



## Research Article

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### NON INVASIVE MANAGEMENT OF RECURRENT SHOULDER DISLOCATION: A CASE REPORT

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#### ABSTRACT

Shoulder dislocations are common and account about fifty percent of all major joint dislocation. In which chances of recurrence is seen mainly in anterior shoulder dislocation. In a traumatic setting, a shoulder dislocation may be accompanied by a distracting injury. Thorough examination must be conducted to avoid overlooking concomitant diagnosis. The present orthopedic school believes that conservative treatment has no role in treating recurrent dislocation of shoulder (RDS) hence often managed by surgical intervention. Here a unilateral recurrent anterior shoulder dislocation is reported in a 22 year male without features of any lesions like Bankart's lesion, Hillsachs. It was managed by non invasive procedure along with immobilization with chest arm brace followed by physiotherapy, with an aim to improve the strength, stability and maximum range of movement of the shoulder joint. After the treatment of four weeks clinically the patient was alright and able to with stand considerable distracting force.

**Keywords:** Recurrent shoulder dislocation (RDS), Brhmana nasya, sarasa shastika pinda sweda, Murivenna pichu, Physiotherapy

#### INTRODUCTION

The shoulder joint is a complex consisting of the glenohumeral joint, acromioclavicular joint and sternoclavicular joint. It is vulnerable for dislocation more often than any other joint in the body. The extreme mobility it enjoys jeopardizes its stability. The shoulder has an "Achilles point", at the inferior part of the capsule providing the joint with a potential weak spot so much, so that 99% of the anterior shoulder dislocation occurs here. Recurrent shoulder dislocation is a very common complication of anterior dislocation and accounts for greater than 80% of upper extremity dislocation. Being a bimodal distribution the incidence of anterior shoulder dislocation has a peak in second and sixth decade. The time of recurrence is inversely related to initial Age of dislocation<sup>1</sup>. Therefore age has a significant role in clinical management.

The recurrent anterior shoulder dislocation may be due to failure to immobilize the shoulder after initial dislocation for a specified period, size & nature of damage at the time of initial dislocation<sup>2</sup>. According to modern medical literature there is no role of conservative treatment in recurrent dislocation of shoulder, however surgery is the treatment of choice and is indicated, if the patient has more than three episodes of RDS. More than 150 operations are devised; some of them are Bankart's operation, Putti-platts operation, and Magnuson and Stak operation etc<sup>3</sup>. However the present case was managed by non operative therapy.

RDS is having a close proximity with the variety of sandhimukta as described<sup>4</sup> by Acharya Susruta. Anterior

recurrent dislocation can be correlated with Vislishta type of Sandhimukta which presented with slight swelling, continuous pain and improper function of joint. Usually this type of Sandhimukta is dislocated by assault, come back to its normal position by its own in course of time. It should be immobilizing with bands of cloth soaked in snigdha dravya and splintages<sup>5</sup>. Even there is no role of conservative management in modern parlance; Ayurveda has wonderful results in RDS. In the present case non-operative management in recurrent shoulder dislocation was done in three phase: as a goal to maintain antero-inferior stability, restore adequate motion, specifically external rotation and successful return to physical activities of daily life.

#### CASE DESCRIPTION

A twenty two year old male Patient with subject code: SSH71778 reported at outpatient department of Amrita School of Ayurveda on 19<sup>th</sup> August 2016 with complaints of recurrent dislocation along with pain and mild swelling in the right shoulder joint, decreased tolerance for activities that stress the joint. Patient had an initial history of anterior dislocation of the right shoulder while recovering a fumbled ball during a football match as he was struck by two other players. On the site of injury reduction was unsuccessful. He was taken to the local hospital, where the radiography was done and reduction was performed under local anesthesia. The patient was neurovascularly intact after manipulation of the right shoulder and he report a notable reduction in pain. He was treated conservatively by muscle relaxant along with immobilization. The immobilization was removed by the patient himself

following the reduction of pain after ten days and return back to normal activities. Again after two months he suffered from another attack of shoulder dislocation with non specific external rotation and reduced by himself. After an approximate period of four month he had frequent RDS whenever exposed to abduction and external rotation. The clinical features and presentations were like anterior shoulder dislocation but with less severity. Recently he had two consecutive dislocations with simple movements and self reduction was possible. He undergone MRI, in which joint appears normal and reveals no SLAP tear or any lesions.

## DIAGNOSIS

Diagnosis of RDS was based on history and physical examination. When the right shoulder joint was examined, there was no discoloration around the joint, mild muscle wasting and a bulging type of swelling was noticed in the anterior and lateral part of shoulder. On palpation tenderness was elicited at coracohumeral ligament and at the insertion of deltoid muscle. There were no Crepitus or increased temperature. On examination sulcus test, apprehension test and relocation test were positive.



Figure 1: Timeline representing complete course of treatment

## NON OPERATIVE INTERVENTION

The patient receive three sections of Panchakarma treatment for strengthening the joint and immobilization done using chest arm brace for joint stabilization and prevent further destruction of glenoid labrum.

**Phase I:** (day 0 to 7<sup>th</sup> day) Initially as a plan of treatment brimhana nasya, sarasa sasthika pinda sweda, upanaha along with physiotherapy was advised. Brimhana nasya of ksheerabala 101 avarthy in a dose of 8 drops in each nostril was installed once in a day, as per classical reference. As poorva karma abhyanga with ksheerabala avarthy and ushma sweda with warm water mixed with rock salt and as pashchat karma dhoomapana with haridra varthi and kavala done using lukewarm saline water made with rock salt was administered. Sali shastika pinda sweda along with mamsa rasa (sarasa sasthika pinda sweda) was applied to the right shoulder continuously for 45 minutes. Murivenna pichu all around the shoulder joint applied in the form of pad and bandage at night. All the above procedures were repeated for 7 consecutive days.

**Phase II:** (8<sup>th</sup> day to 10<sup>th</sup> day) From 7th day onwards SSPS and nasya was stopped, but pichu was continued for further three days.

**Phase III:** (11<sup>th</sup> day to 28<sup>th</sup> day) After Panchakarma treatment patient was under physiotherapy exercise for two week. During this phase the patient was confined to active exercise. The active exercises include wobble board exercises, re-bound exercises, one handed rebound exercises etc. Further the patient advised to continue with mobility exercises and try to achieve a full pain free range of movement like medial rotation and external rotation. Passively stretch the posterior joint capsule through the use of joint mobilization or self stretching. No strengthening or repetitive exercises should

start until achieving full range of motion. During the phase I and II the patient was also advised to continue simple pendulum exercise, mobility exercise and isometric shoulder exercise/static strengthening contraction when there was no pain.

Supportive internal medications like prasaranyadi kashayam, ashta choornam, aswagandha choornam with milk and siddha makaradwajam were also given.

## OUTCOME

There was significant improvement in overall functional status after the panchakarma treatment along with immobilization and physiotherapy. During the course of treatment no concomitant medications were given for pain and tenderness. Clinical assessments for improvement were made from the interrogation and examinations of the patient. The clinical examination revealed after the treatment for seven days, pain and swelling was reduced. By the end of phase II treatment sulcu test, apprehension test and relocation test were negative. At the end of 28<sup>th</sup> day patient regain the full range of movement in the shoulder joint. The therapy showed good relief in shoulder pain, muscle weakness and joint stability increased.

## DISCUSSION

Recurrent shoulder dislocation occurs due to laxity of the ligament, muscles and rounding off of the glenoid rim. It is a disease characterized by deranged vata localizing around the shoulder joint. This causes dryness of sleshaka kapha as well as constriction of siras at this site, leads to instability of joint. Treatment principle should be vata shamana, brimhana and mrudu vyayama. These treatments improve joint stability and range of movement. Another Ayurvedic concept is that derangement of vyanavata may happens at the shoulder joint due to Amsa marma abhigata.

Brimhana nasya corrects the shuska dathus, which causes the vitiation of vata and impart strength to the joint. It nourishes the shleshaka kapha thus stimulate the sensory nerve ending, which relaxes the muscles and related structures of shoulder joint. As it is vata shamaka, the pain gets reduced. Brimhana nasya give stimulation to the brain through olfactory pathway to produce neuro peptides which act as pain relievers. The mridu paka taila nasya will retain the water soluble principle with lipid soluble particles at an optimum level. Even though nasya stimulate the brain through olfactory pathway, it also stimulates the areas like Amygdala in limbic system by activating neuro peptidase pathway<sup>6</sup>.

Sarasa shastika pinda sweda will improve the micro circulation and nourishes the muscles and ligaments of the shoulder. Based on the theory of svabhavaparama, there is an inherent tendency for natural self cure. Here the major cause of recurrent dislocation is reduction of kapha bhavas and increase of vata. At the level of mahabhutas the prithvi and jala mahabhuta exhaust gradually with a subsequent increase of vayu and akasha bhutas. Hence body needs to acquire more snigdha bhavas to resist the process of degeneration. Brimhana nasya, SSPS will improve the strength of the shoulder joint.

Mamsa rasa of goat is added to Sastika Sali pinda sweda to improve the brimhana action. It will improve the muscle strength because of similar quality with human body ie: according to theory of Vagbhata acharya "vridhi samana sarvesham". The mamsa rasa is highly proteinaceous material with qualities of (guru) heavy, (snigdha) unctuous, picchila (slimy) and mridu (soft). The oxidation of carbohydrates and proteins provides a long term supply of ATP (adenosine tri phosphate). ATP is the source of energy for many biological works like chemical reactions of synthesis, transfer of ions or molecules across membranes against electro chemical gradient and mechanical work. SSPS will help to provide required penetrating atmosphere (temperature, pressure and stimulus) and nutrition for quick repairing of the RDS. The transdermal drug delivering system helps to provide required proteins and glucose to normalize the joint.

Pichu with murivenna will give analgesic and anti-inflammatory effect. Murivenna being snigdha, it has vatahara property. Upanaha will give both sneha and sweda along with the combination of pharmacokinetics of drugs brought quick relief of symptoms of dislocations.

Internal medications prasaranyadi kashayam relieves pain due to analgesic action of prasarani (*Paederia foetida*), rasna (*Pluchea lanceolata*) and rasona (*Allium sativum*). These drugs normalize the deranged vata. Ginger (*Zingiber officinale*) helps in metabolic correction of pitta and bala (*Sida cordifolia*) corrects it at tissue and systemic levels, thus reduces the inflammation. Apart from these properties masha (*Phaseolus mungo*), bala and rasona are rasayana and help in recovery process and also avoid recurrences. Masha and bala promote strength and bulk to the weak muscles and soft tissues help in recovery. Aswagandha (*Withania somnifera*) is a neuro protector, fibromyalgic agent which decreases pain

and inflammation. Chemical content like articulins –F might help to reduce joint symptoms. As Aswagandha is brimhana it reduces vata and improves general strength of the joint.

Immobilization is followed by shoulder rehabilitation program prescribed like physiotherapy. The purpose of immobilization is to allow adequate time for healing. Immobilization was done using chest arm brace. Along with immobilization, wrist and hand exercises such as moving each finger through its range of motion and clenching the fist will prevent stiffness and keep the blood flowing to the area. Other physiotherapy exercises improve the range of movement.

## CONCLUSION

Recurrent shoulder dislocation is a complication happens when proper care is not given at the time of initial dislocation. However RDS can be well managed with non invasive technique keeping an aim to improve joint stability and re-establishment of complete range of movement. The key to successful healing and normal eventful function is a structured course of treatment aimed at Brahma, vatapittahara and bala vardhana of sandhi. Hence surgical intervention is not the only cure for recurrent shoulder dislocation rather non operative management may be another option to manage RDS effectively.

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