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Effect of Functional Taping Over Bicipital Tendinitis

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Abstract: ***In bicipital tendinitis patient complaint of pain over anterior shoulder which is a result of mechanical irritation of the tendon and subacromial compression or any trauma. The aim of this case report is to present evaluation and treatment of young male who's an athlete which mainly involves smashing or passing shot while playing badminton and difficulty in holding objects sometimes as well. We concentrated on improving his muscle strength and biomechanical alignment in addition to conventional treatment strategies to help him do ADLs. The functional taping effect was seen which was given for 2 weeks. Results show early recovery and effectiveness of taping over bicipital tendinitis.***

Keywords: Bicipital tendinitis, Functional taping, strengthening exercises

1. Introduction

In the general population, the lifetime prevalence of shoulder pain has reached 67%[1]. The most common cause of shoulder pain is biceps tendinitis, which is an inflammation of the long head of the biceps muscle. Codman conducted a detailed investigation into the concept of biceps tendinitis in 1934. It is caused by tendon mechanical irritation, subacromial compression, or any trauma.2Primary biceps tendinitis occurs in 5% of cases, and it is often followed by secondary impingement syndrome.3While anterior shoulder pain, increased sensitivity in the bicipital groove, and speed and Yergason tests appear to be positive, they are not.4Functional taping is a technique that uses a specialized tape that is both elastic and stretchable to provide non - medicated muscle and joint pain relief by providing support while still increasing blood circulation.

2. Case Presentation

A 38years old male patient presented with a complaint of pain over anterior shoulder. Subjective examination - the patient gave history of pain while playing badminton mainly in smashing or passing shot, riding bike for more than 3 kilometers, difficulty in holding objects sometimes as well. When this pain was unbearable to him the patient came to Physiotherapy department. For this along with traditional intervention used for the same, are Cryotherapy, Ultrasound, shoulder eccentric exercises and deep transverse friction massage. In this study in order to reduce pain and to improve strength use of functional taping over shoulder region up to2 weeks was used. This was more beneficial in this patient and was also effective in long term period to be symptoms free daily activities.

Clinical findings - On observation patient had pain which is intermittent in nature and 6 on NPRS during activity and 4 on NPRS while on rest. On inspection patient had swelling over anterior aspect of shoulder. On palpation tenderness was seen which is grade 1 over anterior aspect of right shoulder. And ranges of shoulder abduction are painful and incomplete and on muscle examination scapular muscle strength is grade 3+. and biceps strength is grade 2+. Diagnosis - Diagnosis was done on the basis of subjective and objective examination for Bicipital tendinitis. Prognosis of patient was good; he was an athlete and was well oriented & educated. he was very co - operative. he was actively participating in our exercise protocol.

3. Therapeutic Intervention

A4 - week treatment protocol which is on daily basis was given. A session initially started with Cryotherapy (Ice Pack) application for 15mintue over anterior and posterior regions of shoulder. Then Ultrasound 0.8 watt/Cm² for 7minutes given, these helped in pain reduction[5]. To reduce an increase in pain on pull or push and overhead activities taping over bicipital area was done.

After 1 week the patient is asked to follow the commands to perform biceps strengthening along with scapular strengthening with the help of Half Kg Dumb bell.

There was an effect on the reduction of the symptoms of the patient which were pain, reduce strength and limited range of motion of shoulder in right hand.

Begin by cutting a Y shape out of kinesiology tape. Start about 2 inches below the elbow with the tape's base on the inside of the arm. One Y piece should run along the outside of the upper arm, while the other should run along the inside of the upper arm.

The same procedure was continued for 2 weeks after which patient's symptoms were minimized as to the day of assessment. Outcome measures used for the evaluation of the symptoms were NPRS Scale for Pain, Manual Muscle Testing (MMT) for Strength.

Table 1: Week wise exercise protocol

Weeks	Protocol	Duration
Week 1	Cryotherapy Ultrasound	15 min 0.8 watt/cm2 for 7 minutes
Week 2	Taping	24 hours a day
Week 3	Taping	24 hours a day
Week 4	Biceps strengthening Scapular strengthening	2 sets of 10 Repetitions a day


Figure 1 & 2: Y shape Functional Taping for bicipital tendinitis

Outcome

On observation patient had reduced pain which was intermittent in nature came to 2 on NPRS during activity and 1 on NPRS while on rest. On inspection patient had reduced swelling over anterior aspect of shoulder. On palpation tenderness disappeared over anterior aspect of right shoulder. And there are complete ranges of shoulder movement. on muscle examination scapular muscle strength became grade 4 and biceps strength grade 4.

Table 2: MMT of muscles Pre and Post

MUSCLES	GRADES	
	Pre	Post
BICEPS	2+	4
SUPRASPINATUS	3	4
INFRASPINATUS	3	4
TERES MINOR	3	4
SUBSCAPULARIS	3	4

4. Discussion

In the study by Thelen MD, Dauber JA, Stoneman PD. The clinical efficacy of kinesio tape for shoulder pain: a randomized, double - blinded, clinical trial showed that the therapeutic KT group showed After applying the tape, there was an immediate change in pain - free shoulder abduction (mean SD rise, 16.9° 23.2°; P =.005). Clinicians can find KT useful in improving pain - free active ROM in patients with shoulder pain shortly after applying tape.[6]

G. Fratocchi, F. Di Mattia, R. Rossi, M. Mangone, V. Santilli, and M. Paoloni. Influence of Kinesio Taping on Elbow Peak Torque during Isokinetic Movement. A placebo - controlled study in a population of young healthy subjects showed as compared to a PT, KT raises concentric elbow peak torque in a population of healthy participants when applied over the biceps brachii.[7]

Another study of Mostafavifar M, Wertz J, Borchers J. A thorough analysis of kinesio taping's usefulness in treating musculoskeletal injuries. Shoulder musculoskeletal injuries were the subject of two studies. The first concluded that there was inadequate data to conclude that KT lessens pain and disability in young patients with shoulder impingement/tendinitis, but the second found that KT can temporarily relieve pain in individuals with shoulder impingement.[8]

According to Genç, Erdinç & Duymaz, Tomris. (2020). Effectiveness of kinesiotaping in bicipital tendinitis treatment: A randomized controlled trial result of study, It was discovered that combining KT with exercise therapy reduced pain intensity, increased pain threshold, improved functional level, and improved quality of life.[9]

In our study we applied taping for 2 weeks and there was an immediate effect in mid - range of the healing injury. The present study showed effect of taping for 4 weeks is effective in improving his condition.

5. Conclusion

Taping for bicipital tendinitis along with scapular strengthens was found to be effective in patients with pain and reduced strength. As compared to initial session patient recover very fast his initial pain rating was 8\10 numerical rating scale on activity & at last session it was 2/10 after taping & exercises. Even his muscle strength also improved.

Informed Consent

Yes, Informed consent had taken from the patient.

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