eISSN:2581-4885
DEV SANSKRITI
VISHWAVIDYALAYA
PUBLICATION

CASE STUDY

Management of Avabahuka (Frozen Shoulder) through Ethnic Marma Therapy - A Case Study

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Abstract. *Avabahuka* can be correlate with frozen shoulder, which is characterized by pain, stiffness, and restricted movement in the shoulder joint which hampers daily activities. A 52-year-old female patient presented with symptoms of severe restriction in movements of the right shoulder joint along with pain and stiffness for 1 year and was diagnosed with *Avabahuka* (Frozen shoulder). As a therapeutic intervention, Ethnic Marma therapy was given daily for 21 days, with weekly evaluations without any oral medication. Symptoms were assessed using the Visual Analog Scale (VAS) and a grading pattern, while range of motion was evaluated using a goniometer. Follow-ups were conducted at one and four months to assess symptom response. After 21 days of treatment, the patient had significant improvement in right shoulder range of motion, and relief from pain and stiffness. No recurrence of symptoms was seen during follow up period. This case study demonstrates the effectiveness of Ethnic Marma therapy as a potential treatment for managing *Avabahuka* (frozen shoulder).

Keywords. *Avabahuka*, Frozen Shoulder, *Marma* Therapy

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PUBLISHED BY
Dev Sanskriti Vishwavidyalaya
Gayatrikunj-Shantikunj, Haridwar, India

Introduction

Avabahuka is a *Vataja Nanatmaja Vyadhi* [1]. *Vata Dosha* plays a crucial role in governing neuromuscular functions in the body, regulating all physical movements. Its imbalance may cause *Vatavyadhi*. In modern science, *Avabahuka* is correlate with frozen shoulder which is musculoskeletal disorder. The global prevalence of frozen shoulder is estimated to be between 2% and 5% of the general population [2]. Typically, patients are diagnosed between the ages of 40 and 60, with a higher prevalence observed in females in their fifth decade of life [3]. Clinically, *Avabahuka* (frozen shoulder) presents with a gradual onset of painful restricted movements of the upper limbs (*Bahu Praspandanhar*) [4].

Western medicine offers various treatments for frozen shoulder, including NSAIDs, steroid injections, hydrodilation, physiotherapy, manipulation under anesthesia, and arthroscopic capsular release. However, the most effective treatment approach remains uncertain. In contrast Ethnic Marma therapy, a unique traditional alternative treatment for musculoskeletal disorders, presents a simple, safe, and time-efficient solution. *Marma* therapy is a distinctive and lesser-explored modality of Ayurvedic therapy. *Marma* points are critical junctions of muscles, bones, tendons, vessels, and joints, considered reservoirs of life force (*Prana*) [5]. This case study assesses the effectiveness of Ethnic Marma therapy for *Avabahuka* (frozen shoulder) management.

Methods

Study design

This is a single case study.

Case study

A 52-year-old female patient has complaints of Gradually onset of pain and stiffness in her right shoulder, accompanied by severely restricted movement for 1 year. The pain was sharp, persistent, radiating from shoulder to the elbow, worsening at night and during winter, significantly hampers the daily routine activities. She had a history of a fall due to a slippery floor 9 years prior, but no abnormalities were found. Additionally, she has been suffering from type 2 diabetes mellitus for 2 years, which is controlled with oral anti-diabetic medication. There was no family history of musculoskeletal illnesses. Despite repeated consultations with an orthopaedic specialist, she failed to achieve lasting symptom alleviation. Hence, for better and further management through Ayurveda, she visited OPD of Shalya Tantra, ITRA, Jamnagar.

Personal history

She had no history of addiction. Her bowel habits were irregular, but urinary functions were normal, and she had a good appetite. However, sleep quality was compromised due to right shoulder pain.

Physical examination

The patient's vital signs and physical examination revealed the following: Weight: 60 kg; Height: 165 cm; Body Mass Index (BMI): 22.05 kg/m2; Blood Pressure: 134/86 mmHg; Pulse Rate: 80 beats per minute; Respiratory rate: 20 per minute. General physical examination was unremarkable, with no evidence of pallor, icterus, cyanosis, clubbing, or oedema. Systemic examination revealed: Cardiovascular System (CVS)- Normal, Respiratory System (RS)- Clear lungs with no adventitious sounds, Central Nervous System (CNS)- consciousness with orientation, good memory and normal speech, Gastrointestinal System (GIT)- soft and non-tender abdomen.

Examinations of Shoulder Joint

Clinical examination revealed normal findings on the left side, Muscle power of left upper limb assessment revealed 5/5 strength, with full range of motion against gravity and resistance. Muscle power of right upper limb assessment revealed 5/5 strength. In contrast, the right upper limb exhibited the following abnormalities:

Investigation

Hematological investigations were conducted before treatment to diagnose any pathological abnormalities, and the results were found to be normal [Table 1].

X-ray of the right shoulder joint was done before treatment to exclude alternative diagnosis [Figure 1].

Therapeutic intervention

In present case study, *Marma* therapy was employed as a treatment modality based on the symptoms of the patient. Following obtaining written informed consent, the *Marmas* of the right hand [Table 2] was stimulated using digital pressure applied with the thumb. For pain relief, no oral medication was prescribed during the treatment. To evaluate the effectiveness of the Ethnic marma therapy, assessment was conducted at four stages: pre-treatment, during treatment, post treatment and follow-up. Duration of Treatment was 21 days

https://doi.org/10.36018/dsiij.26.384

Sr.No.	Investigation	Result
1.	Hemoglobin	11.5 g%
2.	Total count	6210 cells/mm2
3.	DLC	55% (N), 32.3% (L), 1.5% (E), 6.8% (M), 0.4% (B)
4.	ESR	06 mm
5.	FBS	115 mg/dl

Table 1: Investigation

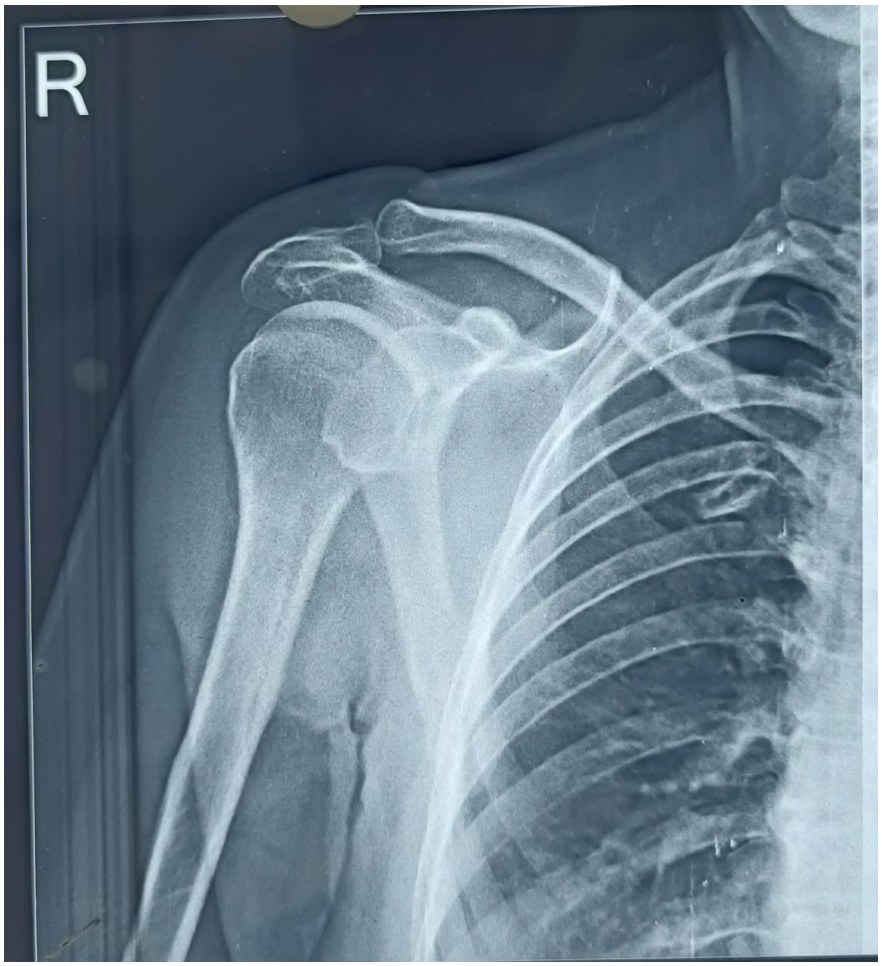

Figure 1: Normal X-ray of the right shoulder

Follow up

Two scheduled follow-up assessments. The first follow-up evaluation was conducted one-month post-treatment, and the second follow-up evaluation was conducted four months post-treatment.

Assessment criteria

Functional impairment was evaluated using the Disability of the Arm, Shoulder, and Hand (DASH) questionnaire before and after treatment, providing a quantitative measure of symptom improvement. Pain was assessed with VAS (visual analogue scale), range of motion was measured with goniometer, stiffness was assessed by using grading pattern on weekly interval [Table 3].

Sr. No.	Name of Marma	Frequency	Stimulation time	Duration
1	Kshipra	For 18-20 times on each Marma point	Approximately 30 seconds for each Marma point	Once a day for 21 days
2	Talahridaya	”	”	”
3	Indrabasti	”	”	”
4	Kurpara	”	”	”
5	Urvi	”	”	”
6	Aani	”	”	”
7	Kakshadhara	”	”	”
8	Amsaphalaka	”	”	”
9	Amsa	”	”	”

Table 2: Therapeutic intervention

CRITERIA	GR0	GR1	GR2	GR3	GR4
Pain	No Pain	Patient Says Its Paining	Patient Winces	Winces And Withdraws the Part	Do Not Allow to Touch the Paining Area.
Stiffness	No Stiffness	Noticeable Stiffness	Mild Stiffness	Moderate Stiffness	Sever Stiffness
Flexion	160-180	121-160	81-120	41-80	0-40
Abduction	160-180	121-160	81-120	41-80	0-40
Internal Rotation	80-90	61-80	41-60	21-40	0-20
External Rotation	80-90	Above 50	25-50	Up to 25	No External Rotation

Table 3: Range of motion and functional assessment for the shoulder joint.

Timeline (day)	Events	Improvement
09/04/2024 (Pre-treatment)	Patient came to OPD of Shalyatantra and was diagnosed with Avabahuka	She had severe pain, stiffness and decrease range of movements of right shoulder.
16/04/2024 (Day 7)	7th sitting of Marma therapy was done	Mild relief in pain with moderate stiffness. Range of motion slightly improved.
23/04/2024 (Day 14)	14th sitting of Marma therapy was done	Reduced Pain with mild stiffness. Range of motion moderately improved.
30/04/2024 (Day 21)	21st sitting of Marma therapy was done	Mild pain with noticeable stiffness. Range of motion moderately improved.
30/05/2024 (after one month)	1st follow up	Mild pain and noticeable stiffness along with significantly improved range of motion in right shoulder.
30/09/2024 (after four months)	2nd follow up	No recurrence of symptoms

Table 4: Timeline of the events.

Timeline of study

The patient's objective criteria were analysed, and the results were observed at regular intervals: Day 1 (pre-treatment), Day 7, Day 14, Day 21 (post-treatment), and at two follow-up assessments conducted one month and four months post-treatment. Following the completion of the 21-day treatment protocol and post-treatment follow-up evaluations, the timeline of patient's outcomes are presented in Table 4.

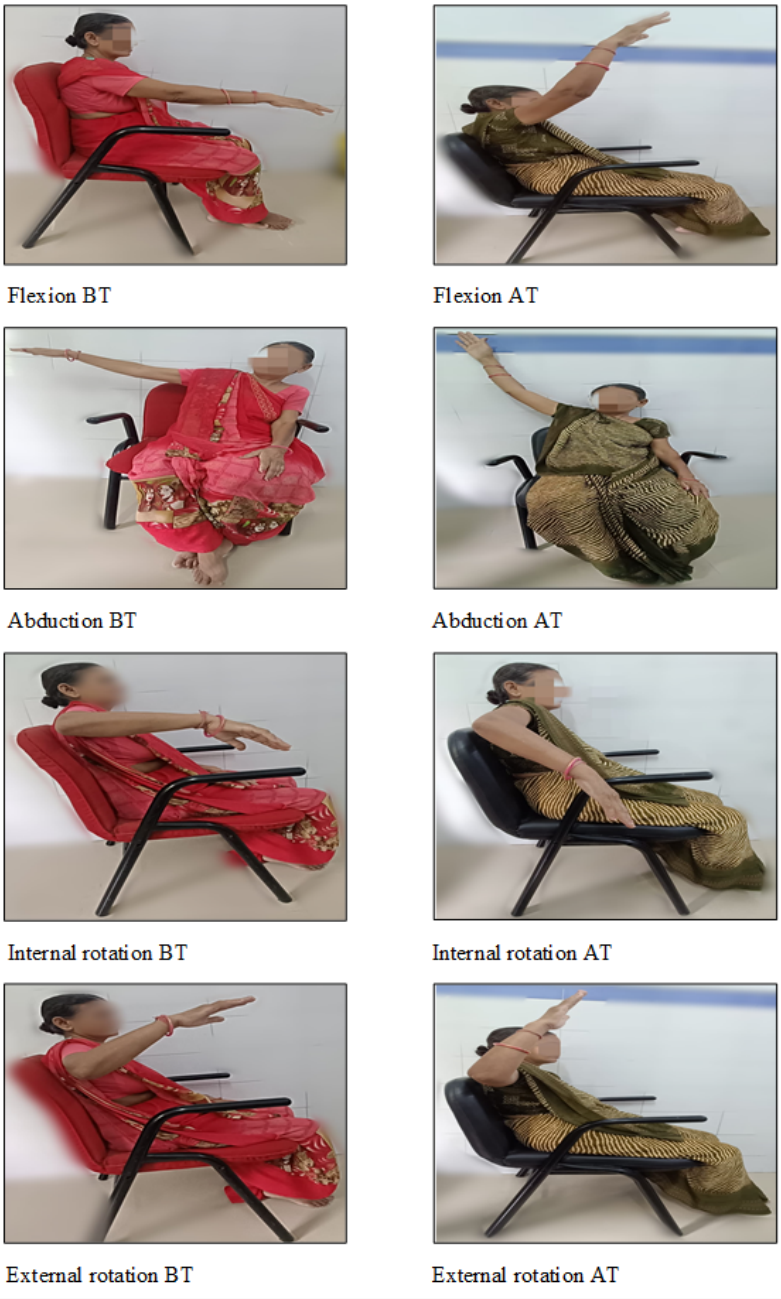

Figure 2: Range of motion before and after the treatment

Days	Pain	Stiffness	Flexion	Abduction	Internal Rotation	External Rotation
09/04/2024 (Before treatment)	3	4	80o	90o	10 o	20 o
16/04/2024 (Day 7)	2	3	100o	110o	30 o	40 o
23/04/2024 (Day 14)	2	2	120o	130o	50 o	60 o
30/04/2024 (Day 21)	1	1	140o	150o	70 o	60 o
30/05/2024 (One month follow up)	1	1	140o	150o	70 o	60 o
30/09/2024 (four months follow up)	1	1	140o	150o	70 o	60 o

Table 5: Observation of follow up and outcome measures.

Observation and Results

The treatment yielded progressive relief in reducing pain and stiffness, with complete restoration of range of motion by day 21. Regular follow-ups over five months confirmed sustained benefits with no symptom recurrence [Table 5]. The DASH score decreased by 40.23%, from 68.77% pre-treatment to 9% post-treatment, reflecting a significant improvement in functional ability. Post-treatment, the right shoulder's range of movement (ROM) showed significant improvement compared to pre-treatment, as evident in Figure 2.

Discussion

At the *Ansa Sandhi* (shoulder joint), *Shleshaka Kapha* and *Vyana Vata* are situated, and their synergistic action facilitates smooth and effortless movement of the joints. In *Avabahuka*, *Vata* becomes vitiated and invades the *Srotas*, ultimately reaching the *Ansa Pradesha*, where *Kha-Vaigunya* is present. The aggravated *Vata Dosha* absorbs the *Kapha Dosha* and vitiates the localized *Sira*, *Snayu*, and *Kandra* which are the *Upadhatu* of *Rakta Dhatu*. This disruption compromises muscle conjunction, causes pain, and impairs nutrition to the affected area, manifesting as symptoms such as *Bahupraspandanhar* (muscle wasting), *Shoola* (pain), and *Sira Akunchan* (vascular constriction).

Marmas are vital points where the three *Doshas* (*Vata*, *Pitta*, and *Kapha*) converge in their subtle forms as *Prana*, *Tejas*, and *Ojas*, respectively, and are influenced by the three *Gunas* (*Sattva*, *Rajas*, and *Tamas*) [6]. *Marmas* are regarded as reservoirs of *Prana*, functioning as switches that regulate the flow of *Prana* throughout the body. *Prana*, the vital life force, plays a crucial role in regulating both physical and subtle bodily processes. Consequently, *Marma* stimulation can modulate *Prana's* state, influencing energy flow and various physiological functions.

In managing *Avabahuka*, a *Vata*-related disorder, implementing *Vatahara Chikitsa* is crucial. The intricate relationship between *Marmas* and *Prana*, connected with *Vayu*, plays a vital role. *Vyana Vayu*, responsible for locomotion and *Prana* circulation, is intricately linked with the *Marmas*. Stimulation of these *Marmas* can regulate *Vyana Vayu* and other *Vata Doshas*, thereby alleviating symptoms such as pain and stiffness, and improving the range of motion of the shoulder joint. Additionally, *Marma Chikitsa* helps clear blockages from the *Srotas*, which can have profound psychological implications and often underlie the pathogenesis of diseases.

Stimulation of *Marma* points triggers the descending analgesia system, releasing natural opioids such as enkephalins, endorphins, and dynorphins. These endogenous opioids are more potent than morphine and facilitating pain relief [7]. Furthermore, induce vasodilation through the release of nitric oxide, enhancing blood circulation and promoting the delivery of nutrients and oxygen of the affected area. This improved circulation and oxygenation can helps supporting tissue regeneration and facilitate healing in affected shoulder joint.

The range of motion assessments in this case study showed notable improvements in right shoulder joint mobility, with increases of 60° in flexion, abduction, internal rotation and 40° in external rotation.

These findings demonstrate the effectiveness of Marma therapy in improving shoulder joint mobility and promoting functional recovery. However, a limitation of the study was the requirement for repeated hospital visits over 21 days.

Conclusion

This case study shows that Ethnic Marma therapy effectively managed *Avabahuka* (frozen shoulder) by reducing pain and stiffness and improving range of motion in the shoulder joint within 21 days without any oral pain relief medications. As a non-invasive, cost-effective, and rapid-acting treatment, Ethnic Marma therapy presents a viable alternative for managing frozen shoulder.

Compliance: Written informed consent was duly obtained from the patient.
Conflict of Interest: There are no conflicts of interest.

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