



Adhesive Capsulitis with Cervical Spondylosis, with Physical Therapy Interventions- An Evidence Based Case Study

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Abstract

Introduction: Rotator cuff lesion, a common clinical entity, mostly present with cervical spine lesion, physiotherapy plays a vital role in rehabilitation of these subjects.

Aims and Objectives: This case presentation was to analyze the impact of specific exercises to shoulder and neck using neck and shoulder disability index.

Materials and Methodology: 54 year male diabetic subject with left shoulder and cervical spine pain and restricted movement was treated between October 2017 to November 2017 with weekly thrice using PA glide, closed kinematic chain exercise, shoulder bracing exercises.

Results: pre and post neck and shoulder disability index were statistically analyzed with $p < 0.01$.

Conclusion: while rotator cuff lesions are treated, cervical spine also to be evaluated and treated with due physiotherapeutic means was the major reports of this study.

Keywords: Adhesive capsulitis, Neck and shoulder disability index, Closed kinematic chain exercises, Posterior anterior glide.

Introduction

According to the American shoulder and elbow surgeons “A condition of uncertain etiology characterized by significant restriction of both active and passive shoulder motion that occurs in the absence of the known intrinsic shoulder disorder (Janson et.al., 2011). Musculoskeletal

disorders are common with computer desk level – work related activities comprises a wide spectrum. It defines the problems arising due to inflammatory and degenerative disease (Gokhan et.al., 2013) and among diabetic subjects it has been associated with painful restriction in ROM and can reduce function and quality of life.

Prevalence

In common, adhesive capsulitis other than diabetes mellitus by many studies has an incidence of approximately 2% to 5% of the general population (Jacobs et.al., 2009). Patients with diabetes are at greater risk of developing adhesive capsulitis and neck pain with prevalence of 10-20% in India (Tore MD 2017).Among diabetic subjects adhesive capsulitis recorded to be 30% in 40-60 age group (Zerik et.al., 2016).Therapeutic with evidence such as TENS, ICT (jacob et.al., 2015) therapeutic exercises (Hanuman et.al., 2016)

Etiology

Etiology of adhesive capsulitis with an insidious and progressive loss of an active and passive mobility in the Gleno-humeral joint is presumably due to capsular contracture (Uppal HS 2015).Risk factors for adhesive capsulitis include diabetes mellitus, stroke, connective tissue diseases, thyroid disease, COPD, autoimmune disease. (hanuman singh et.al., 2016).Pain of the shoulder region limits the patients with adhesive capsulitis from performing activities of daily living (ADL) and this results in decreased ROM and muscle endurance. (Sander 2000)

Aims & Objectives

This original case study was to analyze the efficacy of specific exercises for shoulder and cervical spine using neck and shoulder disability index.

Postero-Anterior Glide



Materials & Methodology

➤ A 54 year old male with known type II diabetic subject on metformin for the past 17 years with HbA1c at 8%, working in Tamilnadu government service in chennai operating system for 6 hours/ day complains with left shoulder and cervical spine pain since last 6 months and restricted movement of shoulder and he was treated between October 2017 to December 2017 with weekly thrice in Physiotherapy department using PA glide, closed kinematic chain exercise shoulder bracing exercises. Pre and Post shoulder disability scale were recorded and analyzed statistically.

BMI: 26 kg/m². Waist circumference: 95cms

O/E: Anteverted scapula (left), Trapeztitis, Forward head posture, Obliterated cervical lordosis, Quadrant test positive and foraminal compression test positive, restricted cervical spine movements, abduction, lateral rotation, restricted left shoulder, weakness of triceps, Thenar eminence muscles recorded

Clinical Impression

Adhesive Capsulitis and cervical spondylosis, c4, c5 and c7.

Treatment

Posterior anterior glide, Closed kinematic exercises, Strengthening of triceps and Thenar muscles, Shoulder bracing, Posture correction.



Serratus Anterior Exercise



Cervical Spine Exercises



Results

➤ He was treated with weekly three sessions during the period from October 2017 to December 2017, pre and post shoulder and

neck index were recorded and analyzed statistically as below

➤ Table of results of pre and post shoulder and neck disability index using student 't' test

TESTS		MEAN	SE	SD	T	P
SHOULDER	PRE	77	14.43	8.33	3.01	<0.01
	POST	52				
NECK	PRE	32	11.02	6.6	3.03	<0.01
	POST	12				

Discussion

24% of the patients with cervical radioculopathy have reported painful shoulder impingement (Robinson 2012) and pain in the neck may represent referred pain in the shoulder girdle along with shoulder pain (cannon et al 2007)

Overlapping presentaion of pain and dysfunction that can result from cervical spine and shoulder disorders treating as reported with evidence. (book shan etal 2016) physiotherapist should consider both while evaluating.

Strength variation among cervical lesion depends on myotome involved (woods and hillibrand 2015) as this subject was having C7 (Triceps) strenghthening of triceps and thenar eminence muscles were given as supported. (Hannafin JA et al 2000) have showed among 23 subjects shoulder muscles strenghthening resulted in resolution of neck pain in 20 subjects.

Yang J et.al., 2012 has shown that the musculoskeletal problems on neck (65.9%), shoulder (59.9%) among 105 subjects. Johnson et.al., 2007 suggested that postero-anterior glide mobilization was more effective for improving external rotation ROM in patients with adhesive capsulitis as this subjects was treated with same technique.

Grubbs N et al 1993 among 30 subjects with adhesive capsulitis have recorded with movement and mobilisation and improved shoulder pain and disability index similar to results of this study findings.

This study subject was treated with serratus anterior strenghthening as supported with numerous studies (Vermeulen et al 2006) among patients with shoulder pain and altered posture with protracted shoulder.

Critical Analysis of this Study

- i. Only subjective evaluation on therapy outcome was analysed.
- ii. Study was of shorter duration.
- iii. This diabetic, obesity parameters were not analysed.
- iv. Only exercise therapy means were used.

Limitations of this study were apart from being a case study, future studies with longer duration follow up with control groups, comparative studies with other physiotherapy modalities are highly recommended.

Conclusion

A Detailed evaluation and appropriate physiotherapy ensures good therapeutic outcome, hence while treating shoulder ailments, cervical spine also needs to be examined and treated duly is the core aim of this original case presentation.

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