

# A Case Report of 57 Year Old Male Having Post Fracture Stiffness of Right Shoulder with Supraspinatous Tear

## Case Report

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### Abstract

A case of lateral clavicle fracture associated with frozen shoulder is reported, which had reduced the abduction and lateral rotation due to frozen shoulder due to pain patient's fear of being unable to do any shoulder impact operation. MRI ruled out supraspinatous tear. Medical examination of the frozen shoulder confirms the diagnosis. He was successfully treated with the combination of physical therapy treatment with the TENS, IFT, ultrasound and shoulder girdle mobilization electrotherapy modality. Scope of motion comment per goniometer at 2, 4, 6, 8 weeks shoulder at. All the ranges are increased significantly.

**Key Word-:** Frozen shoulder, lateral fracture of clavicle, combine physical therapy, electrotherapeutic modality, shoulder mobilization.

### Introduction

Shoulder stiffness is the main complication after fracture shoulder immobilization and diabetics contribute to frozen shoulder which is the most common complication in diabetic mellitus patients. In the initial phase of adhesive capsulitis, patients may typically perform all of the everyday living operation despite pain, at which time patients can also suffer from sleeping disorder. Pain typically reduces during the second phase but minimal movement and patient is unable to perform everyday exercise. There are three stages of first phase adhesive capsulitis 2-9 months, second phase 4-12 months and third phase 5-26 months

<sup>1</sup>. Physiotherapeutic therapy is improving the frozen shoulder patient by almost 90 percent. Treatment with physiotherapy consists of physical therapy, behavioral exercises. The aim is pain relief, and movement normalization. Ultrasound therapy induces vasodilation that eliminates metabolitis from affected tissues and relieves muscle spasm. Transcutaneous stimulation of electric nerves is efficient in relieving pain. Therapeutic exercises include mobilization of soft tissue using cyriax process, peripheral mobilization to boost controlled ROM. In stage 2 frozen shoulder joint mobilization i.e. glenohumeral joint passive ROM mobilization along with active assisted ROM, strengthening and stretching exercises.

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### Patient information-

The patient is 57 year old male with right hand dominance and his body mass index 29kg/m<sup>2</sup>. He was the case of fracture clavicle of chief pain complaint on the right shoulder, he was diagnosed with fracture lateral 1/3 clavicle and was treated with conservative sling for 2 months due to immobilization for a long period of time, patients suffering from shoulder stiffness due to diabetic

patients, which may contribute to frozen shoulder. There was no previous surgical experience, and with the same reason no experience of hospitalization, there is history of diabetics and hypertension. Patient was initially able to perform elbow, wrist and finger ROM normally after 2 months removal of shoulder sling patient experiences extreme pain around the shoulder when shifting pain to interrupt the sleep of the patient and Pain is mostly at night due to pain patient's fear of not having to do both elbow and wrist movement.

### **Clinical findings-**

Musculoskeletal assessment was performed with drop arm test, apply's scratch test, Hawkins and NEER impingement tests, range of shoulder joint measured by goniometer after 2 week flexion 80 degree, extension 20 degree, abduction 60 degree, medial rotation 20 degree and lateral rotation 15 degree.

There is positive apply's test, Hawkins- Kennedy test, NEER impingement test.

### **Diagnostic assessment-**

Patient with x-ray prior to conservative management and shows lateral 1/3 clavicle fracture after removal of x-ray sling patient again showing fracture becoming united but patient complaint with severe pain. MRI patient after it shows degenerative changes in the acromioclavicular joint causing impingement over the supra spinatus tendon causing fiber thinning and mild edema suggesting partial tearing of the thickness.

### **Therapeutic intervention-**

Intervention type is physiotherapeutic exercises, self care

Therapeutic ultrasound, transcutaneous electrical nerve stimulation, interferential therapy, Russian current

is most effective, eight-week low-level laser therapy<sup>2</sup> can be more efficient than exercising alone in a four-week period, and work for up to two months.

### **Plan of care decided as per week-**

1. First 1-2 week- therapeutic ultrasound in continuous mode, interferential therapy in clover leaf pattern causes deep tissue effect which reduce pain and synchronized muscle tissue modality given to the patient 3 times a day each modality for 7-8 minute. In second week isometric exercise start shoulder isometric and grade 1 mobilization for 5 minute 4 times a day.

2. 3-4 week- low level laser therapy<sup>2</sup> and Russian current start for 8 minute also interferential therapy given for 8 minute for 4 times a day along with grade 1 mobilization for 10 repetition finger ladder upto the pain free movement for 5-6 repetition and 3 times a day effective in the reduction of pain, increase the shoulder abduction range in adhesive capsulitis<sup>3</sup>.

3. 5-6 week- patient treated through shoulder mobilization grade 1-2 along with therapeutic ultrasound and TENS<sup>4</sup>. Different exercises like codman's and finger ladder and mechanotherapy by shoulder wheel exercise. Shoulder isometrics active assisted, pectoral muscle stretches along with mobilization each isometrics hold for 10 sec. and for 20 repetition each 3-4 times a day.

4. 7-8 week- therapeutic ultrasound and low level laser therapy for 3 times a day each for 7-8 minute. Shoulder isometrics 10 sec hold and times a day, shoulder wheel 20 repetition and 4 times a day. Finger ladder 10 repetition each exercise 4 times a day it gives effective result to achieve normal range of motion and pain relief<sup>6</sup>. Pectoral muscle stretch, scapular rotation, shoulder flexion, extension, rotation supination-pronation, medial and lateral rotation for 10 times and home exercise program<sup>1</sup>.

**Follow up/ outcome- Goniometer measurement**

<b>Shoulder movement</b>	<b>First day</b>	<b>2 week</b>	<b>4 week</b>	<b>6 week</b>	<b>8 week</b>
Flexion	60	80	110	134	165
Extension	10	20	25	35	47
Abduction	30	60	80	140	165
Internal rotation	10	20	40	55	72
External rotation	5	15	25	37	50

Patient follow up for treatment 2 month on regular basis.

**Discussion-**

Mobilization of soft tissue along with home exercise supports patients suffering from frozen shoulder<sup>7</sup>. In this case of frozen shoulder patient had been able to return his previous work and ADL after getting combine regime for 8 weeks. TENS, and medical ultrasound, IFT, have been shown to help relieve pain<sup>3</sup>. Exercise and home software help to boost strength and endurance and to render flexible joints<sup>8</sup>. It's time for a cycle to take time and there are several challenges to recover the full range of frozen shoulder.

This case shows remarkable improvement in the treatment of frozen shoulder combining electrotherapeutic modality with manual therapy, mobilization and home exercise<sup>9</sup>. Best evidence and patient effort in physiotherapy and exercise at home provide successful results<sup>1</sup>.

**Conclusion**

Most of the evidence shows that after 45 years of illness, females are more likely to develop frozen shoulder than males. Pain usually presents symptoms, mainly abduction and external rotation limiting movement, tenderness, pain limiting the activity. Physiotherapy play important role in treatment of patients suffering from frozen shoulder. The treatment of primarily aims at relieving pain and increasing motion range<sup>10</sup>. Only manual therapy alone, does not give the satisfactory result along with electrotherapeutic modality with proper dose work on the patient.

**Ethics and Dissemination:** The approval of the Committee on Institutional Ethics must be obtained prior to the start of the study. Patients must be treated with respect first. Upon meeting the requirements of inclusion and exclusion criteria, the patients are taken for review

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**Conflict of Interest:** Nil

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