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Functional Outcome of Steroid Injection in Lateral Epicondylitis: A Prospective Study

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Abstract

Tennis Elbow or Lateral Epicondylitis, is most commonly encountered case in day to day Orthopaedic practice. It is an injury involving the extensor muscles of the forearm. These muscles originate on the lateral epicondylar region of the distal humerus. Lateral epicondylitis affects 1-3% of population. Lateral epicondylitis can occur during activities that require repetitive movements of supination and pronation of the forearm with the elbow in near full extension. Most of patients with tennis elbow can be managed conservatively. In this study we have analysed the functional outcome of steroid injections in the management of lateral epicondylitis. The present study is the Functional outcome of steroid injection in lateral epiconylitis, done at Department of Orthopaedics, Sree Mookambika institute of medical sciences from September 2022 to March 2024. 60 patients with tennis elbow of either sex were included in the study. After taking written informed consent all the patients received local steroid injection (2ml of Methylprednisolone 40 mg mixed with 2 ml injection of lignocaine 2%). Out of 60 patients in our study 41 (68.3%) patients obtained complete relief of pain at six weeks' time. But at final follow-up of 12 weeks only 14 (24.35%) patients were pain free. At 12 weeks follow-up 40% (24) of patients had recurrence of symptoms. In patients with lateral epicondylitis, use of methylprednisolone had good response for short term use and showed to be an excellent treatment. This procedure has advantages such as, very low cost, mini-invasive, with low surgical risk and short hospitalization.

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Key Words

Tennis elbow, corticosteroid injection, methylprednisolone

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INTRODUCTION

Tennis Elbow or Lateral Epicondylitis, is most commonly encountered case in day to day Orthopaedic practice. The forearm muscles and tendons become inflamed by repetitive works. -repeating the same motions and this leads to pain and tenderness over the lateral condyle of elbow. There are various treatment options for lateral epicondylitis, In major cases, treatment involves a team approach. Primary doctors, physical therapists and in some cases, surgeons work together to provide the most effective care[1]. Lateral epicondylitis affects 1-3% of population. 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[2]. Pain usually is exacerbated by resisted wrist dorsiflexion and forearm supination and there is pain when grasping objects. Plain radiographs usually are negative occasionally calcific tendinitis may be present[3]. MRI shows tendon thickening with increased T1 and T2 signals. Microscopic findings show immature reparative tissue that resembles angiofibroblastic fibroplasias. In this study we have analysed the functional outcome of steroid injections in the management of lateral epicondylitis.

MATERIALS AND METHODS

This is a prospective study done at Department of Orthopaedics, Sree Mookambika institute of medical sciences from September 2022 to March 2023 to study the Functional outcome of steroid injection in lateral epicondylitis. 60 patients with tennis elbow of either sex were included in the study. 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 0-10, with 0 representing no pain and 10 worst pains ever experienced.

After getting written informed consent, all the patients received steroid injection (2ml of Methylprednisolone 40 mg mixed with 2 ml injection of lignocaine 2%) Patients were followed at six weeks and final follow-up was done at 3 months.

RESULTS AND DISCUSSIONS

The patients in our study ranged in age from 20 to 60 years with mean age of 44 years. 52 (65%) patients were males and 28 (35%) patients were females. Right side was involved in 48 (57%) patients and left side was involved in 32 (40%) 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. Out of 60 patients in our study 41 (68.3%) patients obtained complete relief of pain at six weeks' time. But at final follow-up of 12 weeks only 14 (24.35 %) patients were pain free. At 12 weeks follow-up 40% (24) of patients had recurrence of symptoms.

Haker *et al.* in his study gave a comparison of local corticosteroid injection with epicondylitis bandage and splinting[4]. The results for steroid injection was found to be better in two weeks time, but recurrence was detected in 44% of patients in 6 months and results of physical examination were almost similar in both groups at 12 months time[5]. Smidt *et al.* in his studies reported that corticosteroid injection was more effective in 3-6 months time compared to control or drugs group but at 3-12 months the results of injections was not better than control[6]. Bisset *et al.* reported that the local corticosteroid injections are effective in short term, but he also stated that results were worst as compared to the other treatment modalities like physiotherapy[7].Gosens *et al.* made a comparison between 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[2]. After 2 years of follow-up, when he checked the DASH score , the score of the corticosteroid group returned to baseline levels while those of the PRP group was drastically improved.

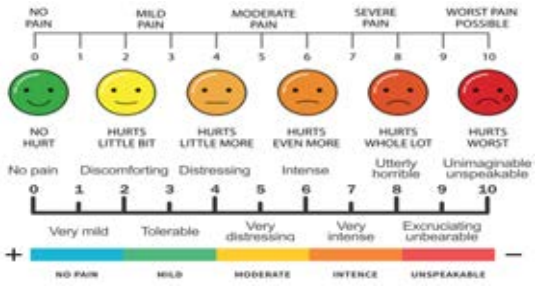

Fig. 1 : Shows visual analogue scale (VAS)

Fig. 2 : Shows a vial of Methylprednisolone

Table 1 : Shows the VAS at start of the study , 6 weeks and 12 weeks.

Table 1: VAS score and duration Visual Analogue Scale (VAS)	At the start of study	At 6 weeks	At 12 weeks
0-3	0	42 (70.00%)	14 (24.35 %)
4-7	20 (31.75 %)	11 (17.50 %)	22 (35.65%)
8-10	40 (68.25 %)	7 (12.50 %)	24 (40.00%)

CONCLUSIONS

In patients with lateral epicondylitis, use of methylprednisolone had good response for short term use and showed to be an excellent treatment. This procedure has advantages such as, very low cost, mini-invasive, with low surgical risk and short hospitalization.

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