



Clinical evaluation of the effect of *Marma Chikitsa* in the mangement of *Avabahuka* (Frozen Shoulder): A study Protocol

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ABSTRACT

Background: *Avabahuka* is a widespread medical condition that the world is currently dealing with. It's a shoulder-related disorder. *Avabahuka* is one of the eighty *Vatavyadhi* described in *Ayurveda*. Even though the disease is not life threatening, it definitely interferes with a person's daily activities. The two major symptoms of this condition are pain and reduced range of movement. More and more people are developing this problem as a result of modern lifestyles, eating habits, excessive stress, and anxiety, and the occurrence of the disease *Avabahuka* is increasing day by day.

Aim and Objectives: The purpose of this trial is to evaluate the effect of *Marma Chikitsa* on SPADI score and Range of Motion as a treatment modality for *Avabahuka*.

Methodology: For the duration of the trial, 30 patients will be given *Marma Chikitsa* on a daily basis for fourteen days. On the first, seventh, and fourteenth days, the evaluation will be recorded.

Results: Changes will be ascertained on the basis of subjective and objective parameters.

Conclusion: *Marma Chikitsa* will alleviate *Avabahuka* symptoms both pain and restricted shoulder joint movements, lower the SPADI score, and increase range of motion.

Keywords: *avabahuka, amsa shosha, amsa shoola, frozen shoulder, marma chikitsa, marma therapy*

Introduction

The shoulder joint has the highest range of motion of all the joints, allowing for complex movements and functions to be performed, which is critical for daily activities and labor. Frozen shoulder is one of those disorders that is not fatal but has a negative impact on the patient's quality of life by preventing them from performing even simple everyday tasks. It is defined as a condition of varying severity characterized by the gradual limitation of active and passive shoulder motion where radiographic findings other than osteopenia are absent. The condition is also characterized by severe shoulder pain.^[1]

Avabahuka is the most commonly encountered shoulder illness. *Sharangdhar* mentions it as one of the eighty forms of *Vataja Nanatmja Vikaras*. *Kupita Vata Dosha* settles in the *Amsa Pradesh* (shoulder region), causing *Shoshana*

(wasting/weakness) of the *Amsa Bandan* (shoulder joint complex), which leads to *Akunchana* (constriction/obliteration) of the local *Sira* hampering the normal activities of the arm.^[2]

The two conditions of this ailment, *Amsa shosha* and *Avabahuka*, are stated in *Madhava Nidana*. *Amsa shosha* is the first stage of the disease, characterised by the loss or dryness of *Sleshmaka Kapha* in *Amsa Sandhi*. Due to the loss of *Sleshmaka Kapha* symptoms such as *shoola* during movements and restricted range of motion, the following stage, *Avabahuka*, occurs. *Dhatukshaya*, or *shuddha Vata janya*, produces *Amsa shosha*, while *Avabahuka* is *Vata Kapha janya*.^[3]

The lifetime prevalence of frozen shoulder is estimated to 2-5% of general population.^[4] The condition peaks between the 5th and 6th decades of life. It is uncommon for symptoms to

appear before the age of 40. Women are more likely to be impacted than males, with an estimated frequency of 11-30 percent among diabetics.

Rational of the Study

Frozen Shoulder is a very prevalent condition. Although the disease is not deadly, the patient's life is made miserable and handicapped by its duration and attacks of pain at night. In this illness, the modern medical system emphasizes on pain management, preventing recurrence, and improving neurological functions. The drugs of choice are anti-inflammatory and analgesic medications. Surgery is rarely performed. Unfortunately, all analgesics have too many adverse effects, especially when used for a long time. [5] Therefore, a quest for search of different alternative methods in the management of frozen shoulder is the need of hour.

Marma Chikitsa is an extremely efficient and important aspect of *Ayurveda's* vast sphere. The quantity, varied types (*sadhya pranahara, kalantara pranahara, visalyaghna, viakalyakara, rujakara*), composition (*mamsa, sira, snayu, asthi, sandhi*), and specific location of *marma* points in the human body have been best described by Acharya *Sushruta*. There are 107 *marma* points in the body, and literally all ancient scientists consider *marma* to be the seat of "*prana*." *Marma Chikitsa* is a technique for stimulating the body's vital points in order to increase the flow of *Pranic energy*. It is a technique for triggering specific essential spots of the body in a specific way at a critical time for the aim of healing. These vital points are the seat of '*Prana*'- the driving force of life. [6]

AIMS AND OBJECTIVES

AIM – To evaluate the efficacy of *Marma Chikitsa* in the management of *Avabahuka*

OBJECTIVES –

1. To evaluate the effect of *Marma Chikitsa* on SPADI score and Range of Motion.
2. To provide a cost-effective, non-invasive, safe, fast resulting treatment module for pain management.

CASE DEFINITION

A diagnosed case of *Avabahuka* with clinical symptoms of *Shoola* in *Amsapradesh* (Shoulder Pain) and *Stambhana* in *Amsapradesh* (Stiffness) from 1 months to 6 months without any history of trauma, fracture, shoulder dislocation or any other neurological deficit.

DIAGNOSTIC CRITERIA OF AVABAHUKA

The sign and symptoms *Avabahuka* of mentioned in *Ayurveda* will be basis of Diagnosis Criteria as follows.

1. *Shoola* in *Amsapradesh*
2. *Stambhana* in *Amsapradesh*

RESEARCH QUESTION: Does *Marma Chikitsa* is effective in the management of *Avabahuka*?

HYPOTHESIS

- **Null hypothesis (H₀):** - *Marma Chikitsa* doesn't have effects in the management of *Avabahuka*.

- **Alternate hypothesis(H₁):** - *Marma Chikitsa* have remarkable effect in the management of *Avabahuka*.

MATERIALS AND METHODS

Study type: Interventional

Sub-type: Control trial

Masking: Open trial

Study Setting: The study will be conducted in SKGAC&H, Kurukshetra, Haryana.

Following *marma* points of upper limb, neck and back region will be stimulated in one sitting: -

Table 1: Names of *Marma* points to be stimulated during the study.

S. no	Marma points	S.no	Marma Points
1.	<i>Kshipra</i>	8.	<i>Ani</i>
2.	<i>Talahridaya</i>	9.	<i>Urvi</i>
3.	<i>Kurcha</i>	10.	<i>Kakshadhara</i>
4.	<i>Kurcha sira</i>	11.	<i>Krikatika</i>
5.	<i>Manibandha</i>	12.	<i>Ansa</i>
6.	<i>Indrabasti</i>	13.	<i>Ansaphalaka</i>
7.	<i>Kurpara</i>		

INCLUSION CRITERIA

1. Patients of *Avabahuka* age between 30 to 60 years, irrespective of their sex, religion, occupation and economic status.
2. A diagnosed case of *Avabahuka* with the clinical symptoms from 1 month to 6 months without any neurological deficit.
3. Patients with controlled Diabetes Mellitus.
4. Patients willing to undergo trial.

EXCLUSION CRITERIA

1. Age below 30 years and above 60 years.
2. Suffering from specific arthritis like Osteo Arthritis, Rheumatoid Arthritis etc.
3. Patients of shoulder joint dislocation/fracture or having the history for the same.
4. Patients having any previous surgical procedure of shoulder.
5. Co-existence of lesions to rotator cuff, sub acromial bursitis, cervical spondylosis leading to shoulder pain.
6. Patients suffering from major systemic disorders e.g. IHD, Gout, SLE etc.
7. Malignant and Immuno-compromised patients (AIDS), HBsAg.
8. Patients with uncontrolled Diabetes Mellitus.
9. Pregnant women and lactating mothers.

INTERVENTION -

Each *Marma* will be stimulated in a circular motion 20 times by digital pressure in one sitting. The treatment will continue for 14 sittings on daily basis for two weeks.

Criteria for Discontinuing intervention -

If a patient experiences any negative side effects, they will be withdrawn from the research trail and will be given free treatment until they recover completely.

PRIMARY OUTCOME -

We will see the effect of *Marma Chikitsa* on *shola* (pain) and *stambha* (stiffness).

SECONDARY OUTCOME -

We will see the effect of *Marma Chikitsa* on SPADI score and Range of Motion of shoulder joint.

STATISTICAL ANALYSIS -

Data will be analyzed using appropriate statistics. The paired t-test and $p < 0.05$ will be used to determine the level of significance.

TIME DURATION OF THE STUDY -

Total – 14 sittings (daily for 2 weeks)

ASSESSMENT -

3 times on 1st, 7th and 14th day.

Follow Up -

3 times - on 21st, 51st and 81st day.

METHODS -

Data collection, management, and analysis

DATA COLLECTION METHODS -

Assessment criteria

SUBJECTIVE PARAMETERS -

- a) *Shoola* (Pain)
- b) *Sthambha* (Stiffness)

OBJECTIVE PARAMETERS -

1. SPADI score
2. Range of Motion – By Goniometer

INVESTIGATIONS -

The patients who will be fulfilled the inclusion criteria will be subjected for routine Blood Investigations like CBC, ESR, BT, CT, HIV, HBsAg, Blood Sugar level (fasting and post prandial), HbA1C, RA factor, Serum Uric Acid and X-ray shoulder joint - AP view and Axillary View.

DATA MANAGEMENT -

Data coding will be done by Principle investigators.

ETHICS AND DISSEMINATION -

Research ethical approval, after critical evaluation and presentation to the ethical committee, has taken on the research topic. No. – IEC/SKAU/2021/38, Dated: - 25/01/2021.

CONSENT OR ASSENT -

Subjects will be given detail information regarding their treatment in their own language. Then written consent will be taken from patients before starting the study.

DISSEMINATION POLICY -

Will be in the form of paper publication, presentation and Monograph.

DISCUSSION -

Frozen shoulder is a painful, often long-lasting illness that necessitates meticulous clinical evaluation and treatment. Patients normally recover, but their entire range of motion may never be regained. It's a debilitating and sometimes excruciatingly painful condition that's routinely treated in primary care, especially at night. There are three stages to this disease.

1. The freezing phase- Duration: 10 to 36 weeks. There is no history of injury, but there is pain and stiffness around the shoulder. The nagging constant pain gets worse at night, and nonsteroidal anti-inflammatory drugs have little effect.
2. The Frozen phase- Duration: 4 and 12 months. The pain starts to fade, but the stiffness persists. Pain is only felt at the most extremes of movement. Glenohumeral movements are drastically reduced, with nearly total obliteration of external rotation.
3. Thawing phase- It takes between 12 and 42 months. Following the frozen phase, there is a spontaneous improvement in range of motion. The average time from the onset of frozen shoulder to the greatest resolution is more than 30 months.

Frozen shoulder is usually characterized as fibrotic, inflammatory contracture of the rotator cuff, capsule, and ligaments. Early Frozen Shoulder patients typically present with a sudden onset of unilateral anterior shoulder pain. The classic symptoms include passive and active range of motion limitations, affecting external rotation and then abduction of the shoulder later. In general, depending on the stage and severity of the condition, it is self-limiting, interfering with daily living, work, and leisure activities. Limited ability to reach is one of the functional impairments caused by frozen shoulder, particularly during overhead (e.g., hanging clothes) or to-the-side (e.g., fastening one's seat belt) activities. Patients also have reduced shoulder rotations, which makes personal hygiene, clothing, and hair brushing difficult.

The Shoulder Pain and Disability Index (SPADI) is a self-administered questionnaire that has two dimensions: pain and functional activities. The pain dimension consists of five questions about the severity of an individual's pain. Functional activities are assessed using eight questions designed to assess an individual's level of difficulty with various activities of daily living that require upper-extremity

use. The SPADI is the only region-specific measure for the shoulder that is both reliable and valid.

According to *Ayurvedic* texts the *marmas* are the points, when injured, maybe life threatening. *Marmas* are not superficial landmarks on the body surface but these are deep-seated important physio-anatomical structures. *Avabahuka* is condition that is caused by vitiated *Vata dosha*. *Vata* disorders, eighty in number, can be treated by *marma chikitsa* successfully. *Marma* therapy should be started from *kshipra*, *talahridaya*, *kurca*, *kurca sira*, *manibandha*, *indravasti*, *ani* and *urvi* respectively. Each *marma* point can be stimulated in *Marma Chikitsa* by digital pressing, rubbing, or oil massaging. According to *Sushruta*, all 107 *marma* points are the seat of *Prana*, and one of *Vata*'s synonyms is also *Prana*. The pathophysiology in *Avabahuka* is caused by vitiated *Vata* and its obstruction in *Amsa Sandhi*.

Marma therapy helps to boost one's physical, mental, and spiritual energies. On a physical level, it aids in the regeneration of bodily tissues; on a cellular level, it enhances important activities such as respiration, blood circulation, digestion, and excretion. On a psychological level, it regulates psychological disorders by harmonizing the neurological and endocrine systems. Despite the fact that *Avabahuka* is a self-limiting disease, but the patient is unable to regain his initial full strength prior to the disease, even after the complete natural course of around 1-3 years. *Marma chikitsa* will not only aid with pain management and increasing restricted movements, but it will also facilitate in regaining complete strength and potency of shoulder joint. It will provide a minimally invasive treatment modality for frozen shoulder that is easily accessible even in remote areas, as well as a cost-effective, short-term but fast-acting therapy that is devoid of any side effects.

STRENGTHS -

If the planned study yields a satisfactory result, it will be adopted as a new management method for the *Avabahuka*. We shall be given an effective and economical treatment for pain relief and discomfort in society.

LIMITATIONS -

Sample size is small, for better results sample size can be increased.

CONCLUSION -

Conclusion will be mentioned after the analyzing data.

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