

Rehabilitation of Tennis Elbow (*Lateral epicondylitis*) with Physical Therapy: A Case Report

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ABSTRACT

One of the most common arm problem is Lateral elbow tendinopathy (LET), commonly referred to as tennis elbow and/or lateral epicondylitis. The term tendinopathy is used to describe tendon disorders of chronic overuse that form a group of pathologies, a disease continuum. This condition is commonly seen in middle-aged adults with a highest incidence of 40 and 50 years, affecting lateral part of the forearm of the extensor tendons. Typically, it is a work-related or sport-related pain condition triggered by prolonged sudden, monotonous, repeated eccentric contractions and wrist gripping behaviours. The dominant arm, with a prevalence in the general population of 1-3 percent, is generally affected. Here we are reporting a case with lateral epicondylitis treated with physiotherapy. A 48 year old male who was a truck driver by occupation reported with complaint of lateral epicondylar pain for three months. Physical therapy included stretching, ultrasound, home exercises and strengthening program for wrist extensors. Timely initiation of physiotherapy rehabilitation led to enhanced functional recovery.

KEY WORDS: LATERAL EPICONDYLITIS, TENNIS ELBOW, PHYSIOTHERAPY, HOME EXERCISE PROGRAMME, TENDINOPATHY, MILLS MANIPULATION.

INTRODUCTION

(Stasinopoulos et al., 2005) One of the most common arm lesions is Lateral elbow tendinopathy (LET), commonly referred to as tennis elbow and/or lateral epicondylitis. The term tendinopathy is used to describe tendon disorders of chronic overuse that form a group of pathologies, a disease continuum. (Speers et al., 2018) This condition is commonly seen in middle-aged adults with a highest incidence of 40 and 50 years, affecting lateral part of the forearm of the extensor tendons.

Typically, it is a work-related or sport-related pain condition triggered by prolonged sudden, monotonous,

repeated eccentric contractions and wrist gripping behaviours. (Stasinopoulos et al., 2005) The dominant arm, with a prevalence in the general population of 1-3 percent, is generally affected. (Blanchette et al., 2011) It should be noted that the word "tennis elbow" is inappropriate since only 5 to 10 percent of cases are tennis players, but racket sports activity raises the risk of developing and can develop this condition for 40 to 50 percent of players. (Bisset et al., 2015) It happens most often in men and women.

While the clinical signs of LET are evident and easy to diagnose, no optimal cure has yet emerged. As the therapy of choice for LET, many practitioners support a conservative approach. Physiotherapy is a conservative procedure generally prescribed for patients with LET. (Stasinopoulos et al., 2005) Most popular physical therapy rehabilitation is the exercise programme for LET. Basically, exercise programme involves: exercises performed in clinical setting and home exercise programs. (Speers et al., 2018) Among those employed in high-risk industries involving loaded and frequent gripping and/or wrist extension

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operations and racquet sports players, there is a greater prevalence. (Speers et al., 2018) In terms of individual risk factors, age, profession, hobbies, or prior injury, the combination of excessive loading triggers the transition from normal tendons to degenerative tendinosis.

Patient Information: A patient 48 year old male patient, a 25 year-old truck driver working at yavatmal, his last job as a bus driver in this area, who has three months of lateral epicondylar pain. Hand dominance- right handed, general health is good and no such related previous history was noted. He did not fulfill his normal working hours and responsibilities, and due to the severity of his symptoms, he was not able to perform his recreational activities like running and household hobbies such as gardening. Repeated use of right hand and arm exacerbated the symptoms that gets revived by rest. After daily usage of 2-4 hours of the right wrist and hand, some residual discomfort was noted rather the pain was sporadic. Then he visited to AVBRH hospital for physiotherapy treatment.

Clinical Findings: Patient was examined in sitting position and complained of pain in right elbow on lateral aspect, as well as in the olecranon, as radiated to the 3 and 4 extensors of the muscle compartments. The discomfort was accentuated by bending activities and weathered elbow and wrist extension movements. On physical examination, vital signs including temperature were normal, pulse rate 78 beats/min, RR- 22 breaths/min, and BP-124/80 mmhg. VAS for pain rating in this case was 6/10. Tenderness was noted on palpating the tendinous insertion during clinical evaluation at the lateral epicondyle. The palpatory test is regular and the active mobility, symmetric with normal ranges, with regular posture of the cervical trunk. During the mobility test, no neurologic signs were present.

Specific test

1. Pain-free grip strength, Positive if grip strength reduced
2. Thomsen Test was positive. The severity of the pain was noted 7/10 on VAS.
3. Maudsley Test was positive. The severity of the pain was noted 6/10 on VAS.

Physiotherapeutic Rehabilitation: The patient underwent routine physiotherapy for 15 days in the orthopedic hospital ward from an experienced orthopedic physiotherapist. The goal should be to improve strength and endurance capability, normalize the flexibility of the forearm muscle, and improve co-ordination. During rehabilitation process, pain should be reduced and load increases must be carefully managed in a graded way. Treatment techniques can include: topical anti-inflammatory non-steroidal medicine for short term pain relief, taping or strapping (aims at discharging typical tendon of extensor origin to minimize pain); and brace devices for counterforce.

In the short term, physical therapy procedures such as soft tissue mobilization, transverse friction or massage

therapy can be effective. In this case, pain control for the patient, learning appropriate exercises, was the main points of the treatment. A 3-month home regimen of concentric/eccentric forearm exercises reportedly produced greater decreases in pain but not work, compared with a wait-and-see approach. From the second week manual therapy was given twice a week using following maneuvers: Mills manipulation, elbow mobilization with motion, and varus thrust manipulation. Following this clinical treatment, for next two weeks patient is explained to perform home exercise. After four weeks of follow-up, patient noted decline in level of pain more than fifty percent. On VAS, Thomsen test was positive with 3/10 severity and Maudsley test was positive with intensity of 2/10.

Follow Up and Outcome: The patient was eager and motivated to do physiotherapy and did whatever he was asked to do. The patient's home exercise routine was also complicated. He did frequent home exercises and frequently visited the department as well. The patient was mentally fit, which was a positive attribute that allowed him to be appropriately treated.

DISCUSSION

This is the case of 48 year old male, truck driver who works in yavatmal since 25 years, his last job as a bus driver in this area, who has three months of lateral epicondylar pain. He did not fulfill his normal working hours and responsibilities, and due to the severity of his symptoms, he was not able to perform his recreational activities like running and household hobbies such as gardening. Repeated use of right hand and arm exacerbated the symptoms that gets revived by rest. After daily usage of 2-4 hours of the right wrist and hand, some residual discomfort was noted rather the pain was sporadic. The 3-month home regimen of concentric/eccentric forearm exercises reportedly produced greater decreases in pain but not work, compared with a wait-and-see approach. (Hides et al., 2008) The key points of the care in this case were pain control for the patient, learning appropriate exercises.

The goal was to improve strength and endurance capability, normalize the flexibility of the forearm muscle, and improve co-ordination. During rehabilitation process, pain was supposed to be reduced and load increase must be carefully managed in a graded way. Rehabilitation objectives were formulated with regards to reduced range of motion and weakness. Improvement in the strength of the muscle is one of the important outcome measures (Wane et al., 2020). (James et al., 2020, Spencer et al., 2017, Murray et al., 2019 and Vos et al., 2020) Related articles from GBD Studies were reviewed. (Fatema et al., 2021 and Saoi et al., 2013) Studies on related disorders and management were reported by Darda et. al., Nagrale et. al. and Saoji et. al. (Nagrale et al., 2009) Combination of various manual therapy techniques and exercise regimen was beneficial in reducing the patient's symptoms and helping him to have a speedy recovery, hence it is essential to have a

targeted and appropriate physical therapy for positive outcomes.

CONCLUSION

The above study concludes that early physiotherapy rehabilitation led to enhancement in functional goals of the patient which stands a major understanding towards a successful recovery.

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Informed Consent: Proper consent was taken from patient's son for writing case report.

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