



ORIGINAL RESEARCH PAPER

Physical Medicine

ROLE OF PHYSICAL THERAPY IN THE MANAGEMENT OF ADHESIVE CAPSULITIS: A CLINICAL STUDY OF 60 PATIENTS.

KEY WORDS: Adhesive Capsulitis, Frozen Shoulder, Treatment.

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ABSTRACT

The shoulder is a very complex joint that is crucial to many activities of daily living. Decreased shoulder mobility is a serious clinical finding. A global decrease in shoulder range of motion is called adhesive capsulitis, referring to the actual adherence of the shoulder capsule to the humeral head. Adhesive capsulitis is a syndrome defined as idiopathic restriction of shoulder movement that is usually painful at onset. Secondary causes include alteration of the supporting structures of and around the shoulder, and autoimmune, endocrine or other systemic diseases. The three defined stages of this condition are the painful stage, the adhesive stage and the recovery stage. Although recovery is usually spontaneous, treatment with intra-articular corticosteroids and gentle but persistent physical therapy may provide a better outcome, resulting in little functional compromise.¹

INTRODUCTION

Adhesive capsulitis is a benign, self-limiting condition of unknown etiology characterised by painful and limited active and passive glenohumeral range of motion of $\geq 25\%$ in at least two directions^{2,3,4,5,6,7} most notably shoulder abduction and external rotation.

Adhesive capsulitis, commonly referred to as frozen shoulder, is associated with synovitis and capsular contracture of the shoulder joint and can be classified as either primary or secondary.^{2,3,4,5,7,8} In clinical practice it can be hard to differentiate adhesive capsulitis from other shoulder pathologies.² Since the physical therapy management of adhesive capsulitis is much different than that of other shoulder pathologies it can be detrimental to the patient if they are misdiagnosed. Therefore, it is important for the clinician to be aware of the hallmarks of frozen shoulder and recognise the clinical phases that are specific to this condition.²

MATERIAL AND METHOD

The present clinical study was conducted in OPD of DPMR, KGMU, Lucknow in which 60 patients were selected for the clinical study having complained of shoulder pain and stiffness. There is no special test for the diagnosis of a frozen shoulder, nor is there a diagnostic test like an x-ray or MRI to confirm the condition. A diagnosis is made by observing the Range of Motion, Impingement Sign, and Strength of the shoulder.

Range of Motion

- Forward elevation (maximum arm trunk angle).
- Abduction (note classic painful arc).
- External rotation (arm comfortably at side).
- External rotation (arm at 90° abduction).
- Internal rotation (highest posterior anatomy reached with thumb).

Impingement Sign

- Impingement II (passive forward elevation in the slight internal rotational).
- Impingement III (passive abduction 90° internal rotation).
- Impingement IV (passive adduction crossover).

Strength

- Forward flexion.
- External rotation (arm comfortably at side – teres minor / infraspinatus).
- Internal rotation (arm comfortably at side – subscapularis).
- Abduction – supraspinatus.

60 patients were included under three groups comprising patients. Group A were given only exercise, Group B were given hot pack with exercise whereas, Group C were given corticosteroid injection with exercise. Assessment might have been completed on day 0 follow up at 2 and 4th week by and numerical pain rate scale (NPRS)

OBSERVATIONS

TABLE 1. Age & Sex distribution of patients

Age group	Male	Female	Total	Percentage
32-40	8	16	24	40
42-50	10	21	31	51
52-60	3	2	5	8
Total	21	39	60	100

The patients were mostly of 31 -60 years and females were more affected in comparison to males.

Following treatment protocol was designed for the selected patients suffering from frozen shoulder.

Patients having severe pain were given corticosteroid injection. Those patients who have moderate pain were given hot pack in combination with exercise and the patients suffering from mild pain were only given exercise all patients were monitored after one week.

Some NSAIDs were also given and local application were also used to relief in inflammation the exercise was started, those exercise which were in protocol are as follows.

1. Pendulum stretch



Do this exercise first. Relax your shoulders. Stand and lean over slightly, allowing the affected arm to hang down. Swing the arm in a small circle — about a foot in diameter. Perform 10 revolutions in each direction, once a day. As your symptoms improve, increase the diameter of your swing, but never force it. When you're ready for more, increase the stretch by holding a light weight (three to five pounds) in the swinging arm.

2. Towel stretch



Hold one end of a three-foot-long towel behind your back and grab the opposite end with your other hand. Hold the towel in a horizontal position. Use your good arm to pull the affected arm upward to stretch it. You can also do an advanced version of this exercise with the towel draped over your good shoulder. Hold the bottom of the towel with the affected arm and pull it toward the lower back with the unaffected arm. Do these 10 to 20 times a day.

3. Finger walk



Face a wall three-quarters of an arm's length away. Reach out and touch the wall at waist level with the fingertips of the affected arm. With your elbow slightly bent, slowly walk your fingers up the wall, spider-like, until you've raised your arm as far as you comfortably can. Your fingers should be doing the work, not your shoulder muscles. Slowly lower the arm (with the help of the good arm, if necessary) and repeat. Perform this exercise 10 to 20 times a day.

4. Cross-body reach



Sit or stand. Use your good arm to lift your affected arm at the elbow, and bring it up and across your body, exerting gentle pressure to stretch the shoulder. Hold the stretch for 15 to 20 seconds. Do these 10 to 20 times per day.

5. Armpit stretch



Using your good arm, lift the affected arm onto a shelf about breast-high. Gently bend your knees, opening up the armpit. Deepen your knee bend slightly, gently stretching the armpit, and then straighten. With each knee bend, stretch a little further, but don't force it. Do these 10 to 20 times each day.

Starting to strengthen

As your range of motion improves, add rotator cuff–strengthening exercises. Be sure to warm up your shoulder and do your stretching exercises before you perform strengthening exercises.

6. Outward rotation



Hold a rubber exercise band between your hands with your elbows at a 90-degree angle close to your sides. Rotate the lower part of the affected arm outward two or three inches and hold for five seconds. Repeat 10 to 15 times, once a day.

7. Inward rotation



Stand next to a closed door, and hook one end of a rubber exercise band around the doorknob. Hold the other end with the hand of the affected arm, holding your elbow at a 90-degree angle. Pull the band toward your body two or three inches and hold for five seconds. Repeat 10 to 15 times, once a day.

TABLE 2. Different treatments given to the patient

Treatment	Number of cases	Percentage
Exercise	18	30
Hot Pack +Exercise	22	30
Corticosteroid injection+Exercise	20	33
Total	60	100

The treatment given to the patients were almost same with some alterations.

RESULT-

Treatment given to the patients	Excellent	Good	Fair	Poor	Worst	Total
Exercise	10	7	-	1	-	18
Hot Pack +Exercise	2	20	-	0	-	22
corticosteroid injection+Exercise	0	3	10	7	-	20
Total	12	30	10	8	-	60

Almost ,70 percent patients had excellent to good and 17 percent had fair results in 13 percent of cases poor prognosis.

CONCLUSION –

According to the treatment regime it was found that patients who were given hot pack in combination with exercise shows excellent result and the patient who were given corticosteroid injection in combination with exercise shows good result and the patients who were given only exercise shows fair result and NSAIDS were given to all the patients whenever required.

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