

## Adhesive Capsulitis or Frozen Shoulder Treatment - An Experience of 50 Cases

Wahid MA<sup>1</sup>, Akter R<sup>2</sup> Amin R<sup>3</sup>.

### Abstract:

*The purpose of this study is to find out the outcome of treatment simply by single steroid injection intra articularly and educating the patients regarding self physiotherapy himself or herself. It lengthen the period of recurrence and protect the patient from G.I.T problem after taking NSAID i.e. gastric erosion and NSAID induced chronic duodenal ulcer.*

*We present a prospective study of 50 patients with Frozen Shoulder (F.S) who under went steroid injection intra articularly in the shoulder joint and advised how to do the physiotherapy of his joints to improve the range of movement. The study was carried out in North East Medical College Hospital and different clinics in Sylhet as well as Private Chamber run by Orthopedic Consultant. The study was conducted from January 2005 to January 2009. Treatment group are matched for age, side of (F.S) Frozen Shoulder or adhesive capsulitis, treatment outcome, recurrence and complications.*

*Among 50 patients included in this series the lowest age was 35 years and the highest age at 85 years. Maximum number of patients was 40- 60 years of age, 38 patient presented as unilateral affection, 12 patients bilaterally affected, the sex distribution was 37 patients female and 13 patients male/*

*Very minimum steroid single dose of 80 mg intra articularly in the shoulder joint which relieves the pain quickly and at the same time while patients starts physiotherapy improves the range of movement of the shoulder which offer a good satisfaction, compliance and cost effective, more over less complication. So it is the very cheap form of treatment.*

**Key words:** Frozen Shoulder (F.S) Steroid injections Adhesive capsulitis physiotherapy.

1. Dr. M.A Wahid  
Associate Professor, Department of Orthopaedic Surgery  
North East Medical College, Sylhet
2. Rayhana Akter  
Medical Officer, Department of Skin & VD  
MAG Osmani Medical College, Sylhet
3. Dr. Ruhul Amin  
Professor & Head, Department of Orthopaedic Surgery  
North East Medical College, Sylhet

### Introduction:

The term “ Frozen Shoulder” was first introduced by Codman in 1934. He described a painful shoulder condition of insidious onset that was associated with stiffness and difficulty in sleeping on the affected side. Codman also identified the marked reduction in forward elevation and external rotation that are the hallmarks of the disease.

Long before Codman, In 1872 the same condition had already been labeled “ Pere- arthritis” by Duplay, “In 1945 Navieser Coined the term “ Adhesive Capsulitis”. Although still in use, this more recent term is unfortunate since, although a frozen shoulder is associated with capsular adhesions.”

In clinical Practice, the tendency is to label any patient with pain, stiff shoulder as a case of frozen shoulder. This should be resisted. It is a specific condition that has a natural history of spontaneous resolution and require a management path way that is completely different from such distinct shoulder condition as a rotator cuff tear osteoarthritis.

The pick age incidence is 45 to 55 years and the condition occurs slightly more often in women than man. Diagnosis of frozen shoulder is fully clinical examination and it is useful to apply the well known axiom of the late Alen Apley a popular orthopedic speaker and teacher ‘Look’, ‘Feel’, ‘Move’. Look- on inspection the arm is held by the side in adduction and internal rotation. Mild disatropy of the deltoid and supraspinatus may be present.

Feel- on palpation there is diffuse tenderness over the glenohumeral joint and this extend to the trapezius and inter scapular area owing to attempted splinting of the painful shoulder.

Move – In true frozen shoulder there is complete loss of external movement – (rotation). This is the Pathognomonic sign of frozen shoulder. Confirming external rotation is impossible both active and passive. If passive external rotation is possible we should the diagnosis of a large rotator cuff tear, which would require completely different management. In frozen shoulder, all other movement of this joint are reduced , and if there is movement which occurs usually at the thoracoscapular joint.

### Materials and Methods:

This was a randomized trial comprising adult 50 patients who had frozen shoulder or adhesive capsulitis treated

conservatively in North East Medical College Hospital and different clinic and consultants chamber in Sylhet city from January 2004 to January 2009. The patients included in this study were those attended the out patient department, in patient admitted for other medical or surgical problem and then refer to the orthopedic consultant for his/her shoulder pain and restrictive movement.

The diagnosis of frozen shoulder is essentially clinical, immunological studies (such as human leucocyte antigen B27) C, reactive Protein and Erythrocyte Sedimentation rate are all normal and would be measured only to exclude other conditions. Most orthopedic surgeons would not investigate a frozen shoulder beyond a plain X-ray, when plain radiographs of frozen shoulder are taken they may well be reported as normal although they may show periarthral osteopenia as a result of disuse. Contrast technetium-99m diphosphonate bone scan shows an increase uptake on the affected side in 92% of patients compared with the opposite side. Arthrography shows characteristics finding of limitations of capacity of the shoulder joint (5-10 ml) compared with (25-30ml) in normal joint and a small or non-existent axillary fold. However, arthrography is a historical investigation in frozen shoulder. Magnetic resonance imaging may show a slight thickening in the joint capsule and coraco humeral ligament. All patients are treated by single injection of cortico steroid-Triamcinolon Acetonide 80mg intra articularly and the person was instructed & shown how to do physiotherapy. Our main aim was to relieve the pain and to increase the range of movement (ROM) which is expectation of both the treating physician and patients. Patient's satisfaction, those who were complaint gave the better result in this series.

### Result:

A total of 50 patients included in the process, among them 38 patients seen at hospital and remaining 12 patients treated at private chamber (Table-1). During the initial painful stage, the treatment is directed at pain relief, the patient is encouraged to the pain as a guide to limit activity, with all pain free activities allowed and all painful activities avoided. It is traditional to give patient non-steroid and anti-inflammatory drug (NSAID), if they can tolerate these where necessary those should be supplemented with other analgesics. There are however no confirmations, the effectiveness of NSAID in the specific condition of frozen shoulder treatment. For all 50 patients affected sides, Pretreatment Range of movement and post-treatment range of movement assessed in mean value expressed in degrees.

Table 2 shows the ROM of shoulder and follow up after 1 month and 1 year, specially abduction and external rotation. Table 3 shows the post-treatment same movement in degrees and found the increase range of movement. Among this 50 patients, 14 patients did very good (28%),

26 patients are good, Average or satisfactory 10 patients are (20%), Residual disability 20 patients 40% in the form of restricted movements. Mild pain on activity 5 patients (30%), No pain at all in 35 patients are (70%) (Table-4).

Recurrence after 1 month – 7 male patient (14%) and 19 female patients (38%), 21 patients shows recurrence (42%). After 1 year due to lack of physio or uncontrolled diabetic mellitus. 13 patients recurred after 3 years. 21% who required the treatment to start from beginning i.e. injection steroid 80 mg intra-articularly along with short period of NSAID and self physiotherapy.

Table No. 1 : Patient attended in Hospital / OPD & Private Chamber:

Number	Patient attended in Hospital / OPD		Private Chamber	
	38		12	
Sex	Male -22 (57.8%)	Female-16 (42.12%)	Male- 8 (66.6%)	Female-4 (33.3%)
Age	45 yrs	60 yrs	45yrs	55yrs
Associated Diabetic, HD pulmonary or renal disease	28 (73%)		10 (83.3%)	
Bilateral Affection	6 (15%)		6(50%)	

Table No. 2: Initial Range of movement at the time of Presentation measured in degrees

Affected Shoulder	Pre-treatment Abduction	Pre-treatment External Rotation	Pre-treatment Internal Rotation
Right side	20°- 30°	0-20°	0-5°
Left side	15°- 20°	0-18°	0-0°
Bilateral	30°- 40°	0-30°	5° -15°

Table no. 3 : Range of movement after treatment instituted:

Affected Shoulder	Post-treatment Abduction	Post-treatment External Rotation	Post-treatment Internal Rotation
Right side	90°-120°	10-20°	5°-70°
Left side	70°-120°	5°-35°	0-40°
Bilateral	30°-90°	30°-50°	15°-30°

Table-4: Result of treatment and patient's satisfaction regarding Pain relief and range of movements:

Conditions	Numbers	Percentage
Very Good	14	28 %
Good	26	52 %
Average	10	20 %
Residual disability	20	40%
Mild pain in activity	15	30%
No pain at all	35	70 %
Recurrence	Male -7 & Female -19	Male-14% & Female-38%
Recurrence after 1 year	21	42%
Recurrence after 3 year	13	26%

- Total no. of patients = 50

**Discussion :**

The frozen shoulder or adhesive capsulitis of shoulder joints a well defined and identified entity that involves a chronic inflammatory process that leads to global limitation of glenohumeral joint motion. Treatment decision for any disease process should be based on its pathophysiology, natural history. In the case of frozen shoulder, its natural history remains controversial. The time bound progression of adhesive capsulitis suggested by Neviaser's is debateable.

In 50 patients at the follow up of 5 years- recurrence or residual stiffness mentioned. Although various treatment modalities have been reported, Not one has shown consistent promising result. Other modalities of treatment, oral steroid – initially improved the frozen shoulder, but their effects did not last beyond 6 weeks. The adverse side effects of oral steroids are well documented and they should not be regarded as routine treatment for this condition. Superscapular Nerve block may be beneficial in terms of pain relief but not movement, and repeated joint distention may improve movement. Thus the choice of treatment modalities should be individualized on the basis of stage of the adhesive capsulitis.

The distension procedure should be reserved for patient in stage 2 who have no history of surgery or rotator cuff tears and who failed to progress after 3 months of physiotherapy. However we believe that this study has certain limitations such as lack of a control group and possible selection bias because greater number of patients who were in stage 2. In our experience most of the patients sought treatment second stage of the progression.

**Conclusion:** Frozen shoulder is a common, painful but ultimately, self limiting condition that is usually managed in the primary care setting with a combination of analgesics, injection and physiotherapy. Formal investigations are usually normal and the diagnosis is essentially clinical. Most cases can be managed in the primary care setting. Educating patients, play an important part in the management of the condition. A minority of patients require referral to an orthopedic specialist, where manipulation under anesthesia is the most common

method of treatment. Irrespective of treatment given a high proportion of patients with frozen shoulder, who do not regain a full range of motion or recur after some times

**Reference:**

1. Rizk TE, Pinals RS. Frozen shoulder. *Seminars Arthritis Rheumatism* 1982; 11;440-52.
2. Reeves B. The natural history of the frozen shoulder syndrome. *Scand J Rheumatol* 1976;4:193-6.
3. Shaffer B, Tibone JE, Kerlan RK. Frozen shoulder. A long term follow up. *J Bone joint Surg Am* 1992;74:738-46.
4. Bridgman JF. Periarthritis of the shoulder in diabetes mellitus. *Ann Rheum Dis* 1972;31:69-71.
5. Pal. B, Anderson J, Dick WC, Griffiths ID, Limitations of joint mobility and shoulder capsulitis in insulin and non insulin –dependent diabetes mellitus *Br J Rheumatol* 1986;25:147-51.
6. Bunker TD, Anthony PP. The pathology of Frozen Shoulder. A Dupuytren-like disease. *J Bone joint Surg Br* 1995;77:677-83.
7. Griggs SM, Ahn A, Green A, Idiopathic adhesive capsulitis. A prospective functional outcome study of nonoperative treatment. *J Bone joint Surg Am* 2000;82A:1398-407.
8. Moren Hybbenette I, Moritz U, Schersten B, The clinical picture of the painful diabetic shoulder-Natural history, social consequences and analysis of concomitant hand syndrome. *Acta Med Scand* 1987;221:73-82.
9. Bindar A, Buglen D, Hazemen B. Frozen Shoulder: an arthrographic and radionuclear scan assessment. *Ann Rheumat Dis* 1984;43:365-9.
10. Neviaser RJ, Neviaser TJ. The Frozen Shoulder. Diagnosis and management. *Clin Orthop Relat Res* 1987;223:59-64