conventional physiotherapy treatments. In addition, large-scale randomized controlled trials are essential to confirm these results and develop uniform treatment guidelines.

4. CONCLUSION

Marma Chikitsa serves as a testament to the wisdom of ancient Indian healing practices. In this case, the treatment involved only *Marma Chikitsa* without any oral medication. This makes the therapy a safe, effective, and cost-efficient option for managing a frozen shoulder, with a lower chance of recurrence and no associated adverse effects. The main point of the case report is that *Marma Chikitsa* is a better treatment option than medical or surgical intervention. It is faster, requires less hospitalization, and reduces overall treatment costs.

A multicenter trial with a larger sample size should be conducted to obtain more definitive and widely accepted results. Emphasizing the balance of the body's life force through precise manipulation of *Marma* points, *Marma Chikitsa* is a powerful tool for holistic well-being, addressing the physical, mental, and spiritual aspects of health. As individuals continue to seek natural and holistic approaches to

healing, *Marma Chikitsa* holds a significant place in the spheres of traditional medicine and holistic wellness.

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6. AUTHORS' CONTRIBUTIONS

All the authors contributed equally to the design and execution of the article.

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8. ETHICAL APPROVALS

This study is approved by the Institutional Ethical Committee.

9. CONFLICTS OF INTEREST

Nil.

10. DATA AVAILABILITY

This is an original manuscript and all data are available for only review purposes from principal investigators.

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Table 1: Amsa shoola (shoulder joint pain assessment done by numerical rating scale-11 scale)

Parameters	Grade	BT	AT
Absence of pain	0	-	-
Mild pain	1-3	-	-
Moderate pain	4-6	-	-
Severe pain	7-11	7	1

BT: Before treatment, AT: After treatment

Table 2: Amsa praspanditahara (shoulder joint stiffness)

Parameters	Grade	BT	AT
No stiffness	0	-	-
Mild stiffness – stiffness that can be easily ignored	1	-	-
Moderate stiffness – stiffness that cannot be ignored	2	2	0
Severe stiffness – demanding constant attention	3	-	-
Totally incapacitating stiffness	4	-	-

BT: Before treatment, AT: After treatment

Table 3: Improvement in active range of movements (ROM measured by Goniometer) – for abduction

Grading	Angle	BT	AT
0	>160-<170	-	-
1	121-160	-	-
2	81-120	-	-
3	41-80	60	>160
4	0-40	-	-

BT: Before treatment, AT: After treatment

Table 4: Improvement in active range of movements (ROM measured by Goniometer) – for flexion

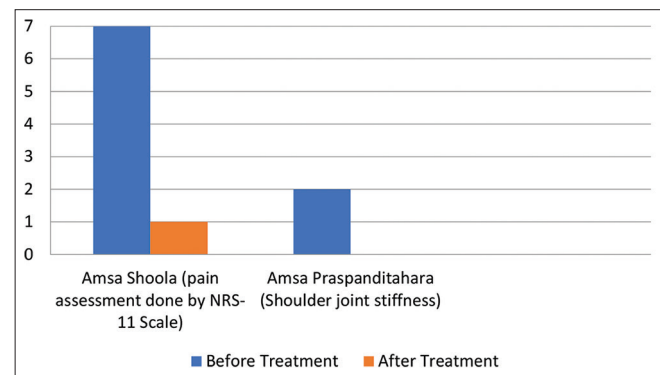
Grading	Angle	BT	AT
0	>160-<170	-	-
1	121-160	-	-
2	81-120	70	>160
3	41-80	-	-
4	0-40	-	-

BT: Before treatment, AT: After treatment

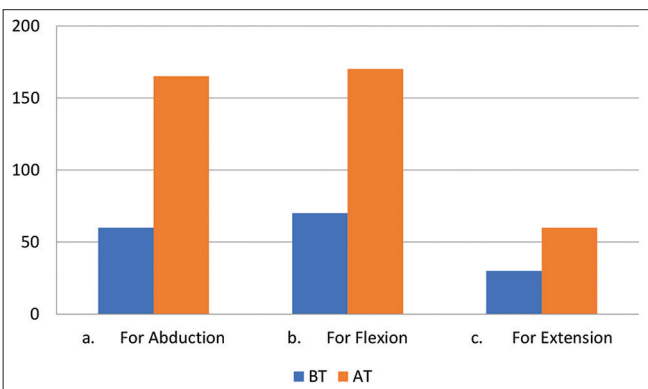
Table 5: Improvement in active range of movements (ROM measured by Goniometer) – for extension

Grading	Angle	BT	AT
0	50-60	-	-
1	40-50	-	-
2	30-40	30	60
3	20-30	-	-
4	0-20	-	-

BT: Before treatment, AT: After treatment



Graph 1: Pain assessment on numerical rating scale-11 scale and Amsa Praspanditahara



Graph 2: Improvement in active range of movements

Table 6: Timeline of case

S. no.	Period	Clinical events
1	October 2023	The patient began experiencing a slow onset of intense, excruciating, stabbing pain in their right shoulder. After seeking medical advice, they received temporary alleviation of symptoms.
4	January 2024	The radiographic examination of the right shoulder showed no abnormalities. Additional tests also yielded results within the expected range.
5	January 2024	A patient sought treatment at Sanjivani Ayurved Chikitsalya, located on the Rajasthan Ayurved University Campus in Jodhpur, Rajasthan. The individual visited the OPD reporting a persistent, mild aching discomfort and limited mobility in their right shoulder, which had been ongoing for 15 days.
6	January 2024	The patient underwent an Ayurvedic treatment regimen administered in the OPD for five consecutive days. An initial assessment was performed before the commencement of treatment, followed by a subsequent evaluation at the conclusion of the 5-day regimen. Gradual improvements were observed in the range of motion of the affected joint. Specifically, abduction increased from 60° to 80°, flexion improved from 70° to 90°, and extension showed an enhancement from 30° to 40°. Notably, external rotation exhibited a positive response following the first session of <i>Marma Chikitsa</i> . Upon completion of the treatment, the patient was advised to schedule a follow-up appointment after 7 days. In addition, recommendations were provided to refrain from engaging in strenuous activities to facilitate recovery and prevent exacerbation of symptoms.
7	March 2024	During the fifth examination, shoulder mobility improved significantly. Abduction and flexion both reached 170°, while extension increased to 60°. The patient's pain level, as measured by the numerical rating scale-11 scale, dropped considerably from 7 to 1.
8	July 2024	The patient's status remained unchanged from the fifth evaluation, and they experienced alleviation of symptoms.

OPD: Outpatient department

Table 7: Final outcomes of Marma Chikitsa

Parameters	BT	AT
Amsa Shoola (pain assessment done by numerical rating scale-11 Scale)	7	1
Amsa Praspanditahara (Shoulder joint stiffness)	2	0
Improvement in active range of movements for abduction, flexion, or extension	60	>160
	70	>160
	30	60

BT: Before treatment, AT: After treatment

**Figure 1:** Complete rotation of shoulder joint without any difficulty after treatment