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An Observational Single Case Study Of Mamsapchaya In Avabahuka (Frozen Shoulder) With Reference To Axillary Recess Findings On MRI.

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Abstract

Avabahuka, a *Vataja nanatmaja vyadhi* described in Ayurveda, is characterized by pain, stiffness, and restricted movement of the shoulder, resembling the clinical presentation of frozen shoulder (Adhesive capsulitis) in modern medicine. The Ayurvedic concept of *Mamsapchaya*—degenerative or contractile changes in muscle tissue—may parallel capsular thickening and fibrosis noted in imaging studies. The axillary recess, in frozen shoulder, is a key anatomical site of pathological changes and integrative diagnostic approach observable via MRI.

Keywords- *Avabahuka* , Frozen shoulder , Axillary recess, MRI.

Introduction :

Avabahuka is a disease that characterized by a localized *Samprapti*, which affects Ansa Sandhi and causes *Shosha* [wasting] of Ansa Bandhan leads to *Ankunchana* of local Sira and *Snayu*. It is produced by the Vata associated with kapha Dosha.[1]

***Samprapti* of *Avabahuka*:** *Nidansevana* such as cold exposure, poor nutrition, excessive fasting, diabetes. Vata gets aggravated due to above causes. Vata is Ruksha, Laghu, Khara, Chala gunas and *Sthansamshraya* of Vata lodges in the shoulder joint (Amsa sandhi) causes *Shoola* (pain), Stambha (stiffness), restricted movement.[2]

Strotas supplying nutrients to *Mamsa* Dhatu become blocked. *Dhatvagni* becomes weak leading to inadequate nourishment of *Mamsa* Dhatu. Tissue level starvation affects digestion at the gut level results *Mamsa* Dhatu *Kshaya i.e mamsapchaya*.

Mamsapchaya refers to the depletion or wasting of *Mamsa* Dhatu due to insufficient formation, improper nourishment or excessive catabolism. In chronic *Avabahuka*, Vata dosha contracts *Mamsa* and *Snayu* leading to progressive stiffness and reduction in shoulder joint. Frozen Shoulder also known as Adhesive Capsulitis. Frozen Shoulder is *characterised* by pain in the region of shoulder joint with restriction of both active and passive movements. The capsule of the shoulder is thickened and mild chronic inflammatory in filtrate and fibrosis may be present. Pain and stiffness usually develop gradually over several months to a year. Frozen shoulder typically develops slowly in three stages.

1. Freezing stage
2. Frozen stage
3. Thawing stage. [3]

MRI is a medical imaging technique which is painless, noninvasive. Strong magnet and radio waves used to create detailed images of the tissue, organs, joints, etc. MRI in Frozen Shoulder (Adhesive Capsulitis) is used primarily to support the diagnosis and rule out other causes of shoulder pain or stiffness.[4]

The axillary recess (also called the axillary pouch) is the inferior part of the glenohumeral joint capsule, located in the armpit area. It's normally a loose, redundant fold of the joint capsule that allows full shoulder abduction. Loss of the normal axillary pouch volume, The recess appears contracted or obliterated. [5]

This correlates with the clinical stiffness and loss of range of motion in Frozen shoulder. This typical axillary recess changes seen on MRI.

In general population prevalence rate of *Avabahuka* (Frozen shoulder) is about 3%-5% in *India.s*[6]

Aim:

To study *Mamsapchaya* in *Avabahuka* (Frozen shoulder) with reference to axillary recess findings on MRI.

Objectives:

- To study *Avabahuka* in detail.
- To study *Mamsapchaya* in *Avabahuka* in detail.
- To study axillary recess findings in Frozen shoulder in detail.
- To study axillary recess findings in Frozen shoulder on MRI in detail.

Methodology

Study Type: An Observational single case study

Study Design :

Diagnosed patient of *Avabahuka* (Frozen shoulder)

⇓

***Enrollment* of patient in study and obtain written informed consent.**

⇓

Patient was assessed for subjective and objective criteria

⇓

Correlation of obtained data

⇓

Discussion

⇓

Conclusion

Study Design

Inclusion Criteria :

1. Diagnosed patient of *Avabahuka* having Lakshanas *Ansasandhi graha*, *Ansasadhi* Shoola, *Ansasandhi* Stambha, Manya *Shoola*
2. Patient was selected irrespective of their religion, sex, *occupation,Socio* economic status.

Exclusion Criteria :

1. Patient with known case of Severe Systemic Disorders, External trauma,
2. Accidental patient.

Subjective Criteria :

1. *Ansasandhi graha* [Restricted shoulder joint Mobility]
2. *Ansasadhi shoola* [Shoulder joint Pain]
3. *Ansasandhi stambha* [shoulder joint Stiffness]
4. Manya *shoola* [Neck Pain]

Objective Criteria :

1. Axillary recess findings on MRI.

Subjective Criteria :

1. *Ansasandhi graha* [Restricted shoulder joint Mobility]

Grade	***Ansasandhi graha* [Restricted shoulder joint Mobility]**
1	Extend up to 60°below 90°
2	Extend up to 30°to 60°
3	Restrict to Extend below 30°

2. *Ansasadhi shoola* [Shoulder joint Pain]

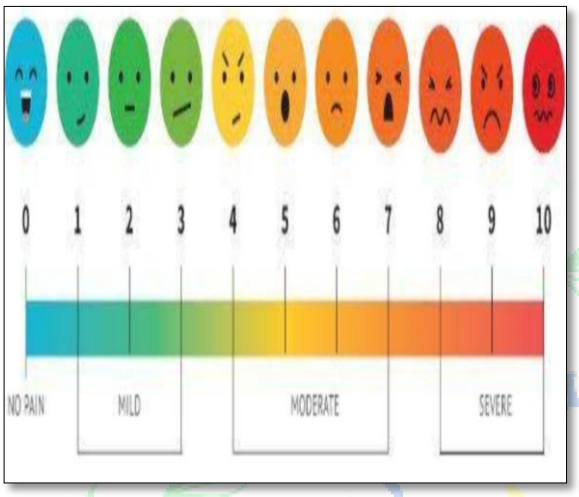
Grade	***Ansasadhi shoola* [Shoulder joint Pain]**
1	Bearable Pain
2	Continuous Pain with No Difficulty in Movement
3	Continuous Pain with Difficulty in Movement

3.Ansasandhi *stambha* [shoulder joint Stiffness]

Grade	***Ansasandhi stambha* [shoulder joint Stiffness]**
1	Locking of Shoulder joint for less than 2 hours
2	Locking of Shoulder joint more than 4 hours
3	Continuous locking of Shoulder joint (unable to move joint)

4.Manya *shoola* [Neck Pain]

Grade	**Manya *shoola* [Neck Pain]**
1	Bearable Pain
2	Continuous Pain with No Difficulty in Movement
3	Continuous Pain with Difficulty in Movement



Pain Scale (VAS)

Objective Criteria :

1.Axillary recess findings on MRI.

Grade	Capsular Thickening	Axillary Recess
1	4-6 mm	Mildly reduced volume
2	6-8 mm	Noticeably contracted
3	>8mm	Severely contracted

Case Study:

Patient information:

Name:*Mr.XYZ*

Age/Gender: 52/Male

Occupation: Clerk

Chief complaints:

- Pain in right shoulder since 8 months.
- Stiffness and restriction of shoulder movement
- Difficulty in combing *hair,wearing* clothes.

O/E :

Inspection	Muscle wasting over deltoid region (*Mamsapchaya*)
Palpation	Tenderness over anterior and lateral shoulder region.
Movements	Restricted abduction, external rotation.
Power	Mild decrease in shoulder girdle muscles.

History of present illness:

Patient was apparently normal 8 months back. Gradually developed pain at right shoulder without any trauma. Over time, movement restriction increased, especially abduction and external rotation. Pain was worse at night. Recently noticed thinning of shoulder muscles.

Past history:

- No history of trauma or surgery.
- No known allergies.

Family history:

- No any hereditary musculoskeletal disorders reported.

***Samprapti ghataka*:**

Component	Description
Dosha	Vata(Main), Kapha (Secondary)
Dushya	*Mamsa*, Sira, *Snayu*
Strotas	*Mamsavaha Strotas*
Udbhava *Sthana*	*Amashaya*
Vyaktasthana	Amsa Sandhi
Samprapti	Vata *Prakop* ⇩ *Strotorodha* ⇩ *Mamsa Kshaya* ⇩ *Avabahuka*

Observations :

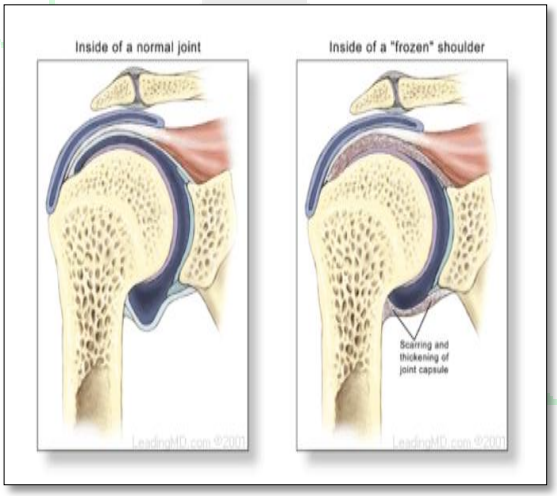
Subjective Criteria	Grade
Ansasandhi graha	2
Ansasadhi shoola	2
Ansasandhi stambha	2
Manya *shoola*	2

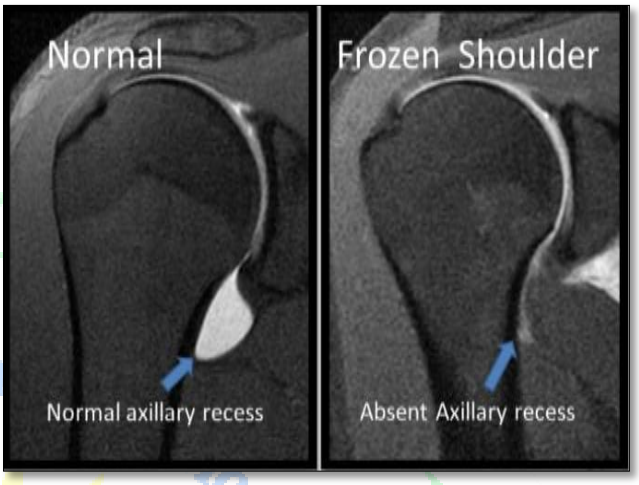
Radiological Investigation:

MRI (Right shoulder)findings:

- Thickening of the joint capsule involving the axillary recess, measuring approximately 6-8 mm.
- Axillary pouch was noticeably contracted.
- The inferior glenohumeral ligament complex(IGHL) and coracohumeral ligament(CHL) also thickened.

Objective Criteria	Grade
Axillary recess findings on MRI.	2





Discussion :

Ansa Sandhi *Graha* : Refers to the restriction of movement in the shoulder joint (Ansa Sandhi).It is mainly due to Vata-Kapha aggravation. Vata causes *rukshata* (dryness) and *stambha* (stiffness). Kapha contributes to *sleshma sanchiti* (accumulation of sticky substance) causing obstruction to free movement.

This presents as the initial phase of frozen shoulder, where pain is less, but stiffness dominates. Patients often complain of inability to move the shoulder, especially during abduction and external rotation.

Ansa Sandhi Shoola: Refers to pain in the shoulder joint, mainly due to Vata *prakopa*. Vata's properties like *laghu* (lightness) and *tikshna* (sharpness) lead to sharp, radiating pain. If Pitta is also involved, the pain may be burning or inflammatory in nature.

Typically seen in the early (painful) stage of frozen shoulder. Pain may worsen at night (due to Vata dominance).

Ansa Sandhi Stambha: Indicates complete stiffness or rigidity in the shoulder joint. Caused predominantly by Vata dosha, with Kapha

association. Results from dryness and loss of Snigdha Guna (lubrication) in the joint due to Vata *aggravation.Found* in the **"frozen"** or **stiffness stage** of frozen shoulder. Shoulder movements become almost completely restricted.

Manya Shoola: Associated with Vata or Vata-Kapha dosha in the cervical region. May indicate the radiating nature of Vata dosha from the neck to shoulder or vice versa. Sometimes associated with Manya-*graha* (stiffness of the neck).Many patients with frozen shoulder also report referred pain or stiffness in the neck.

The axillary recess is a key structure evaluated in MRI diagnosis of frozen shoulder (adhesive capsulitis). Since adhesive capsulitis involves thickening, fibrosis, and contracture of the joint capsule, particularly in the inferior glenohumeral ligament and axillary pouch, its appearance on MRI is distinctly altered.

Capsular Thickening: Thickening > 4 mm in the axillary recess region (inferior glenohumeral ligament complex). Seen on coronal oblique and axial images. Axillary recess appears contracted or obliterated, instead of its usual distended, fluid-filled shape. In late stages: fibrosis causes low signal on both T1 and T2 images. Loss of Fat in Rotator Interval & Recess. Reduced Joint Volume- The joint capsule is contracted, limiting joint capacity and movement.

In this patient, subjective and objective criteria with grade 2 was seen. In MRI, frozen shoulder typically shows characteristic changes in the axillary recess which can be correlated with the *lakshanas* of *Avabahuka*.

Conclusion :

Avabahuka is primarily a *Vataja* disorder involving *graha* (stiffness), *shoola* (pain), and *kṣhaya* (degeneration) in the Ansa Sandhi (shoulder joint). One of the deeper pathological aspects is *māṃsapeṣhī kṣhaya* — the wasting or atrophy of shoulder musculature due to Vata aggravation.

This observational study explores the Ayurvedic concept of *mamsapchaya* (muscle wasting) in *Avabahuka* (frozen shoulder), correlating it with MRI findings in the axillary recess.

This helps connect Ayurvedic knowledge with modern imaging.

Integrating MRI findings with Ayurvedic principles supports a deeper understanding of disease progression and guides a more holistic treatment approach, emphasizing Vata *shāmana*, *māṃsa dhātu poshana*, and restoration of shoulder function.

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Declaration :

Conflict of Interest : None

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