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Efficacy of *Marma Chikitsa* and Shoulder Exercises in the management of *Avabahuka* (Frozen Shoulder) - A Case Study

Pranali Chaudhari¹, Rita Marwaha², Nisha Bhalerao³, S.D. Panda⁴

¹Post Graduate Scholar, Dept. of Rachna Sharir, Pt. Khushilal Sharma Govt. Ayurveda College, Bhopal, Madhya Pradesh, India.

²Professor & HOD, Dept. of Rachna Sharir, Pt. Khushilal Sharma Govt. Ayurveda College, Bhopal, Madhya Pradesh, India.

³Associate Professor, Dept. of Rachna Sharir, Pt. Khushilal Sharma Govt. Ayurveda College, Bhopal, Madhya Pradesh, India.

⁴Assistant Professor, Dept. of Rachna Sharir, Pt. Khushilal Sharma Govt. Ayurveda College, Bhopal, Madhya Pradesh, India.

ABSTRACT

Avabahuka is one among the 80 *Vatavyaadhis* mentioned in *Samhitas*. The disease known as *Avabahuka* is characterized by *Dushita Vata Dosha*, which is localized in the *Ansa Pradesha* and results in shoulder dysfunction as well as *Akunchan* of *Sira* at this site. It is correlated with Adhesive Capsulitis that is Frozen Shoulder. The prevalence of frozen shoulder is 3% to 5% in general population and upto 20% in those with diabetes. Allopathy medicines have limitations giving short term relief in pain and surgeries which carries risk. *Marma* therapy being a non pharmaceutical technique is a hidden treasure of *Ayurveda*. It is ancient Neuromodulation therapy which offers deep sense of relief in pain and stiffness of muscles. A 32 year aged women who has already diagnosed with frozen shoulder since 3 years approached to Pt. Khushilal Sharma Ayurveda Hospital and was treated with *Marma Chikitsa* and Shoulder Exercises. The treatment was continued for 15 days in which day wise improvement was analyzed. The range of movements improved from 30° to 120° for abduction, 105° to 160° for flexion, 35° to 45° for extension and 55° to 65° for external rotation. Pain is assessed using VAS score which also improved after the treatment. Thus, *Marma* therapy and Shoulder exercises gives highly remarkable relief in both range of movement as well as pain in *Avabahuka*. Nonetheless, a large-scale population study was recommended.

Key words: *Avabahuka*, Frozen Shoulder, *Marma Chikitsa*, Shoulder Exercises

INTRODUCTION

Ayurveda, A natural System of Medicine, is an ancient health science devoted to the cure on human sufferings and to the care of human health. In the vast science of the knowledge of *Ayurveda*, *Marma* is one of the hidden science. *Marma Sthana* are points where

the *Siras* (veins) *Snayu* (ligament), *Mamsa* (muscles), *Asthi* (bones) & *Sandhi* (Joints) meet. *Marma* therapy involves subtle and sometimes more profound touch on *Marma Sthana*. The touch has the power to greatly rejuvenate and heal. If these *Marma* points are injured or damaged, there could be severe consequences, while proper stimulation of these points can treat many physical and mental ailments.

In 21st century, All people became busy in day to day life and not taking care of their health which causes varieties of diseases. *Avabahuka* is one of the diseases which hampers the function of upper limb. It commonly occurs in people of age between 40-70years. In classical *Ayurveda* texts, *Avabahuka* is explained under *Vatavyadis*. It is mentioned in *Ayurveda - Sushruta Samhita, Charak Samhita, Ashtanga Hridaya* etc. It is formed with two words *Ava+Bahuk*. *Bahuk*, which means arm or forearm, and

Address for correspondence:

Dr. Pranali Chaudhari

Post Graduate Scholar, Dept. of Rachna Sharir, Pt. Khushilal Sharma Govt. Ayurveda College, Bhopal, Madhya Pradesh, India.

E-mail: panu2oct@gmail.com

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Ava, which denotes *Vikriti*, or Dysfunction, together signify Dysfunction of *Bahu*. According to *Acharya Sushruta*, when *Vata Dosha* gets vitiated at *Amsa Sandhi*, it leads to constriction of vessels. This condition is known as *Avabahuka*. It is evident from clinical features such as *Sandhi Shoola*, *Sandhigraha*, and *Bahupraspanda Haratvam* from that vitiation of *Vata* and *Kapha* is predominant. Vitiated *Vyan Vayu* is a prime cause which affects the *Sirabandhana* of shoulder joint and dried it which causes restricted movement of shoulder joint. *Avabahuka* in Modern terms can be compared with Adhesive Capsulitis commonly known as Frozen Shoulder. It is characterised by stiffness and pain in the shoulder region along with restriction of movements of arms. Treatment of frozen shoulder includes analgesics (Pain relievers NSAIDS) and steroid injections, Hydrodilatation, Shoulder manipulation and Surgery^[1] which carries risks such as chances of bleeding problems, Heart problems, Nerve Injury, Fracture, and Muscle failure and need for revision surgery. Exercises and Routine stretching are useful in both short term and long term for reducing pain and increasing range of motion in frozen shoulder. Exercises helps in strengthening and lengthening the shoulder muscle and relieve pain. *Marma Chikitsa* is economical, easily acceptable, pain relieving and with almost no side effects if done properly.

CASE REPORT

It is a single case study. A 32 year aged women who has already diagnosed with frozen shoulder since 3 years approached to Pt. Khushilal Sharma Ayurveda Hospital. She was having the following complaints - Difficulty in movement of right shoulder joint since 3 years, pain in right shoulder joint (radiating to right arm sometimes) since 3 years and stiffness in right shoulder joint since 2 years. She was taking Pain Relievers and Anti-inflammatory medicines for pain management.

History of Past Illness

Patient does not have any surgical or trauma history regarding right shoulder. There is no history of any comorbidity.

Family History

There is no family history of any musculoskeletal disease.

Personal History

- Appetite - Normal
- Bowel - Sometimes constipation
- Sleep - disturbed due to pain
- Micturition - Normal

Treatment history

History of taking Pain Relievers and Anti-inflammatory medicines.

Physical Examination

- Body weight - 64 kg
- Heart rate - 88/min
- Respiration rate - 22/min
- Blood pressure - 110/80 mm hg
- Cardiovascular system - Normal
- Respiratory system - Clear
- Central Nervous System - consciousness, attention, orientation
- *Prakriti* - *Vata-Kaphaj*

Shoulder Joint Examination

Examination of right side shoulder

Pain - VAS Score for pain was 8(grade 4)

Range of movement - Restricted (30°abduction, 105° flexion, 35°extension and 55°external rotation)

Stiffness - Relieved by oral medicine (grade 3)

Tenderness - On pressing pain appears on face of the patient (grade 2)

Sleep - 3-6 hours due to pain (grade 2)

Investigation

X-Ray of right shoulder was normal.

CBC, ESR and RBS are within normal limits.

Treatment Protocol

Patient was subjected to *Marma Chikitsa* and shoulder exercises for 15 days twice daily. This study includes stimulation of 9 *Marma* points that are *Kshipra*, *Talahryday*, *Kurpar*, *Ani*, *Urvi*, *Kakshadhara*, *Amsa*, *Amsaphalak* and *Brhati*. These are stimulated 15-18 times in one sitting.^[2] Shoulder exercises that are included in this study are Pendulum Exercise, Shoulder elevation, Shoulder wheel exercise, Pulley exercise and Finger ladder Exercise.

Duration of study - 15 days

Follow-up - 7th day

SN	Marma point	Stimulation Time	Frequency	Duration
1.	<i>Kshipra</i>	0.8sec	15-18times	Twice daily
2.	<i>Talahryday</i>	0.8sec	15-18times	Twice daily
3.	<i>Kurpar</i>	0.8sec	15-18times	Twice daily
4.	<i>Ani</i>	0.8sec	15-18times	Twice daily
5.	<i>Urvi</i>	0.8sec	15-18times	Twice daily
6.	<i>Kakshadhara</i>	0.8sec	15-18times	Twice daily
7.	<i>Amsa</i>	0.8sec	15-18times	Twice daily
8.	<i>Amsaphalak</i>	0.8sec	15-18times	Twice daily
9.	<i>Brhati</i>	0.8sec	15-18times	Twice daily

A steady and moderate pressure will be applied slowly and gently pressure will be increased gradually depending upon pressure strength.

Shoulder exercises are following:^[3,4]

SN	Name of Exercise	Exercise repetitions	Duration
1.	Pendulum Exercise	10 repetitions	Twice daily
2.	Shoulder elevation	Hold for 5 sec. Repeat 10 times	Twice daily
3.	Shoulder wheel exercise	10 repetitions	Twice daily

4.	Pulley exercise	10 repetitions	Twice daily
5.	Finger ladder Exercise	10 repetitions	Twice daily



Fig. 1: Pendulum Exercise



Fig. 2: Shoulder Elevation Exercise



Fig. 3: Shoulder Wheel Exercise



Fig. 4: Pulley Exercise



Fig. 5: Finger Ladder Exercise

Assessment Criteria

The assessment of the effect of treatment will be based on subjective and objective parameters of disease. This will be recorded before and after treatment. The symptoms will be graded on the basis of the scoring system to be adopted as below^[5]

1. Pain

SN	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

2. Stiffness

SN	Stiffness	Grade
1.	No Stiffness	0
2.	Stiffness, no medication	1
3.	Stiffness, relieved by external application	2
4.	Stiffness, relieved by oral medication	3
5.	Stiffness not responded by medicines	4

3. Flexion

SN	Flexion	Grade
1.	161°- 180°	0
2.	121°- 160°	1
3.	81°- 120°	2
4.	41°- 80°	3
5.	0°- 40°	4

4. Extension

SN	Extension	Grade
1.	41°- 60°	0
2.	31°- 40°	1
3.	21°- 30°	2
4.	11°- 20°	3
5.	0°- 10°	4

5. External Rotation

SN	External Rotation	Grade
1.	81°- 90°	0
2.	61°- 80°	1
3.	41°- 60°	2
4.	21°- 40°	3
5.	0°- 20°	4

6. Abduction

SN	Abduction	Grade
1.	161° - 180°	0

2.	121° - 160°	1
3.	81° - 120°	2
4.	41° - 80°	3
5.	0° - 40°	4

7. Tenderness

SN	Tenderness	Grade
1.	On pressing patient does not feel any pain	0
2.	On pressing patient feels pain, but no sign on face (wincing)	1
3.	On pressing pain appear on face of patient (wincing)	2
4.	Wincing of the face and withdrawal of the affected part on pressure	3
5.	Patient does not allow to touch	4

8. Sleep

SN	Sleep	Grade
1.	More than 8 hours	0
2.	6-8 hours	1
3.	3-6 hours	2
4.	Less than 3 hours	3
5.	No sleep	4

OBSERVATION

Diagnostic criteria	Before treatment	After treatment
Pain	VAS Score 8 (grade 4)	VAS Score 0 (grade 0)
Stiffness	Stiffness, relived by oral medication (Grade 3)	No Stiffness (Grade 0)
Flexion	105°	160°
Extension	35°	45°
External rotation	55°	65°
Abduction	30°	120°

Tenderness	On pressing pain appears on face of patient (Grade 2)	On pressing patient does not feel any pain (Grade 0)
Sleep	3-6 hours (Grade 2)	6-8 hours (Grade 1)

DISCUSSION

Avabahuka is one of the most common diseases which hampers daily activities. Morbid *Vata Dosha* is a characteristic of the disease *Avabahuka*, which is seen in the *Amsa Pradesh*. It thereby causes *Shoshana* of *Amsa Bandha* and *Akunchana* of *Sira* at this site that leads to *Bahupraspandahara*. Clinically, *Avabahuka* is correlated with Adhesive Capsulitis - Frozen shoulder. The three main hallmarks of frozen shoulder are gradual, excruciating discomfort (even at night), Stiffness and almost complete loss of movement of the shoulder. It is widespread disease which causes considerable morbidity. Even after treating this ailment for more than a century, the definition, pathophysiology, diagnosis, and most effective treatment remain mostly uncertain.

Here, In this study Combined treatment of *Marma Chikitsa* and Shoulder Exercises which are explained under physiotherapy are administered to patient for 15 days and the results obtained are much significant. The above mentioned outcomes were evaluated using VAS scale for subjective criteria that is pain. The objective criteria such as stiffness and difficulty in movement is evaluated by using Goniometer.

Probable Mode of Action of Marma Chikitsa

Marma Chikitsa is the art of treating specific vital points on the human body where *Prana* resides. It is greatest healing secret of *Ayurveda*. It can be used to relieve obstructed energy, detoxify, strengthen, and restore the body. It can also be used for relaxation and rejuvenation. *Marma* therapy is a crucial approach to addressing *Prana*, the energy that controls all of our bodily functions. *Prana* in turn is connected to *Vata Dosha* which therefore is the most significant humour in the pathogenesis and management of illness. *Marma* therapy is ancient neuromodulation therapy. Certain chemicals and neurotransmitters, such as endorphins are released in response to pressure or

stimulation applied to specific *Marma* points, which further convey nerve impulses to the brain, generating the desired impact. *Marma Chikitsa* can be likely explained as Gate control theory.

Probable Mode of Action of Shoulder Exercises

Therapeutic exercise is the sequential, organized performance of physical exercises meant to give a patient the tools to avoid impairment, enhance, or restore physical function, lower risk factors associated with health issues, and maximize entire state of health. Self-stretching (also referred to as flexibility exercises or active stretching) improves muscle strength and flexibility. Pendulum exercise helps to relieve pain through gentle traction and oscillating movements and provide early motion of joint structures and synovial fluid. Shoulder wheel exercise and Finger ladder exercise can provide the patient with objective reinforcement and, therefore motivation for performing shoulder ROM. Exercises that manipulates or mobilizes the joints are manual techniques specifically applied to joint structures which are used to stretch capsular restrictions or reposition a subluxed or dislocated joint.^[6,7]

CONCLUSION

This case report reveals a significant improvement in symptoms like stiffness, pain, and limited mobility. Hence, if done appropriately, *Marma Chikitsa* and Shoulder exercises can be used combinedly as an alternative for managing *Avabahuka*. This treatment modality is safe and effective without any adverse

effects. Stimulating *Marma* points reveal latent ability to treat *Avabahuka* with hopeful outcomes.

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