

## Role of Local Corticosteroid Injection in the Management of Tennis Elbow

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Received: 18/04/2016

Revised: 21/04/2016

Accepted: 25/04/2016

### ABSTRACT

**Introduction:** Tennis elbow affects 1 - 3% of general population; the reported incidence among tennis players is a 5 - 8%. Lateral epicondylitis can occur during activities that require repeated supination and pronation of the forearm with the elbow in near full extension. Most of patients with tennis elbow can be managed conservatively; treatment is successful in 95% of patients.

**Methods and Materials:** The present study titled "Role of local corticosteroid injection in the management of tennis elbow" was conducted in postgraduate Department of Orthopaedics, Bone and Joint Hospital Barzulla Srinagar from June 2012 to November 2013. 80 patients with tennis elbow of either sex were included in the study. After taking written informed consent all the patients received local steroid injection (triamcinolone 20 mg mixed with 1 ml of injection lignocaine 2 %).

**Results:** Out of 80 patients in our study 55 (68.75%) patients obtained complete relief of pain at six weeks time. But at final follow-up of 12 weeks only 15 (18.75%) patients were pain free. At 12 weeks follow-up 50% (40) of patients had recurrence of symptoms.

**Conclusion:** In patients with tennis elbow use of corticosteroid should be limited to short term use only.

**Keywords:** Tennis elbow, corticosteroid injection, pain.

### INTRODUCTION

Tennis elbow also known as lateral epicondylitis is a condition characterized by pain and tenderness over the lateral epicondyle of the humerus and pain on resisted dorsiflexion of the wrist. [1] Tennis elbow affects 1 - 3% of general population; the reported incidence among tennis players is a 5 - 8%. [1] Lateral epicondylitis can occur during activities that require repeated supination and pronation of the forearm with the elbow in near full extension. [2] Tennis elbow was first described by Runge in 1873. [3] Although originally described as

an inflammatory process, the current consensus is that lateral epicondylitis is initiated as a micro-tear, most often within the origin of extensor carpi radialis brevis. [1,2] Microscopic findings show immature reparative tissue that resembles angiofibroblastic fibroplasia. [2-4] The diagnosis of tennis elbow is made by localizing by discomfort to the origin of the extensor carpi radialis brevis. [2] Tenderness is present over the lateral epicondyle approximately 5mm distal and anterior to the mid-point of the condyle. [1] Pain usually is exacerbated by resisted wrist dorsiflexion

and forearm supination and there is pain when grasping objects. [1,2] Plain radiographs usually are negative occasionally calcific tendinitis may be present. MRI shows tendon thickening with increased T1 and T2 signal. [2] Most of patients with tennis elbow can be managed conservatively; treatment is successful in 95% of patients. [1,2] Initial non-operative management includes rest, ice, local corticosteroid injections, physical therapy with ultrasound, manipulation and soft tissue mobilization, friction massage, stretching and strengthening exercises and counterbracing. [2,4] We evaluated short term results of local steroid injections in the management of tennis elbow.

## MATERIALS AND METHODS

The present study titled “Role of local corticosteroid injection in the management of tennis elbow” was conducted in postgraduate Department of Orthopaedics, Bone and Joint Hospital Barzulla Srinagar from June 2012 to November 2013. 80 patients with tennis elbow of either sex were included in the study. Ethical clearance was taken from the Ethical Committee of Govt. Medical College Srinagar. Diagnosis of tennis elbow was made on clinical examination. The patients with more than 3 months of complaints duration and those recently treated with corticosteroids or physiotherapy were excluded. Also patients having

bilateral elbow involvement and those having other elbow pathologies were excluded from this study. A record of patient’s pain using visual analogue scale (VAS) was obtained at the start of study using a range of 0 to 10, with 0 representing no pain and 10 worst pains ever experienced. After taking written informed consent all the patients received local steroid injection (triamcinolone 20 mg mixed with 1 ml of injection lignocaine 2 %). Patients were followed at six weeks and final follow-up was done at 3 months. “We used SPSS software version 16 for the calculation of p- value in our study. SPSS software was used for statistical analysis in our study”

## RESULTS

The patients in our study ranged in age from 28 to 60 years with mean age of 43.5 years. 52 (65%) patients were males and 28 (35%) patients were females. Right side was involved in 46 (56%) patients and left side was involved in 34 (42%) patients, right side was involved more than left side. In our patients, the median VAS pain score at the start of study was 7 (range 4-10) which decreased to a mean score of 2 (range 0-8) at 6 weeks time. Statistical analysis revealed a significant decrease in score ( $p < .001$ ). But at 3 months (12 weeks) follow majority of patients had recurrence of symptoms VAS score at 3 months ranged from 0 to 10 with median VAS score of 6.

Visual analogue Sale (VAS)	At the start of study	At 6 weeks	At 12 weeks
0-3	0	55(68.75%)	15(18.75%)
4-7	26(32.5%)	15 (18.75%)	25(31.25%)
8-10	54 (67.5%)	10 (12.5%)	40 (50%)

Out of 80 patients in our study 55 (68.75%) patients obtained complete relief of pain at six weeks time. But at final follow-up of 12 weeks only 15 (18.75%) patients were pain free. At 12 weeks follow-up 50% (40) of patients had recurrence of symptoms.

## DISCUSSION

Tennis elbow is a common clinical disorder of unknown etiology; the condition

is widely believed to originate from repetitive overuse with resultant micro-tearing and progressive degeneration due to immature reparative process. [4] Haker et al [5] compared local corticosteroid injection with epicondylitis bandage and splinting. The results for steroid injection were better in two weeks time, but recurrence was detected in 44% of patients in 6 months and results of physical examination were better similar in both groups at 12 months. Smidt

N et al [6] reported that corticosteroid injection were more effective in 3-6months time compared to control or drugs group but at 3-12 months the results of injections were no better than control. Bisset et al [7] reported that the local corticosteroid injections are effective in short term, but results were worst as compared to the other treatment modalities like physiotherapy. Gosens et al [8] compared the results of two groups of patients with chronic lateral epicondylitis. The first group was treated by PRP injection, and the second group was treated by corticosteroid injection; both groups significantly improved across time. After 2 years of follow-up, the DASH score of the corticosteroid group returned to baseline levels while those of the PRP group significantly improved.

## CONCLUSION

In patients with tennis elbow use of corticosteroid should be limited to short term use only.

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How to cite this article: Dar IH, Mussa M, Sath S et al. Role of local corticosteroid injection in the management of tennis elbow. Int J Res Rev. 2016; 3(4):36-38.

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