

**Research Article****Tennis Elbow Managed By Intralesional Steroid Injection: A Prospective Study**Dr. Maruthi CV<sup>1\*</sup>, Dr. Venugopal N<sup>2</sup><sup>1</sup>Assistant Professor, Department of Orthopaedics, MVJ MC and RH, Hoskote, Bangalore-562 114, India<sup>2</sup>Professor, Department of Orthopaedics, MVJ MC and RH, Hoskote, Bangalore-562 114, India**\*Corresponding author**

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**Abstract:** Tennis elbow is the most common soft tissue disorder seen in the rural population who are having farming. One of the reasons is being, use of upper limb for cutting the crops. Here is a study conducted by us in the rural population in and around Hoskote to study the probable aetiology and effect of intralesional steroid. 30 cases of tennis elbow were managed with intralesional steroid between March 2009 and October 2013. And followed at 6, 12 weeks and results were evaluated using Verhaar criteria. We achieved results as 70% excellent, 30% good. We conclude that Tennis elbow is the most common soft tissue disorder seen in the people who will do farming by cutting crops. Intralesional steroid relieves the symptom.

**Keywords:** Tennis elbow, Cutting crops, Intralesional steroid, Verhaar criteria

**INTRODUCTION**

Tennis elbow is the most common soft tissue disorder seen in the rural population who are having farming. One of the reasons is being use of upper limb for the cutting the crops. Here is a study conducted by us in the rural population in and around Hoskote to study the probable aetiology and effect of intralesional steroid.

**MATERIALS AND METHODS**

30 cases of tennis elbow were managed with intralesional steroid between March 2009 and October 2013. And followed at 6, 12 weeks and results were evaluated using Verhaar criteria.

**Table 1: Scoring system for the results of treatment based on the criteria of Verhaar et al (1993)**

Excellent	Complete relief of pain on the lateral epicondyle
	Patient satisfied with the result of treatment
	No subjective loss of grip strength
	No pain provoked by resisted dorsiflexion of the wrist
Good	Occasional slight pain on the lateral epicondyle after strenuous activities
	Patient satisfied with the result of treatment
	No or slight subjective loss of grip strength
	No pain provoked by resisted dorsiflexion of the wrist
Fair	Discomfort on the lateral epicondyle after strenuous activities but at a more tolerable level than before treatment
	Patient satisfied or moderately satisfied with the result of treatment
	Slight or moderate subjective loss of grip strength
	Slight or moderate pain provoked by resisted dorsiflexion of the wrist
Poor	No decrease of pain on the lateral epicondyle
	Patient dissatisfied with the result of treatment
	Severe subjective loss of grip strength
	Severe pain provoked by resisted dorsiflexion of the wrist

**RESULTS**

In our study 16(56.67%) patients were between 20 and 30 years, 12(26.66%) between 31 and 40 years and 4(16.67%) between 41 and 50 years. All of them were males 30(100%). All gave history of crop cutting as

their occupation since 2 to 3 years. The right side was affected in all thirty cases (100%). Radiologically sclerosis at the lateral epicondyle (Fig. 1) was seen in all the cases.

All were treated with analgesics, physiotherapy and rest for few months and were not relived with the symptoms.

Results were evaluated using Verhaar criteria. We achieved 70% excellent, 30% good.



**Fig. 1: Sclerosis at the lateral epicondyle**

**Table 2: The results according to the Verhaar criteria**

	Excellent	Good	Fair	Poor
Complete relief of pain on the lateral epicondyle	21			
Patient satisfied with the result of treatment	21			
No subjective loss of grip strength	21			
No pain provoked by resisted dorsiflexion of the wrist	21			
Occasional slight pain on the lateral epicondyle after strenuous activities		9		
Patient satisfied with the result of treatment		9		
No or slight subjective loss of grip strength		9		
No pain provoked by resisted dorsiflexion of the wrist		9		
Discomfort on the lateral epicondyle after strenuous activities but at a more tolerable level than before treatment			-	
Patient satisfied or moderately satisfied with the result of treatment			-	
Slight or moderate subjective loss of grip strength			-	
Slight or moderate pain provoked by resisted dorsiflexion of the wrist			-	
No decrease of pain on the lateral epicondyle				-
Patient dissatisfied with the result of treatment				-
Severe subjective loss of grip strength				-
Severe pain provoked by resisted dorsiflexion of the wrist				-

**Injection technique**

Under aseptic precautions one ml of 40 mg of triamcelone and one ml of 2% lignocaine was injected to the origin of extensor carpi radialis brevis (Fig. 2). Patient got immediate relief from pain because of lignocaine.



**Fig. 2: Injection to the origin of extensor carpi radialis brevis**

**Follow up**

Patients were given B-complex supplements for next follow-up as placebo, and no one was advised to take any kind of analgesics.

Patients were followed at 6 and 12 weeks. They were completely pain free and were started there farming.

**Complications**

Discolouration of the skin was seen in 17 of our patients, and the complication was explained prior to injection and later reassurance was given.

**DISCUSSION**

The most common overuse syndrome is related to excessive wrist extension and commonly referred to as “tennis elbow,” but it is actually more common in non-tennis players. It is also commonly referred to as lateral epicondylitis, but this is usually a misnomer because, in general, microscopic evaluation of the tendons does not show signs of inflammation, but rather angiofibroblastic degeneration and collagen disarray. Light microscopy reveals both an excess of fibroblasts and blood vessels that are consistent with neovessels or angiogenesis [1].

The tendons are relatively hypovascular proximal to the tendon insertion. This hypovascularity may predispose the tendon to hypoxic tendon degeneration and has been implicated in the etiology of

tendinopathies [2]. Most typically, the primary pathology is tendinosis of the extensor carpi radialis brevis (ECRB) tendon 1-2 cm distal to its attachment on the lateral epicondyle [2, 3]. The typical age of those affected is 40 to 50 years. The patient complains of pain over the lateral elbow that worsens with activity and improves with rest. The patient will also often describe aggravating conditions such as a backhand stroke in tennis or the overuse of a screwdriver. Palpation: Maximal tenderness is elicited 1-2 cm distal to the origin of the ECRB at the lateral epicondyle. Pain is increased with resisted wrist extension, with the wrist radially deviated and pronated and the elbow extended. Resisted extension of the middle finger is also painful secondary to stress placed on the ECRB tendon, as it is preferentially stressed in this position when it must contract synergistically to anchor the third metacarpal, such that extension can take place at the digits [4]. Plain films may reveal calcification along the lateral epicondyle. A local anesthetic block may lead to symptom resolution and confirmation of the diagnosis.

Nonsteroidal anti-inflammatory drugs, watchful waiting, physiotherapy, laser therapy acupuncture, tennis elbow splint, extracorporeal shock wave therapy and surgery are the different modalities of the treatment for the tennis elbow. Here However, corticosteroid injections were significantly better than both watchful waiting and physiotherapy at 6 weeks [5]. Decreases inflammation by suppressing migration of polymorphonuclear leukocytes and reversing capillary permeability. Corticosteroid injection one study demonstrated administering a corticosteroid injection as having superior efficacy in pain relief at 6 weeks when compared with physiotherapy that consisted of ultrasound, massage, and exercise. However, the authors noted that corticosteroid injection was not as effective as physiotherapy at 12 weeks.[5] Smidt et al found that administering a corticosteroid injection decreased pain in lateral epicondylitis at 6 weeks but not beyond that period. In our study we achieved pain relief at all in 12 weeks.

## CONCLUSION

By our study we have come to the conclusion that tennis elbow is most common soft tissue disorder in farmers who are doing crop cutting work. Intralesional steroid provides better pain relief in them if other conservative modalities fail.

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