

## FROZEN SHOULDER-A CASE STUDY

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### ABSTRACT :

Frozen shoulder is a clinical syndrome of pain and severely decreased joint motion caused by thickening and contraction of the joint capsule. The peak incidence is between middle aged people. In *Ayurved*, the symptoms, etiopathogenesis resembles with *Avabahuka*. It is a disease characterized by morbid *vata dosha* localizing around the shoulder joint and thereby causing loss or dryness of *shleshaka kapha* as well as constricts the *siras* at this site leads to loss of movements of the arm. *Ayurvedic* classics explain the treatment as *Navan*, *Nasya*, *Snehapana*, *Swedana* and *Shaman Aushadhi*. The purpose of this case study is to review the literature of frozen shoulder and to determine that the Cupping therapy is an effective and safe treatment option that can enhance the speed and degree of recovery, minimal risk and high patient acceptance in preference to other methods of treatment of frozen shoulder. Along with this oral medication of *Panchtikta Ghrut Guggulu* tablets in the dose of 500 mg thrice a day was given for one month. Despite the limitations of this case study, it demonstrates that the Cupping therapy may be an effective option in the treatment of frozen shoulder along with medicine.

**Key words:** Adhesive capsulitis, *Avabahuka*, Frozen shoulder, cupping therapy

**INTRODUCTION:** Frozen shoulder is a common, painful and debilitating condition that can last for months or years affecting up to 5% of the population. Frozen shoulder is a descriptive term used to indicate a clinical syndrome where the patient has a restricted range of passive and active glenohumeral motion without abnormalities of the joint surface, fracture, or dislocation.<sup>1</sup> It affects the glenohumeral joint, possibly involving a non-specific chronic inflammatory reaction, mainly of the subsynovial tissue, resulting in capsular and synovial thickening. A conspicuous absence of synovial fluid in the glenohumeral joint and scar tissue formation in the fibrous capsule, surrounding the shoulder joint causing it to tight thickened and contracted capsule, so limiting shoulder movements. A thickening and contraction of the capsule adherent to the humeral head termed as adhesive capsulitis.<sup>2</sup> Frozen shoulder is characterized by pain, stiff-

ness and limitation of active and passive shoulder movements which adversely affect the entire upper extremity. Pain may cause pronounced sleep disturbance. Restriction of the range of motion is usually more marked with external rotation, but with lesser loss of abduction and internal rotation. Frozen shoulder is most common in middle aged individuals and is usually self limiting, but the duration and severity may vary greatly. Risk factors include female sex, older age, shoulder trauma, surgery, diabetes, cardiovascular and thyroid disease.

**Clinical Presentation:** Three stages of frozen shoulder have been described in the literature: painful phase, stiffness or frozen phase, and recovery or thawing phase, with the average length of symptoms lasting 30 months.<sup>3</sup>

**1. The painful phase:** The duration and severity is variable and reported to last for 2 to 9 months. The nature of pain is gradual onset,

diffuses at first, difficult to localize it, then continues over a period of weeks to months and becomes worse at night. There is often no history of precipitating event. As the shoulder is kept immobile the pain and discomfort lessens.

**2. The stiffening phase (Frozen):** The first stage is usually followed by a gradual progressive loss of motion, which can last from 4 to 12 months. The average range of motion is 98° of abduction, 117° of flexion 33° external rotation and 18° of internal rotation with the shoulder abducted to 90 degrees. It is the longest stage out of the three stages. The pain becomes dull with occasional sharp at the extreme of motion.

**3. The thawing phase:** The final stage is the gradual regaining of the motion or 'thawing' rate of which is variable in weeks or months. Without specific treatment shoulder movement is regained gradually.

**Radiological Examination:** Radiographs are usually normal but may show minor osteoporotic or degenerative changes of capsule. Degenerative changes in the neck are common.

**Arthrography:** It shows shrinking of the joint capsule with reduced capacity to accommodate contrast medium<sup>4</sup>.

**Treatment:** : Initial treatment is aimed at reducing inflammation and increasing the range of movement. For the initial stage analgesic and anti-inflammatory drugs are commonly used. Mobilizing therapies such as massage, heat application, ultrasound, interferential treatment, osteopathic, chiropractic techniques, stretching and isometric exercise therapy are routinely prescribed for restoration of mobility. Intra-articular corticosteroid injection, suprascapular nerve block has also been strongly advocated. Radiotherapy, sympathetic ganglion block, manipulation under anaesthesia, distension arthrography, arthroscopic surgery and oral steroids has been suggested.<sup>5</sup>

**AYURVEDIC CONCEPT :** *Avabahuka* is a disease characterized by morbid *vata dosha* localizing around the shoulder joint and thereby causing loss or dryness of *shleshaka kapha* as well as constricts the *siras* at this site

leads to loss of movements of the arm. *Avabahuka* is coined in *Sushruta samhita* for the first time. In *nidan sthana* the *samprapti* and *rupa* of *Avabahuka* are elaborated. *Raktamokshana* and *Ruksha sweda* are cited as treatment of choice for *Avabahuka*.<sup>6</sup> In *Charak samhita Bahushirsagata vata* is mentioned in the *chikitsa sthan*<sup>7</sup> *Astanga Hridaya* and *Astanga sangraha* elaborated the full account of the illness *Avabahuka*.<sup>8</sup> In *Kashyapa, Bhela, Harita samhita vata vyadhi* is explained but the *Avabahuka* is missing. In *Madhukosha teeka* it is mentioned that, *Amsa shosha* is produced by *dhatukshaya*, i.e. *shuddha vatajanya* and *Avabahuka* is *vatakapha janya*.<sup>9</sup> *Avabahuka*. is mentioned as one among the eighty types of *vata nanatmaja vikaras* by both *Sharangadhara* and *Bhavmishra*.<sup>10</sup> *Arundutta* and *Dalhana* both have commented on *samprapti*, *lakshana* and treatment of *Avabahuka* in their works. Descriptions of different formulations are mentioned in *Chakradatta* and *Baishajya ratnavali*. The cause of is not separately enlisted; it may be *bahya hetu* – causing injury to the vital parts of the shoulder joint and *abhyantara hetu* – indulging in the etiological factors that aggravate *vata* leading to the vitiation of *vata*, which in turn leads to pain and loss of movements of the arm. *Kapha* plays a vital role in case of *margavarodha Avabahuka*. The pathogenesis leads to the development of *kaphavruta vatajanya Avabahuka*. Impairment of *bahupraspanda* is one of the cardinal features in *Avabahuka* and this affects activities of the shoulder joint. *Ayurvedic* classics explain the treatment as *Navan Nasya*, *Snehapana Swedana* and *Shamanaushadhi*. *Sushruta* advises *Vatavyadhi chikitsa* except *Siravyadha* and *Brumhana nasya* is indicated by *Vagbhata* for *Avabahuka*.

**CASE STUDY :** The purpose of this case study is to describe a *Cupping* therapy as a quick relief method for patient with frozen shoulder. The researcher utilized information from the historical and physical examination to establish an individualized plan of care for the patient. In this study a variety of measures to

assess outcomes from multiple dimensions including clinical assessment, pain score and the range of shoulder movements were utilized. The subjective and objective parameters were assessed by means of interrogation and by ascertaining the signs and symptoms before and after the treatment.

**Instrumentation:** Patients asked to state whether the intensity of pain was mild, moderate or severe. The range of shoulder move-

ments was measured by the constant shoulder assessment scale<sup>11</sup>

**Patient description and historical examination findings:**

**Case:** This 28-year-old male suffered from worsening right shoulder pain extending to the arm and neck. The initial onset of symptoms started with a fall with right arm stretched. The pain was intermittent, deep ache and sharp in the right shoulder

Assessment parameters	Extent / Position	Points
<b>1-Scoring for pain (maximum=15)</b>	None	15
Mild	10	
Moderate	5	
Severe	0	
<b>2-Positioning</b>		
Up to the waist	2	
Up to the xiphoid	4	
Up to the neck	6	
Up to the top of the head	8	
Above the head	10	
<b>3-Scoring for forward and lateral elevation (maximum=20, 10 for each)</b>	<i>Elevation (in degrees)</i>	
0-30	0	
31-60	2	
61-90	4	
91-120	6	
121-150	8	
151-180	10	
<b>4-Scoring for external rotation (maximum=10)</b>	Hand behind head with elbow held forward	2
	Hand behind head with elbow held backward	2
	Hand on top of the head with elbow held forward	2
	Hand on top of the head with elbow held backward	2
	Full elevation from on top of head	2
<b>5-Scoring for internal rotation (maximum=10)</b>	Dorsum of hand to lateral thigh	0
	Dorsum of hand to buttock	2
	Dorsum of hand to lumbosacral junction	4
	Dorsum of hand to waist (L3 vertebra)	6
	Dorsum of hand to T12 vertebra	8
	Dorsum of hand to interscapular region (T7 vertebra)	10

Patient had not exercised regularly and reported a very sedentary lifestyle with at least 6 to 8 hours of sitting per day. The pain in the right shoulder aggravated from last 3months

with sleep disturbance due to night pain and inability to lie on the affected shoulder. All active and passive movements were restricted,

with a reduction in external rotation by at least 50%.

Intra-articular corticosteroid injection was administered 6 months prior to the frozen phase. The patient was referred to physiotherapist for physical exercise and for restoration of mobility. Standard radiographs demonstrated a reduction in glenohumeral joint space and no osteoporotic changes. Past family medical history was non-contributory.

#### Examination of the Shoulder Joint:

##### Inspection:

Discolouration – absent  
Muscle wasting – absent  
Deformity – absent  
Swelling – at right shoulder joint

##### Palpation:

Tenderness - at supra spinatous tendon of right shoulder region.  
Temperature - increased at right shoulder region  
Crepitus - present

##### Investigations

TLC(Total lucocyte count): 9,100/cumm  
DC(Differential count) : N (Neutrophil)67 %, L (Leucocyte )28 %, B (Basophil) 0 %, E (Eosinophil)3 %, M(Monocyte) 2%  
ESR(Erythrocyte sedimentation rate): 11 mm after one hour.  
Blood Sugar level: FBS(Fasting blood sugar) 84 gms/dl PP (post parandial)108 gms /dl.  
X ray Shoulder joint (AP & Lateral view) - glenohumeral joint space reduced, no osteoporotic changes seen.

**THERAPY INTERVENTION :** The patient received seven sessions of *cupping* therapy intervention. Treatment includes *cupping* for 15 minutes at regular interval of seven days followed by panchtiktaghrit gugglu 500 mg thrice was given for one month.

**Outcome:** There was significant improvement in overall functional status after one month treatment with *cupping* therapy. There was no need to take any analgesic medicine during the treatment. Clinical assessments were made from the interrogation and gradation of scoring pattern. Initially before starting the treatment the constant shoulder assessment scores meas-

ured at baseline was 15, after seven days 36 and after commencement of one month treatment it was 69. At seven days of therapy, there was 21% improvement in shoulder function and this relative improvement was sustained at the one month assessment i.e. 54%. The therapy showed improvement in shoulder pain, joint stiffness and the activity of daily living. There was no side effect observed during the treatment as well as after the completion of treatment.

**DISCUSSION:** Frozen shoulder is a syndrome caused by inflammation of the joint capsule that leads to thickening, contraction and formation of adhesions. Similarly, *Avabahuka* is a disease characterized by morbid *vata dosha* localizing around the shoulder joint and thereby causing constriction of the *siras* at this site leads to loss of movements of the arm. . Since *Sira* is originated from the blood so bloodletting treat the root cause of diseases <sup>12</sup>. *Panchtikta Gritgugglu* work on *asthi* and *majja gatvata* .It subsides *vata*. Contents of *Panchtikta ghrith gugglu* like *Guduchi* ,*Nimba*,*Patol* ,*Vasa Kantkari* are *pitta* shamaka and blood purifier.. The *Panchtikta guggulu* possesses *Shothara*, *vedanasthapana*, *nadibalya* and *rasayan* properties. It is reliable and valid in the overall assessment of shoulder function. The use of therapy helps to elongate collagen fibers, improve fibroblast proliferation and promote normal collagen alignment.

**CONCLUSION:** This small case study demonstrates that patient with frozen shoulder can make significant gains in disability, symptoms and function in relatively short periods of time. Our intention, however, is to serve as a demonstration of the positive outcomes. This study determines the treatment which enhances the speed of recovery, minimal risk associated with *Cupping* and high patient acceptance in preference to other methods of treatment.

This study provides additional data on the potential role of *Cupping* therapy in the treatment

of frozen shoulder, particularly for those patients not responding well to conventional therapy. Despite the limitations of this case study researcher conclude that the *Cupping* therapy may be an effective option in the treatment of frozen shoulder.

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