REVIEW OF PRASARANYADI KASHAY IN THE TREATMENT OF FROZEN SHOULDER
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ABSTRACT
Frozen shoulder or adhesive capsulitis is a disorder of the shoulder joint in which the connective tissue surrounding the gleno-humeral joint becomes inflamed and stiff, greatly restricting motion and causing pain. The shoulder differs from other joints at least one important aspect; its functional efficiency depends on inter related synchronous action at five sites. The shoulder joint is effective at five different places: 1) the glenohumeral joint, 2) the ‘sub acromial’ joint 3) the acromioclavicular joint 4) the sternoclavicular joint 5) the movement of the scapula across the thoracic cage. The smooth function of the shoulder, in particular, rhythmic elevation of the arm, require that all five parts of the mechanism work normally. But any stiffness at shoulder capsule may hamper the range of motion. The incidence of frozen shoulder is approximately 3 percent in the general population. Occurrence is rare in children and people under 40 but peaks between 40 and 70 years of age. The condition is much more common in women than in men (70% of patients are women aged 40–60). At this age vascular supply to rotator cuff is decreased or due to injury in rotator cuff tendon, restriction of shoulder movement occurs. Frozen shoulder is more common in diabetic patients and is more severe and more protracted than in the non-diabetic population. Prasaranyadi kashay is very useful formulation in such condition of Vata disorder where kapha is associated. The kashay is useful to release the stiffness of the shoulder. The ingredients of Prasaranyadi kashay like Prasarini, Rasona, Nagar reduces pain and inflammation.
Key words- Frozen shoulder, Prasaranyadi kashay

INTRODUCTION
Frozen shoulder (also known as Adhesive capsulitis) has been defined by the American Academy of Orthopedic Surgeons as: "A condition of varying severity characterized by the gradual development of global limitation of active and passive shoulder motion where radiographic findings other than osteopenia are absent." [1] It is a painful and disabling disorder of unclear cause in which the shoulder capsule, the connective tissue surrounding the gleno-humeral joint of the shoulder, becomes inflamed and stiff, greatly restricting motion and causing chronic pain. Pain is usually constant, worse at night, and with cold weather. Certain movements can provoke episodes of tremendous pain and cramping. The condi-

tion is thought to be caused by injury or trauma to the area and may have an autoimmune component.

Risk factors for frozen shoulder include tonic seizures, diabetes mellitus, stroke, accidents, lung disease, connective tissue diseases, thyroid disease, and heart disease. People who suffer from adhesive capsulitis may have extreme difficulty concentrating, working, or performing daily life activities for extended periods of time.

MATERIAL AND METHODS
All classical texts available in the library of Ayurved College, hadapsar, Pune has been reviewed. Database available after net surfing was also reviewed

Signs and symptoms
Movement of the shoulder is severely restricted, with progressive loss of both active and passive range of motion. In frozen shoulder, there is a lack of synovial fluid, which normally helps the shoulder joint, a ball and socket joint, move by lubricating the gap between the humerus and the socket in the shoulder blade. Frozen shoulder occurs when the shoulder joint capsule sticks to the head of the humerus bone. This causes extreme pain and stiffness in the shoulder joint and eventually leads to immobility, followed by a long period of "thawing" in which the shoulder slowly returns to normal. The shoulder capsule thickens, swells, and tightens due to bands of scar tissue (adhesions) that have formed inside the capsule. As a result, there is less room in the joint for the humerus, making movement of the shoulder stiff and painful. This restricted space between the capsule and ball of the humerus distinguishes adhesive capsulitis from a less complicated, painful, stiff shoulder.

Diagnosis
One sign of a frozen shoulder is that the joint becomes so tight and stiff that it is nearly impossible to carry out simple movements, such as raising the arm. The movement that is most severely inhibited is external rotation of the shoulder.

People complain that the stiffness and pain worsen at night. Pain due to frozen shoulder is usually dull or aching. It can be worsened with attempted motion, or if bumped. A clinician may suspect the patient has a frozen shoulder if a physical examination reveals limited shoulder movement. Frozen shoulder can be diagnosed if limits to the active range of motion (range of motion from active use of muscles) are the same or almost the same as the limits to the passive range of motion (range of motion from a person manipulating the arm and shoulder). An arthrogram or an MRI scan may confirm the diagnosis, though in practice this is rarely required.

The normal course of a frozen shoulder has been described as having three stages:
Stage one: The "freezing" or painful stage, which may last from six weeks to nine months, and in which the patient has a slow onset of pain. As the pain worsens, the shoulder loses motion.
Stage two: The "frozen" or adhesive stage is marked by a slow improvement in pain but the stiffness remains. This stage generally lasts from four to nine months.
Stage three: The "thawing" or recovery, when shoulder motion slowly returns toward normal. This generally lasts from 5 to 26 months. [2]

Investigations
MRI
Imaging features of adhesive capsulitis are seen on non-contrast MRI, though MR arthrography and invasive arthroscopy are more accurate in diagnosis. Shoulders with adhesive capsulitis also characteristically fibrose and thicken at the axillary pouch and rotator interval, best seen as dark signal on T1 sequences with edema and inflammation on T2 sequences. A finding on ultrasound associated with adhesive capsulitis is hypoechoic material surrounding the long head of the biceps tendon at the rotator interval, reflecting fibrosis. In the painful stage, such hypoechoic material may demonstrate increased vascularity with Doppler ultrasound.

**Frozen shoulder and Diabetes** [3]
Frozen shoulder is just one of five musculoskeletal complications that can affect people with diabetes. It is postulated that excess glucose impacts the collagen in the shoulder. Collagen is a major building block in the ligaments that hold the bones together in a joint. When sugar molecules attach to the collagen, it can make the collagen sticky. The buildup then causes the affected shoulder to stiffen, and the pain prevents you from moving your arm.

Frozen shoulder is estimated to affect about 20% of people with diabetes, compared with only 5% of people without diabetes, so clearly high blood sugar is a big risk factor.

**Management**
Management of this disorder focuses on restoring joint movement and reducing shoulder pain, involving medications, physical therapy, and/or surgical intervention. Treatment may continue for months, there is no strong evidence to favor any particular approach. There is tentative evidence that low-level laser therapy may help.

Medications frequently used include NSAIDs, corticosteroids are used in some cases either through local injection or systemically. Physiotherapists may include massage therapy and daily extensive stretching. If these measures are unsuccessful, manipulation of the shoulder under general anesthesia to break up the adhesions is sometimes used. All above mentioned remedies involve much risk and untoward effects of the drugs. The key part of the treatment is to reduce stiffness of the joint by reducing inflammation and Prasaranyadi kashay is very good choice of kashay which reduces the inflammation and pain by the anti-inflammatory activity of Rasona and Nagara. Prasarini is effective enough to relieve the stiffness of the joint. The result of medicine for musculoskeletal disorder like frozen shoulder depends upon the exercise you perform along with the medicine.

**Principles of management**
1) Counter the local inflammation and pain.
2) Use antiviral drugs to counter the possibility of underlying viral infection.
3) Improve immunity by using Rasayana Drugs.
4) Encourage the joint mobility by application of heat and gentle progressive range of motion exercises.

**Exercises for a frozen shoulder** [4]
Stretching and strengthening exercises are usually the cornerstone of treating frozen shoulder. Some of the exercises are-
1. Pendulum stretch
2. Towel stretch
3. Finger walk
4. Cross-body reach
5. Armpit stretch
6. Outward rotation
7. Inward rotation.

**Ayurvedic Approach of Frozen shoulder- Avabhavuka**
Avabahuka-
‘Avabahuka’ is the clinical condition mentioned by Acharya Sushruta in Nidansthana related to the shoulder joint. Aggravated Vata in the region of shoulder dries up the bindings (ligaments) of the shoulder constrains the sira present there and produces Avabahuka. [8] As per Sushruta siravedha is contra indicated in Avabahuka and general treatment of Vata should be adopted.

Tridoshic Approach of Avabahuka

DISCUSSION

Vatadosha
Movement in the body is indicative of the presence of life. Chesta includes the entire activity of living body. Vata is the cause of such movements. The meaning of the word Va gati are motion, moving and going. [6] .The movement in the body is expressed by the contractions and relaxations of the muscles. In Frozen shoulder such movements are hampered due to stiffness in the gleno-humeral joint due to vitiation of Vata dosha. Vata is tantrayantradhara. Tantram is the body and yantram indicates the machine along with its parts viz. in relation to the human body, the sira, snayus. [7] .Vata is up-holder or sustainer of both the structure or parts or their functions in the body.

Kaphadosha
Kapha is the product of water[8]. The verb slish means to embrace, to cohere or to keep together. [9] The seat of kapha is sira, griva, kantha, bahu. The general function of kapha is promotion of Snahana (unctuousness), bandhana ( binding or keeping together), Sthiratva ( steadiness and sturdiness) of the body firmness and compactness. Kapha is related with Visargakarma i.e. creation of strength. Acharya Sushruta has mentioned Sandhisansleshana (keeping together and lubrication of the joints of the body) is the function of kapha due to snigdha guna.[10]

Asthisandhis are covered by snayus and pesis which confer strength on them. In Frozen shoulder the vitiated vata is responsible for the contraction (Sankoch) and stiffness (stambha) of the shoulder joint. At the same time as mentioned by Acharya vagbhata, the typical symptoms of vitiated kapha due to guru, pichhila, stimit, sheet and snigdha guna observed are bandha (obstrsuction) ,coating inside the channels (upalepa) , staimitya (loss of movements). The normal cohesive property of kapha (slish alingane) is much more increased results into the occurrence of symptoms like bandha and staimitya. So aggravated Vata due to ruksha guna dries up the bindings of the shoulder girdle and aggravated kapha due to guru, sheet, staimitya guna brings out stiffness of the joint which hampers the range of motion of the joint. Sheeta guna of vata is Apatarpan in nature and of kapha is Santarpan in nature. So kaphavatagha treatment in the form of Prasarnyadi kashay can be adopted.

PRASARANYADI KASHAY[11]
Reference – Sahastra yogam kashay Prakaranam.
Ingredients – Prasarini, Masha, Bala ,Rasona, Rasna, Nagara
Dosage – 15 ml daily with four times luke warm water one hour before food.

It is very nice formulation mentioned in kwath prakaram of Sahastrayogam having two rasayana drugs Rasona and Nagara. The word Prasarini itself meaning that it relieves the stiffness of the joints. Prasarini is Kaphavatagha and ushnaveerya in nature .It is tissue stabilizer, hot in potency,
cure vata diseases associated with kapha. In Frozen shoulder there is stiffness, inflammation and pain of joint which is relieved by the anti-inflammatory property of Rasona,Nagara and Rasna. They are kaphavatahar in nature helps to relieve the stiffness and inflammation at the joint. Frozen shoulder is the condition of Kapha vata specrum. Here pain is associated with stiffness. Out of six contents of Prasarnyadi kashay four (Prasarini,Rasona,Rasna,Nagara) are kaphavatahar and ushnaveerya which reduces the inflammation at glenohumeral joints which facilitates the range of motion of shoulder joint. Nagar is ‘Vibandhbhedini’ \[12\] which is useful to relieve the adhesions in the capsule. Rasona is tissue vitalizer. Bala and Masha are guru required to stabilize the joints. The ushnaveerya of the drugs helps to relieve the adhesions in the capsule. The information regarding the contents of Prasarnyadi kashay is attached in Table no 1.

CONCLUSION

Prasarnyadi kashay, mentioned in the Sahastrayog is very good choice for treating Frozen shoulder which combats the stiffness as well as pain at shoulder joint. The word Prasarini itself means it helps to relieve stiffness and facilitate the movements. The Prasarnyadi kashay along with appropriate physical exercise is effective to enhance the range of movements in the Frozen shoulder.

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