

CASE STUDY

Management of Recurrent Dislocation of Shoulder Joint through a Comprehensive Ayurvedic Approach: A Case Report

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ABSTRACT

The shoulder is a complex, multi axial ball and socket joint consisting of the glenohumeral joint, acromioclavicular joint and sternoclavicular joint. The complex interplay of soft tissue and osseous anatomy facilitates mobility of the glenohumeral joint. Recurrent Dislocation of shoulder (RDS) is most common complication of traumatic anterior shoulder instability. Surgery is the only treatment of choice according to modern medicine. Here an effort was made to treat a case of RDS using a comprehensive Ayurvedic treatment protocol. The protocol includes a set of treatment procedures along with certain internal medicines. Changes were analysed with the help of VAS scale, ROM assessment clinical test and showed significant improvements. This case is evidence to demonstrate the effectiveness of Ayurvedic treatments in case of recurrent dislocation of shoulder joint

Key Words *Recurrent dislocation of shoulder, Glenohumeral joint, anterior shoulder instability*

Received 24th September 2024 Accepted 10th November 2024 Published 10th November 2024

INTRODUCTION

Recurrent anterior dislocation of shoulder is very common complication of anterior dislocation. It accounts for greater than 80% of dislocations of the upper extremity, recurrence rate being 55 percent in patients 12 to 22 years old, 37% in 23 to 29 years old, and 12 percent in 30 to 40 years old. One in every three anterior dislocation of shoulder becomes recurrent dislocation of shoulder¹. Recurrent dislocation requiring treatment develops in about one-third of patients under the age of 30 and in about 20% of older

patients, with an overall re-dislocation rate of 48%. The humeral head is held in the shallow glenoid socket by the glenoid labrum, the glenohumeral ligaments, the coracohumeral ligament, the overhanging canopy of the coracoacromial arch and the surrounding muscles shoulder achieves its uniquely wide range of movement at the cost of stability. Failure of any of these mechanisms may result in instability of the joint². Failure to immobilize the joint for 3-4 weeks after initial dislocation, size and nature of damage at the time of initial dislocation are

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factors leading to recurrent instability. More episodes of dislocation leading to permanent damage of surrounding soft tissue. According to modern medical literature numerous surgical procedures are advocated for restoring the structural deficiency. Even though they claim no role of conservative management ayurveda has high quality treatment methodologies to approach the recurrent dislocation of shoulder joint. Based on the cardinal features, RDS can be paralleled with the *Tiryak kshiptam sandhimuktha* mentioned in *Bhagna nidana adhyaya*. *Tiryak kshiptam* includes displacement of any one bone of the joint and severe pain. In the present case comprehensive approach of various ayurvedic treatment modalities mentioned in context of *bhagna chiktisa* is advocated in recurrent shoulder dislocation.

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PATIENT INFORMATION

A 23year old male patient visited OPD of Department of Shalyathantra, Government Ayurveda College, Trivandrum, with complaints of recurrent dislocation along with pain and restricted movements right shoulder joint. Initially dislocation occurred when he fell on extended arm while playing football. He was taken to nearby hospital and reduction and immobilisation was done. Again, after 3months another attack occurred while playing tennis during which his arm was in extended position. After an approximate period of 6 month during sleep he had consecutive episodes of dislocation whenever exposed to abduction and external

rotation. Reduction was done in hospitals and immobilisation was done for 1 week in all episodes.

CLINICAL FINDINGS

Inspection

no discoloration around the joint, no muscle wasting.

Palpation

Grade 2 tenderness around the right shoulder joint

Range of movements

○ Abduction

Moderate restriction -abduction up to 60° possible

○ Flexion

Moderate restriction -up to 45° possible

○ Extension

Mild restriction, up to 30° possible

○ Internal rotation

Moderate restriction, up to 30° possible

○ External rotation

Severe restriction, possible only below 40°

Apprehension test- positive

MRI findings: (17 /11/2023)

- Flattening of poster lateral humeral head with marrow contusion due to micro trabecular disruption suggestive of Acute Hill Sach's lesions.

- Antero inferior glenoid (3'o to 6'o clock position) shows minimal bone loss with injury to overlying articular cartilage, labrum and periosteum elevation - suggestive of GLAD (Glenoarticular disruption) part of Bankart's lesion Shoulder instability (recurrent anterior shoulder dislocation).

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Table 1 Treatment procedures

Sl no.	PROCEDURE	MEDICINES	DURATION
1	Bandage (<i>swasthika bandha</i>) with sling (<i>utsangi bandha</i>) ³	<i>Murivenna</i> ⁴	21
2	<i>Snehapana</i>	<i>Gugguluthikthakam ghrtam</i> ⁵ (Starting dose 25ml– upto100ml)	5
3	<i>Abhyanga+ Ushma sweda</i> (whole body)	<i>Dhanwantharam tailam</i> ⁶	3
4	<i>Virechana</i>	<i>Gandharva erandam</i> ⁷ - 25mL	1
5	<i>Peyadi krama</i>		3
6	<i>Ekanga dhara</i> (affected shoulder and limb)	<i>Dhanwantharam tailam</i> ⁶	7
	<i>Nasya</i>	<i>Dhanwantharam41avarthi</i> ⁶ (10drops)	7
7	<i>Ajamamsa samyuktha shashtika pinda sweda</i> (affected shoulder and limb)	<i>Abhyanga-Shashtika tailam</i> ⁸	7
	<i>Anuvasana vasti</i>	<i>Dhanwantharamtailam mezhukupaka</i> ⁶ (60ml)	7

INTERNAL MEDICINES

Table 2 provides a detailed list of internal medicines employed in this case.

Table 2 Internal medicines

Sl No	Medicines	Dose and time
1	<i>Vaiswanara choornam</i> ⁴ (prior to <i>snehapana</i>)	1 tsp twice a day, morning and evening, along with food, with warm water
2	<i>Dhanwantharam Kashaya</i> ⁶	90 ml twice a day morning and evening after food.
3	<i>Lakshaguggulu</i> ⁹ tablet	2 in quantity twice a day with <i>kashayam</i>
4	<i>Gandhatailam</i> ¹⁰	15 drops with warm milk twice a day after food.

OUTCOME MEASUREMENT

The following subjective and objective parameters was considered for assessment

- Subjective parameters -Pain
- Objective parameters-
 1. Range of movement

Flexion, Extension, Abduction, Internal rotation,

External rotation

2. Muscle wasting
3. Apprehension test

OBSERVATION AND RESULT

The observation and result are summarized in Table 3.

Table 3 Observation and Result

Sl.No.	Assessment criteria	Before treatment	After completion of treatment Protocol	After follow up of 3 months
1	VAS score	6	1	0
2	Muscle wasting	No wasting	No wasting	No wasting
3	Apprehension test	POSITIVE	NEGATIVE	NEGATIVE
4 RANGE OF MOVEMENTS				
A	Abduction	possible up to 60 ⁰	possible up to 120 ⁰	Normal abduction 180 ⁰
B	Flexion	possible up to 45 ⁰	Normal flexion 150 ⁰	Normal flexion 150 ⁰
C	Extension	possible up to 30 ⁰	Normal extension 45 ⁰	Normal extension 45 ⁰ ,
D	Internal rotation	possible up to 30 ⁰	Possible up to 50 ⁰	Normal internal rotation 90 ⁰

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E	External rotation possible below 40°	Possible up to 70°	Normal external rotation 90°
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DISCUSSION

Dislocation of shoulder joint may be correlated to sandhimuktha¹¹ which is one among the two types of *bhagna* (fractures) thus *bhagna cikitsā*¹⁰ may be adopted in dislocation of shoulder joint.

PROBABLE MODE OF ACTION

Bandhana

Musalena utkshepanam (reduction) followed by *swasthika bandhanam* is advised as first line management in *amsa sandhi muktha*. Acharya Susrutha mentions that application of bandage in multiple fractures, fractures due to crushing, complete breaking of bones, dislocation leading to laxity, breakage of ligaments and tendons will heal immediately if proper *bandhana* (bandaging) is performed. Inflammatory mechanism occurring as a result of protective mechanism during the time injury gets aggravated as a result of repeated injury in RDS. This probably leading to post traumatic stiffness. Here patient had 4 episodes of dislocation which leads to constant inflammatory process thus generating stiffness and pain. Therefore, in order to get a better functional restoration, the inflammatory mechanism should be allowed to remain in a very controlled manner. *Murivenna* used for *bandhana* also has acute anti-inflammatory effect¹². *Swasthikabandhana* with *murivenna* is selected as 1st treatment procedure. After *bandhana* patient had considerable relief in pain and slight relief in stiffness was noted.

Snehapana and Virechana

In fractures of upper extremities *snehapana* is advised by Susrutha. In *asthi majjagatha* diseases external and internal application of *sneha* is described. *Acchasnehapana* with *guggulutikthaka ghrita* was given. *Gugguluthikthakam gritham* was opted for *snehapana*, as it is indicated in *Vatha Vyadhi* and *Sandhi Majjagatha Vatha*. *Guggulu thikthakam gritham* reduces pain, swelling, tenderness and aids in enhanced joint movements¹³. *Snehapana* helps in the structural restorations by alleviating *vat* and *sleshaka kapha dushti* in this case. After that *snehasweda* in the form of *Abhyanga* and *Ushma sweda* is done for 3 days for directing the *utklishhta* dosa in *sakha* to *koshta*. For *abhyanga* *Dhanwantharam tailam* is used since it is indicated in *marmasthi hatha* and *sarvavataroga*. Next *virechana* is done to eliminate the vitiated dosas brought to *koshta* by *snehasweda*. For *virechana* *Gandharva erandam* is selected.

Ekanga dhara

Dhara is indicated in *kevala vathika* and *vatha kaphaja* diseases. It is a procedure which relieves *shoolam*, *sthambham* etc. It has *shramaghna* quality, thus it may rejuvenate the exhausted soft tissue in the joint. Since *dhara* is done with warm liquids it may enhance the local circulation. The tissue metabolism may also get increased due to the pharmacological effect of the medicines used for the procedure. Thus, an overall regeneration may be achieved by *dhara*¹². *Dhanwantharam tailam* was the drug of choice which is specifically indicated in traumatic injuries is

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expected to strengthen the musculoskeletal framework. In this particular case *dhara* with *dhanwantharam tailm* helps in improvement of microcirculation thus reduces pain significant improvement in range of movements and specific qualities of *dhanwantharam taila* like *marmasthi hatha* and *sarvavataroga* relieve kshata occurred to amsa marma restores the structural impairment of surrounding structures thus improving the stability of the joint.

Nasyam

In *udrwakaya bhagna nasya* is specified as a treatment procedure. *Brihmana nasya* with *dhnawantharam 41 avarti* was administered. Here multiple events of dislocation lead to vitiation of *shleshaka kapha*, *dhatu kshaya* and *vata vridhi*. *Brimhana nasya* with particular drug of choice corrects the *shushka 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 along with strengthening of surrounding structures. As it is *vata samaka*, the pain gets reduced¹⁴. Thus, improvement in range of movements was noticed.

Ajamamsa samyuktha shashtika pinda sweda

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*, *shashtika pinda sweda* will improve the strength of joint, micro structural correction and prevent further degeneration.

Anuvasana vasti

Anuvasana -basti is the trans-rectal administration of medicaments especially medicated oils, in predetermined doses. *Anuvasana Vasti* is mentioned is *saka bhagna*. It is expected to reduce the symptoms of pain and stiffness and it also strengthens musculoskeletal systems. *Dhanwantaram Mezhukupaka* (*Mezhukupaka* is a special preparation with medicated oils exclusively prepared for transrectal administration) was selected here for the *basti* procedure.

Internal Medicines

Dhanwantharam kashaya, *Lakshaguggulu tablet*, was administered internally throughout treatment period except during *snehapana* and *virechana*. *Vaiswanara choornam* was given just before *snehapana*. *Gandhatailam* was given along with above medicines after *virechana*. The therapeutic actions discussed in table:

Table 4 Therapeutic actions of internal medicines

Sl no	Medicines	Mode of action
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1	<i>Vaiswanara choornam</i>	<ul style="list-style-type: none"> • Most ingredients are having <i>Katu Thiktha Rasa</i> and <i>Katu Vipaka</i>. • Has <i>Vathanulomana, Vibandhahara, Shoola- Shothahara</i> and <i>Kapaha - Vathahara</i> properties.
2	<i>Dhanwantharam Kashaya</i>	Indicated in <i>marmasthi hatha</i> and <i>sarvavataroga</i>
3	<i>Lakshaguggulu</i> tablet	analgesic property It enhances the healing process
4	<i>Gandhatailam</i>	<ul style="list-style-type: none"> • Indicated in <i>Bhagna</i> • Improves bone mass and strength • Strengthens ligaments • <i>Sarvavata vikaranuth</i>

CONCLUSION

Current case study reveals the effectiveness of Ayurveda treatment modalities in the management of RDS . The followed treatment protocol which included *brahmana, vatapittahara and bala vardhana* of *amsa sandhi* thus restoring stability and mobility if joints. *Bandhana* helps to reduce the persisting inflammation and provides stability . *Snehapana* with *guggulutikthaka ghrita* improves the strength and mobility of joint . *Local dhara* with *nasya* and *shashtikapinda sweda* imparts nourishment by improving the vascularity. Improvement of joint stability and reestablishment of complete range of movements is thus attained .Hence through comprehensive ayurvedic approach RDS can be effectevily managed rather than opting for surgery.

IEC NO-688/30/08/2022

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