Case Report

Immediate effect of mulligan's mobilization with movement in frozen shoulder: A case report

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Abstract

Objective: To study the immediate effectiveness of Mulligan's Mobilization with movement in the treatment of Idiopathic frozen shoulder during Phase I of presentation among three phases. **Method:** The patient in this case report is a 57 year old diabetic male presenting with pain in the right shoulder joint with restricted range of motion in capsular pattern. The patient was treated with Postero-lateral glide of Mulligan's Mobilization with Movement in the first session, followed by scapular stabilization exercise and self-stretching to increase external rotation to be done regularly at home in a series of 10 repetitions twice a day for 2 weeks. **Outcome Measure:** NPRS and Shoulder Range of motion were variables of the study. These were recorded before and after the treatment session. **Result:** This study showed that patient had significant improvement in Range of motion of External rotation, abduction and flexion along with decrease in Pain intensity. **Conclusion:** The study confirms that Mulligan's Mobilization with Movement technique have proved their efficacy in relieving pain and improving range of motion in the Frozen Shoulder. Hence it should forma part of the treatment plan.

Key Words: frozen shoulder.

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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 sleeping on the affected side. He also identified the marked reduction in forward elevation and external rotation that are hallmarks of the disease. In 1945, Naviesarcoined the term "Adhesive Capsulitis". Onset before the age of 40 is very uncommon, peak age is 56year being more common in male than female. Non-dominant shoulder is more likely to be affected.[1]Shoulder pain with a subsequentrestrictionof movement is a common problem in both, the sports and working population.[2] The aetiology of Frozen Shoulder remains unclear. The disease process particularly affects the antero-superiorjoint capsule and the coracohumeral ligament. Evidence shows a synovial inflammation with subsequent reactive capsular fibrosis. A sense matrix of type I and type III collagen is laid down by fibroblasts and myofibroblasts in the joint capsule. Subsequently, this tissue contracts. Adhesive capsulitis leads to pain and functional disability as a result of limited range of motion of shoulder girdle. Although the natural history of adhesive capsulitis is not completely understood[3], patients experience the following stages of the condition: a freezing or painful stage, followed by stiffness, frozen or transitional phase, and finally a thawing phase, characterizes by increased range of motion.[4,5] Various treatments including mobilization and manipulation techniques, have been advocated for restoration of a pain-free state and normal use of upper extremity. Manual and manipulative treatment options for this condition include high velocity, low amplitude manipulation, end-range mobilization, mid-range mobilization and mobilization with movement of the shoulder only and/or shouldergirdle.[6] Mulligan's technique for peripheral joints combines sustained manual application of a "gliding" force to a joint with the aim of repositioning

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bone positional faults with concurrent physiological (osteo-kinematic) motion of the joint either performed actively by the subject or passively by the therapist.[7] It has been shown that Mulligan's technique can produce concurrent hypoalgesic effects during and following its application, as well as altering sympathetic nervous system function.[8]

CASE DESCRIPTION

The subject was a 57 year old male, having diabetes mellitus since 5 years. He presented with Pain in the right shoulder joint since 8 months which was continuous in nature and of throbbing quality, 6 on NPRS being the severity, while it could be aggravated by shoulder movements, mainly overhead activities and relieved by rest and medications. The subject also presented with restricted range of motion of the right shoulder joint. Clinical examination revealed grade I tenderness on RAI to direct palpation over anterior shoulder region on right side, no muscle spasm. Muscle strength of pectoralis major being 4+, supraspinatus, infraspinatus, deltoid and teres minor being 3+ within available range.

Table 1: Pre-treatment ROM

Movement	Active Range Of Motion (Degrees)		Passive Range Of Motion (Degrees)	
	Right	Left	Right	Left
Flexion	0-110	0-170	0-120	0-180
Extension	0-40	0-50	0-45	0-55
Abduction	0-90	0-160	0-95	0-170
Medial Rotation	0-60	0-62	0-70	0-70
Lateral Rotation	0-50	0-80	0-55	0-85

Treatment

Mobilization With Movement: Postero-Lateral Glide With Active Elevation.(Fig 1)

- The patient was made to sit on a stool with the arm by the side and head in neutral.
- Standing on the left side of the subject, a graded postero-lateral glide was applied to the right humeral head by left hand while stabilizing the right scapula with right hand.
- The glide was maintained throughout both, elevation and return to neutral position.
- It was ensured that the glide was pain-free, the pressure and direction of the force vector was altered using pain as a guide.
- The subject was told to perform elevation movement 10 times while the glide was sustained throughout.

Figure 1: Showing MWM

Scapular Stabilization Exercise

- Scapular Retraction in prone: Patient position and procedure: Prone with the arm over the edge of the table in a dependent position and a weight in the hand. Instruct the patient to pinch the scapulae together. (Fig 2)

Figure 2: (Scapular retraction Exercise in prone)

Self-Stretching to Increase External (Lateral) Rotation:

- Patient position and procedure: Sitting at the side of a table with the forearm resting on the table and elbow flexed to 90°. Have the patient bend from the waist, bringing the head and shoulder level with the table**.**

Figure 3: Self- Stretching Exercise in sitting position

Outcome

After performing 10 repetitions with sustained glide, the subject was asked to mark pain NPRS and the Range of Motion of the right sidewas measured by goniometer.

RESULT

After 1 session of Mulligan's mobilization with movement, which had 10 repetitions of active elevation with the glide sustained throughout, the patient was experiencing decreased pain i.e. 3 on NPRS post-treatment and increased Range of motion of abduction to 110°, lateral rotation to 65°, flexion to 130° of the right shoulder joint when measured with goniometer.

Table 2: Post-treatment ROM

Movement	Active Range Of Motion (Degrees)		Passive Range Of Motion (Degrees)	
	RIGHT	LEFT	RIGHT	LEFT
Flexion	0-130	0-170	0-135	0-180
Extension	0-40	0-50	0-45	0-55
Abduction	0-100	0-160	0-110	0-170
Medial Rotation	0-60	0-62	0-70	0-70
Lateral Rotation	0-60	0-80	0-65	0-85

DISCUSSION

Lundberg classified patients suffering from frozen shoulder into "primary" and "secondary". Primary adhesive capsulitis pertains to those patients who present with significant findings in the history, clinical examination, or radiographic evaluation to explain motion loss and pain. However, patients with secondary adhesive capsulitis disclose a trauma or surgery to the affected upper extremity prior to their shoulder symptomatology.[9] The patient in this case report, is classified as having primary frozen shoulder. Among the three phases, our patient was in phase I. Mulligan's technique was chosen for this study because it has the advantage of increasing range of motion in addition to providing analgesia.[10] The patient was taught exercises to do at home. The exercises were supposed to be performed for 2 weeks in a series of 10 repetitions, everyday two times.

CONCLUSION

Mobilization with movement done with postero-lateral glide performed 10 times glide in a session was effective in the first session. The patient was satisfied with the treatment due to decreased pain and increased range of motion.

REFERENCES

1. Richard D, Steven C, Samir M. Frozen Shoulder. BMJ VOLUME 331. 2005;331:1453-6
2. Harris JD, Griesser MJ, Copelan A, Jones GL. Treatment of adhesive capsulitis with intra-articular hyaluronate: a systematic review. Int J Shoulder Surg 2011; 5: 31–37. 2
3. Leung MS, Cheing GL. Effects of deep and superficial heating in the management of frozen shoulder. J Rehabil Med 2008; 40: 145–150.
4. Manske RC, Prohaska D. Diagnosis and management of adhesive capsulitis. Curr Rev Musculoskelet Med 2008; 1: 180–189.
5. Brantingham JW, Cassa TK, Bonnefin D, Jensen M, Globe G, Hicks M, et al. Manipulative therapy for shoulder pain and disorders: expansion of a systematic review. J Manipulative PhysiolTher 2011; 34: 314–346.
6. Nicholson GC. The effects of passive joint mobilization on pain and hypomobility associated with adhesive capsulitis of the shoulder. J Orthop Sports Phys Ther 1985; 6: 238–246.
7. Yang JL, Chang CW, Chen SY, Wang SF, Lin JJ. Mobilization techniques in subjects with frozen shoulder syndrome: randomized multiple-treatment trial. Phys Ther. 2007; 87: 1307–1315.
8. Paungmali A, O'Leary S, Souvlis T, Vicenzino B. Hypoalgesic and sympathoexcitatory effects of mobilization with movement for lateral epicondylalgia. Phys Ther. 2003; 83: 374–383.
9. Mohsen K. Adhesive Capsulitis: a case report. J Can ChiroprAsso. 2000:44(3).
10. Gokhan D, Zeynep G, Ayçe A, ReyhanCeliker. Evaluation of mulligan's technique for adhesive capsulitis of the shoulder. J Rehabil Med. 2013; 45: 87–91.

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