

**REVIEW OF AVABAHUKA W.S.R TO FROZEN SHUOLDER  
(ADHESIVE CAPSULITIS)****Dr. Ruchi Juyal<sup>1\*</sup>, Dr. Ketan Mahajan<sup>2</sup>, Dr. Atul Kumar Agrawal<sup>3</sup>, Dr. Tejendra Singh<sup>4</sup>**

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**ABSTRACT**

**Avabahuka is a disease of Amsa Sandhi** (shoulder joint) and it has been defined under eighty type of *Vata Vyadhi* by *Acharya Sushruta*. Shoulder joint which has greater range of motion is of vital importance to the activities of daily routine and work. Most of the disease may not be life threatening but hamper day to day life and human productivity. *Avabahuka* is one among them. Clinical presentation and pathogenesis of *Avabahuka* is almost similar to frozen shoulder. Frozen shoulder also known as pre-arthritis or adhesive capsulitis is one of the commonest musculoskeletal disorders or a significant loss of range of motion. According to *Acharya Sushruta*, when *Vata* gets vitiated at *Amsa Sandhi*, it causes wasting of the *Amsa Bandhana* and *Sira*

*Aakunchana*. Such condition is called as *Avabahuka*. As the shoulder joint is a type of *Snayu Marma*, it is easily vitiated by *Vata*. If vitiated *Vata* goes to the *Snayu*, it causes restricted movements and pain. If trauma occurs at *Amsa Sandhi* i.e. shoulder joint, restriction of movements occur, it causes delayed discomfort and pain. The most common treatment for frozen shoulder is mobility exercise and anti-inflammatory drugs. As there is no promising treatment available in modern system of medicine, patient come to *Ayurveda* with a great hope. *Panchakarma* procedure has also found effective and safe treatments in the management of the disease.

**KEYWORDS:** *Avabahuka* (Frozen shoulder), *Adhesive capsulitis*, *Amsa Sandhi*, *Vata Dosha*, *Kapha Dosha*.

## INTRODUCTION

*Avabahuka* is considered to be a disease which affects the *Amsa Sandhi* (shoulder joint) and is caused by the *Vata-Kapha Dosha*. Even through the term *Avabahuka* is not mentioned in the *Nanatmaja Vata Vadhi*, *Acharya Sushruta* and others have considered *Avabahuka* as *Vata Vyadhi*. ‘*Avabahuka*’ a term coined by *Acharya Sushruta* in 600BC-400BC is a disease of *Skandh* (shoulder joint). Human body has six parts *Shadanga* and *Shakha* (upper limb) is one among them where as *Skanda* is the root of *Shakha*. He described cause of *Avabahuka* is “*Amsadeshasthitovayushoshayed Amsabandhanam*” which means aggravated *Vata Dosha* cause “*Shosha of Amsabandhanam*” in and around the shoulder, *Sirascha Aakunchaya* means constriction of vessels.<sup>[1]</sup> *Acharya Charaka* described *Bahushosha* under eighty type of *Vatavyadhi*.<sup>[2]</sup> In *Charaka Samhita Sutra Sthana* and *Chikitsa Sthana Bahushosha* and *Bahugata Vata* respectively has been mentioned. *Astang Hridaya* and *Astang Sangrah* described *Avabahuka* as “*Amsamulasthitovayu sira sankochaya*” which means the condition where aggravated *vata* get lodged at the root of shoulder joint and cause vasoconstriction.<sup>[3]</sup> In *Chakradutta*, *Bahushosha* and *Avabahuka* have been mentioned in *Vatavyadhi Chikitsa*.<sup>[4]</sup> *Vata vyadhi* can be divided as two types that is *Dhatukshayajanya* (caused by depletion of tissues) and *Margavrodhjanya* (caused by obstruction of *Vata Dosha* by others). *Amsa shosha* can be considered as the preliminary stage of disease where dryness of the *Shleshaka Kapha* and symptoms like pain during movement and restricted movements are manifested. This is common in the *Madhukosh Teeka* that *Amsa Shosha* is produced by *Dhatukshaya*, that is *Shudda Vatajanya* and *Avabahuka* is *Vata-Kaphajanya*.<sup>[5]</sup>

The symptoms of *Avabahuka* are often compared with the symptoms of Adhesive capsulitis, which is commonly referred to as frozen shoulder. **Frozen shoulder** was first introduced by **CODMAN** in 1934, he described a painful shoulder condition of insidious that was associated with stiffness and difficulty in sleeping on the affected side Frozen shoulder is common disability but self- limiting condition and occurs when the connective tissue enclosing the joint becomes thickened and tight.

The prevalence of frozen shoulder is 2-5% in the general population of India. The association is 2-4 times higher in patients with diabetes mainly in the age group of 35-65 but the issue can occur in the younger people who bare and get involved in overhead motions in there

sports activities like tennis basketball and volley ball other predisposing factors include rheumatic disease (gout, rheumatoid arthritis) progression recent shoulder surgery, thyroid disorders etc.

### ***Nirukti***

*Avabahuka* composed of two words “Ava” and “bahuka”. Ava means *Viyoga* or *Vikratou*, which means dysfunction or separation. It can be taken as deterioration or dysfunction. *Bahuka* word implies the ending of *Bahu* (the arm).

### ***Paribhasha***

*Avabahuka* is a disease caused by *Kupita Vata Dosa* confining around the *Amsa Pradesh* causing *Shosha* of *Amsabandhan*, thereby giving rise to *Akunchana* of *Sira* at that site and leading to *Avabahuka*.<sup>[6]</sup>

### ***Nidaana***

*Vata dosha* can be considered as the *Nidana* (Causative factors) of *Avabahuka* in the preliminary stage and association of *Kapha* (*Shleshaka Kapha*) *Dosha* with *Vata* is seen in the later stage.

There can be two types of *Hetu* causing *Avabhuka* which are as

- a. *Bahya Hetu- Bahya Aabhighataja* (External cause or trauma) causes that lead to injury of *Marma* or the region surrounding the shoulder joint.
- b. *Abhayantara Hetu- Vata Prakopa*, the *Nidana* leading to *Vitiation* of *Vata* in that region.
- c. *Doshaprakopajanya* (*Samshraya*) which manifests. Whereas, the other is *Dosha Prakopajanya* (*Samshraya*) which in turn leads to loss of movements of *Bahu*. As the disease come under *Vatavyadhi* the *Nidana* of *Vatavyadhi* and *Avabahuka* are almost same. The causes of *Vata Vyadhi* are – 1. *Dhatu Kshaya*, 2. *Aavranajanya*.

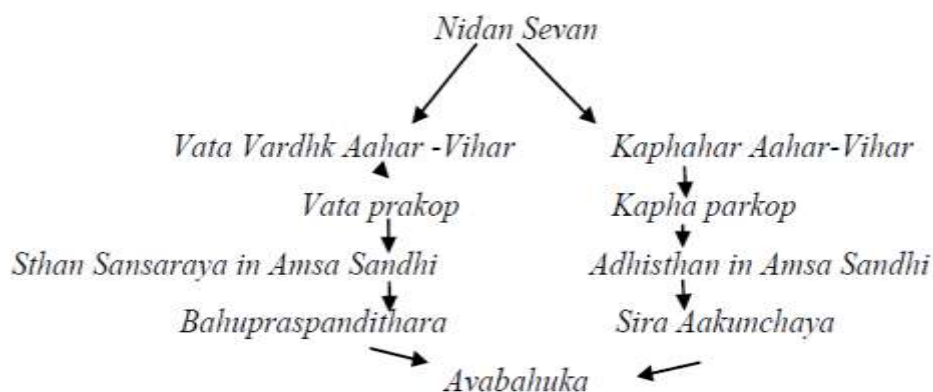
The causes of *Avabahuka* can be classified into following groups:

1. ***Aharajanya nidana:*** *Ruksha* (dry), *Sheeta* (cold), *Atyalpa* (deficient), *Laghu* (light), *Kashaya* (astringent), *Katu*(pungent), *Tikta* (bitter) *Ahara* etc can cause vitiation of *Vata Dosha*.<sup>[7]</sup>
2. ***Viharaja nidana:*** The factors that affects the *Amsa Desha* (shoulder) or indirectly should be considered such as:

1. **Plavana:** Excessive swimming can cause over exertion in the joint resulting in vitiation of *Vata Dosha*.
2. **Atibhar vahana:** Bearing heavy weight over the shoulder.
3. **Balavata vigraha:** Fighting with a more powerful person than you may cause.
4. **Aghata (Trauma):** To the *Amsa Pradesha* (shoulder) resulting in *Vata Prakopa*.
5. **Marmaghata:** (Injury to *Marma* points): Injury to *Amsa Marma* which are located on either side, midway between the neck and the head of the Arms and connect the *Amsa Peetha* (glenoid cavity) and the *Skandha* (shoulder), leads to the stiffness, pain of the shoulder.<sup>[8]</sup>
6. **Dukh shayya:** Use of uncomfortable beds or seats may cause problem in *Amsa Sandhi* due to improper posture.

### Pathogenesis (*Samprapti*) of *avabahuka*

According to *Acharya Shusruta* vitiated vata dries up the *Shleshmaka Kapha* (*Shosha* of *Shleshmaka Kapha*) around structures or tissues in the shoulder joint and vasoconstriction of vessels leading to pain and stiffness of the joint ultimately resulting in restricted shoulder movement.



### *Samprapti ghatak*

*Udhavaw sthana*- *Amapakvashaya Sthana*

*Adhisthana*- *Amsa Pradesha*

*Vyaktasthana*- *Bahu Pradesha*

*Dosha*- *Vata* predominant-(*Vyana* and *Prana*) *Anubandha Dosha*- *Kapha* (*Shelshaka*), *Pitta*

*Dushya* - *Asthi*, *Majja*, *Rakta*, *Mamsa*

*Updhatu*- *Sira*, *Snayu*, *Kandra*

**Agni-** *Jathargni* and Respective *Dhatwagni Ama- Jahtraagni Mandyajanyaama* and respective *Dhatwagnijanya Ama*

**Srotas-** *Asthivaha, Majjavaha*

**Srotodusti prakara-** *Sanga Roga*

**Marga-** *Madhyam*

**Roga awastha-** *Chirkari.*

### Sign and Symptoms of *Avabahuka*

Prodromal symptoms (*Purva Roopa*), *Avyakta* (Minimal or no prodromal symptoms) in *Vata Vyadhi*. The classical symptoms explained by *Acharya Vagabhata* are *Bahuspandithara*, which means loss of movement of the shoulder.

-*Sandhi Shoola* -Pain in and around the shoulder joint.

-Restricted movement in shoulder joint.

-*Bahu Praspanidida Hara*- lost/diminished movement of the upper limb.

-*Amsa Bandhana Shosha*- muscle wasting.

- *Sandhi Grah*- Shoulder stiffness, tenderness, radiation of pain up to upper limb.

### Treatment

#### Treatment in *ayurveda*

*Acharya Sushruta* has described the treatment for *Avabahuka* as follows: treat the *Vayu*, vitiated in *Sandhi*, *Asthi* and *Snayu*, by using *Sneha* (oleation), *Upnaha* (poultice), and *Agni karma* (Therapeutic cauterization). The standard line of treatment described in *Ayurveda* for different *Vata Vyadhis* is *Snehan*, *Swedana*, *Shodhana*, *Basti*, *Sirobasti*, *Nasya*, etc. *Snehana* is described as of two types. 1. *Bahya* (external) 2. *Abhyantara* (internal). *Acharya Charaka* further states that, each patient should be given specific therapies depending on the *Dushya* (tissue element vitiated by *Vata*) and location. In the *Urdva-Jatrugata Vata Vyadhis*, *Acharya Vagbhata* has mentioned *Nasyakarma*. Three major approaches are followed in the management of *Vata Vyadhi*. Treatment of *Kevala Vata* 2. Treatment of *Samsrasta Vata*. 3. Treatment of *Avruta Vata*.

The general line of treatment mentioned for *Vatavyadhi Avabahuka* in Ayurvedic texts includes classics, the common line of treatment for *Vata Vyadhi* includes *Snehana*, *Swedana*, *Virechana*, *Basti*, *Nasya*, *Dhoompan*, *Avrana Chikitsa* and *Saman Chikitsa*.

**In *sushruta samhita*:** *Acharya Sushruta* advised *Vata Vyadhi Chikitsa* except *Siravyadha*.<sup>[9]</sup>

**In charaka samhita:** Acharya Charaka has explained Swedana in Vata-Kaphaj diseases. Patra Pinda Swedana is a type of Sankar Swedana mentioned under Sagni Swedana as per Charaka Samhita. Parishek Swedana explained in Charaka Samhita under thirteen Sagni Swedana in Vata-Kaphaj diseases.<sup>[10]</sup>

**Chakradatta** mentioned Dashmooladi or Baladi Kwath in Avabahuka.<sup>[11]</sup>

**Acharya vagbhatta** has mentioned Nasya in the Urdhvjtrugataroga. In Nasya medicated oil given through nassal route.

**Ashtang sangrah** mentioned Navana Nasya (nasal medication) administered after meal and if there is Snehan (medicated oil) should be followed continue in Avabahuka.<sup>[12]</sup>

**Astanga hridayam** mentioned first Nasya than Basti. Nasya and Uttarbhaktika Snehapana (Snehapana before meal) is mentioned for Avabahuka.<sup>[13]</sup>

**Yogratnakar:** Bahuparivartana (movements of shoulder jointas “Masha tail Rasonabhyam Bahuvoch Parivartsnsm Dashangim Masha Kwathaena Jayata Avabahukam”).<sup>[14]</sup>

**Sahasrayoga, Prasaraniyadi Kashaya** is mentioned in treatment of Avabahuka.<sup>[15]</sup>

### Others treatment

1. **Nidan parivarjana** [To avoid causative factors or take precautions] and **Pathya Aahar-Vihar** [wholesome diet and activities can be followed by Ritucharya or Dincharya]. Discard the Apathy Ahar-Vihar [diet and activites which aggravated the disease] etc.
2. **Snehanoleation** Both internal and external with medicated oils, **Abhyanga** (massage, applying pressure with warm medicated oil in the affected part) like streching.
3. **Swedana** (Sudation with Vata-Kapha Shamak steam) is deep heating eg. Nadi Swedana or Sarvang Vashp Swedana.

**-Upnaha swedana:** [Paste of Vata-Kkapha Shamak Churnas] on the affected site.<sup>[16]</sup>

**-Pizhichil (snehdhara):** Streaming of hot oil along with simulteneous massage on the affected site.<sup>[17]</sup>

**-Parisheka:** streaming of hot Vata-Kapha Shamak Kwath along with simoultaneous massage.

**-Elakizhi (Patra panda swedana):** Herbal Poultice (Patrapotli) prepared with Vata-Kapha Shamak herbs and Churnas tied in a cloth and is dipped in hot medicated oil, this is applied over the affected part.

**-Njavarakizhi (Shastikashali pinda sweda):** useful is degenerative conditions and this is like Shastikashali Pinda Sweda, first Abhyanga is done and rice pack dipped in certain decoction is applied over the affected part.

**-Podikizhil:** In this herbal powder taken a linen bag, dipped in oil and applied over



**-Pichu:** Cotton swab dipped in hot medicated oil applied to the affected site.<sup>[17]</sup>

**-Nasaya karma:** In Urdh Jatrugat Vikaras Nasya Karma is very effective.

**-Basti:** Decoction or oil given through anal route like enema

**-Sanshamana aushadhi:** Vatashamak drugs, Kwath and oils like Yograj Guggul, Rasna Erandadikshayaya, Mahamasha oil etc.

**-Yoga and Aasana** like Suryanamaskara, Gomukha Aasana etc.<sup>[17]</sup>

**-Bahu parivartanam** [Shoulder joint exercise or physiotherapy].

**-Agnikarma.**

**-Marma therapy** stimulating Marma points nearby Amsa Sandhi gives good results and even it can be practiced life long without any side effects.

### Modern aspect of frozen shoulder

Frozen shoulder is also known as Adhesive capsulitis. Adhesive capsulitis refers to a mysterious fibrosis of the gleno-humeral joint capsule, manifested by diffuse, dull aching pain with in the shoulder and progressive restriction of motion but usually no localized tenderness. In early stages, the pain is worst at hours of darkness (at night) and therefore the stiffness is limited to abduction and internal rotation of the shoulder later the pain is present most of the time with limited movements of shoulder joint. Start with inflammatory phase. Typically there are three phases in frozen shoulder progression freezing, frozen, and thawing.

**Stage1 (freezing):** The patient gives a history of chronic continuous pain from 10-36 weeks. The pain is worse at night time. Without any history of injury there is progressive loss of range of motion. Arthroscopic findings include diffuse pedunculated synovitis dense feel at insertion of arthroscopy canula.

**Stage 2 (frozen):** This stage start occurs at 4-12 months. Pain gradually subsides and is only present at the extreme range of movement. Maximum reduction of movement is present with almost no external rotation possible.

**Stage 3 (Thawing or resolution):** This stage occurs usually from 12 months after onset and can last for up to 42 months thereafter. A spontaneous improvement in range of movement occurs with minimal pain.

### Clinical picture

On the basis of medical history of pateint, clinical and radiological examination and the exclusion of other shoulder pathologies diagnosis can be confirmed. Codman described the following assessment criteria for frozen shoulder.<sup>[18]</sup>

1. Shoulder pain with slow onset. it can be gradual or acute [due to trauma]
2. Pain felt at deltoid region.
3. Inability to sleep on affected site, pain increases at mid night
4. Atrophy of the supra and infraspinatus muscle.
5. Restriction of active and passive range of motion.
6. Painful and restricted movements like external and internal movements, flexion, extension, adduction, abduction.

### **Pathology of frozen shoulder**

According to Neviaser that the pathology of this disease was actually located in the shoulder joint capsule and also called 'Adhesive capsulitis'. Therefore the pathophysiological process is considered to involve synovial inflammation and fibrosis of the shoulder joint capsule. microscopic examination help to find out of tissue one will find the majority of the cells to be fibroblasts with some mast cells also present there. Cytokines act as transforming growth factor beta and platelet – derived growth factor may contributed to the inflammatory process although the glenohumeral joint, synovial capsule is involved, most of the disease also involve structure outside the glenohumeral joint. Coracohumeral ligament, rotator interval subscapularis, musculotendinous and the subacromial bursa are included in these structures.<sup>[18]</sup>

### **Treatment**

According to the modern science line of treatment option based on the stage of the disease and clinical symptoms. Intra-articular steroids and physiotherapy in stage-1, intra-articular steroids and arthroscopic release in stage-2, arthroscopic release in stage -3 and monitoring progress and active physiotherapy in stage-4.

Non-Surgical Treatment and management

- 1) Medication: oral non-steroidal anti-inflammatory (NSAID) drugs can be initiated in painful freezing phase.
- 2) Intra-articular steroids.
- 3) Physiotherapy: during stage1, the aim should be broke the cycle of inflammation and using modalities that can relieve the pain. Physical therapy and exercise, stretching are most effective in patients presenting with stage-2 frozen shoulder. There should be to stretch the capsule sufficiently for normal glenohumeral biomechanics.
- 4) Hydrodilatation: intra articular injection of large amount of normal saline to distend and rupture the capsular adhesions.
- 5) Oral steroids.
- 6) Electric stimulation.

Surgery

- 1) Manipulation under



anaesthesia. 2) Arthroscopic selective capsular release: it has some the main surgical option in the treatment of adhesive capsulitis.<sup>[19]</sup>

## DISCUSSION

This article aims to give an overview of the disease nature. Discuss the treatment and management which are broadly used and accepted in other studies and research. As described in *Sushruta Samhita* and *Madhav Nidan Avabahuka* and *Bahu Shosha* can be considered as continuum not as separate diseases rather than two different conditions. It is important to consider the patient's symptoms and condition when planning treatment method as each patient's treatment should be individualized. *Marma* therapy stimulating *Marma* points nearby *Ansa-Sandhi* gives satisfied results and even it can be practiced life long without any side effects. *Marma* therapy can be used along with oral *Vatashamaka* medicines and medicated oils to further enhance the results. *Bahuparivartan* (shoulder exercises) can be used in all stages of *Avabahuka*. There is limited evidence to show that *Marma* therapy will truly change the natural course of this disease.

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