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Orthopaedics

SHORT TERM STUDY OF LOCAL STEROID INJECTIONS FOR TENNIS ELBOW

Dr Sachin Phirke	Professor, Department of Orthopedics, Dr. D. Y. Patil Medical Collage, Hospital and Research institute, Kolhapur.
Dr Amol Gowaikar	Assistant Professor, Department of Orthopedics, Dr. D. Y. Patil Medical Collage, Hospital and Research institute, Kolhapur.
Dr Suraj Deshmukh	Junior Resident, Department of Orthopedics, Dr. D. Y. Patil Medical Collage, Hospital and Research institute, Kolhapur.
Dr Aditya Kasture*	Junior Resident, Department of Orthopedics, Dr. D. Y. Patil Medical Collage, Hospital and Research institute, Kolhapur. *Corresponding Author
Dr Shivaji Koli	Junior Resident, Department of Orthopedics, Dr. D. Y. Patil Medical Collage, Hospital and Research institute, Kolhapur.
Dr. Mit Nadapara	Junior Resident, Department of Orthopedics, Dr. D. Y. Patil Medical Collage, Hospital and Research institute, Kolhapur.

ABSTRACT Patients with a complaint of pain lateral epicondyle of the humerus (tennis elbow) are mainly treated with a local corticosteroid injection to reduce inflammation and relieve pain and disability. The objective of the study is to evaluate the local corticosteroid injection effect on lateral epicondylitis (tennis elbow). Study cases were selected on Outpatient department bases and assessed the methodological quality This is a prospective type of study that includes patients' complaints of pain over the lateral epicondyle of the humerus (tennis elbow) administered with corticosteroid injection and reported one clinically relevant outcome. An evidence-based study was conducted. Around 15 comparison study was included in the review, comparing non-steroidal such as oral steroid, ultrasonic therapy and physiotherapy with corticosteroid injection .injection with local anaesthetic Almost all studies had very poor internal outcome scores. For short-term results at 4 weeks), in this study statistically significant and clinically relevant differences were found in pain, significant improvement in grip strength after corticosteroid injection compared to non-Steroid treatment, local anaesthetic, and conservative treatments (2). “For intermediate (4 weeks–6 months) and long-term outcomes” (1)(5) (6 months), statistically significant or clinically relevant results in favour of the corticosteroid injections were found. Based on available evidence that shows better short-term effects of corticosteroid injections for lateral epicondylitis, it is possible to draw a firm conclusion on the effectiveness of steroid injections. beneficial effects were found for pain relief in lateral epicondylitis (tennis elbow) in short-term follow-up. **Objectives** The short-term effects of local corticosteroid injection, as treatments for lateral epicondylitis(tennis elbow) in primary care. Specifically to find out clinically whether the pain reduction experienced by patients who are given the Inj. Triamcinolone 40mg 1ml plus Inj. Dexamethasone 8mg 1ml in the short-term would be realized within the first 4 weeks of treatment and to attempt to assess how much pain relief may be associated with the injection initially.

KEYWORDS :

INTRODUCTION

Tennis elbow is a term that describes a pattern of pain and localized tenderness on the lateral epicondyle of the distal humerus on the lateral aspect of the elbow. The anatomical basis of this condition is an injury to the extensor carpi radialis brevis (ECRB) (figure no.1) origin that appears to be multifaceted, mainly involving hypovascular zones, eccentric and repeated stress to the ECRB tendon, and macroscopic degenerative changes(4). Although many treatments have been advised in different studies, this article discusses the treatment of steroid injection for lateral epicondylitis (3).

Lateral epicondylitis known as Tennis elbow was first described in 1883 by Major as a condition causing lateral elbow pain in tennis players. This condition is mostly observed in tennis players, so this term is become synonymous with all lateral elbow pain, even though the condition is most often related to work and many patients who have this condition don't play tennis. It has been seen that however the10–50% of people who routinely play tennis will develop the condition at some time during their careers. Recent studies on biomechanics demonstrated that the eccentric contractions of the ECRB muscle during backhand tennis swings, especially in beginner players, are the likely cause of repetitive eccentric contractions of ECRB Cause microtrauma that causes tears in the tendon and lateral epicondylitis. Some other proposed causes of lateral epicondylitis aka tennis elbow, are trauma to the lateral region of the elbow, relative hypo vascularity of the region, and fluoroquinolone antibiotics. Compared to medial-sided elbow pain is known ad Golfer's elbow Incidence of Lateral epicondylitis occurs much more frequently, with ratios reportedly ranging from 4:1 to 7:1. In the general population, the incidence is almost equal among men and women, and in tennis players, the male players are more frequently affected than female players. The disorder occurs more often in the dominant hand. The average age of a patient who has lateral epicondylitis is between 25 to 40 years, with bimodal distribution among the general population(6). Acute onset of symptoms of this condition more often occurs in young athletes.

Materials and Methods

1. Study Setting

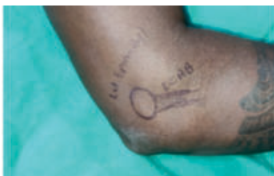
This Prospective study was carried out in a Dr D. Y. Patil Hospital and Research Institute, Kolhapur, Between December 2020 to March 2021 we include Patients aged >18 years with a clinical diagnosis of lateral epicondylitis, or lateral elbow pain increased by pressure on the lateral epicondyle, and during restricted dorsiflexion of the wrist (Mill's Test Positive), disease duration more than 2 months, no improvement after taking treatment of oral NSAIDs and ultrasonic therapy, baseline Vas Score >5, excluding patient with coexisting disease such as trauma to elbow, neoplastic lesion patient with previously taken any kind of steroid injection for the same On the day of treatment (day 0) and at the 1-week follow-up, the following 47 patient data were collected: grip strength of both hands; pain score on a visual analogue scale (VAS) for grip strength test, pronated symptomatic arm (of these two VAS scores, only the larger was used as a measure of pain at the activity); VAS pain score for the elbow at rest. The clinical examination included clinical elbow Tenderness at the common extensor origin, lateral humeroradial joint line, and epicondyles lateralis humeri. The summation of these three sites generated a clinical elbow pain measure ranging from 0 to 10. The average Vas score was calculated. The following parameters were obtained as prognostic indicators of short-term outcome: duration of symptoms, and age, to compare disease in the dominant

versus non-dominant arm. The patients were examined first clinically. Grip strength was determined. All patients received a full account of the study design and Written informed consent was taken from the study subjects before enrolling them in the study. (4)

2. Treatment

Corticosteroid injection has been one of the most common interventions in lateral epicondylitis(8). The Controlled trials evaluated the effects of corticosteroid injections compared non-Steroid treatments such as Oral NSAIDs, Ultrasonic therapy and Physiotherapy injection with local anaesthetic, dexamethasone and triamcinolone(4). Although all evaluated evidence showed Good short-term effects of corticosteroid injections for lateral epicondylitis in terms of improvement in pain relief and grip strength, The patient was injected with a cocktail of Inj. Triamcinolone 40mg 1ml plus Inj. Dexamethasone 8mg 1ml, performed with the patient's arm resting flexed on a firm surface by peppering technique, The dexamethasone and triamcinolone were drawn up in the same syringes. After cleansing the skin, lignocaine was injected deep into the subcutaneous tissues and muscles 1 cm distal to the lateral epicondyle and aimed toward the tender spot (figures no. 2 and 3). After multiple injections were given at the most tender spot in multiple directions to increase the effectiveness of the injection. The needle was withdrawn cleanly and firm pressure was applied. Patients were observed for 1 hour before going home and advised elbow rest, Tab. Tramadol and paracetamol (tab. Ultracet) for 2days.

Following the treatment, all patients were invited to keep a Weekly record of their pain intensity and medication use over 3 weeks using a diary. The instruction was: "For the first 1 week from the start of your treatment, please mark how much pain you have had." Pain severity was measured on a 10-point scale, with a reduction of VAS Score >3 representing Good, >2 as moderate, > 1 as Mild Improvement, for no improvement in Vas score From baseline or increase the severity considered lack of improvement.



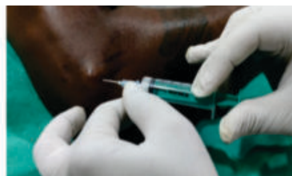


Figure no – 1. Marking of the tender spot.
Figure no – 3. Showing injecting steroid injection

Results

The study sample size(n-47), male: female -22.25, study sample mean age of 37.04 ± 4.5 years and symptoms duration around 8.23 ± 4.5 weeks. The most common etiological facture is idiopathic, in 3 male patients seronegative spondyloarthropathy, Rheumatoid arthritis in 5 female and 1 male.

Gender wise seronegative spondyloarthropathy is more common in males and rheumatoid arthritis is common in females. In comes to observation the right limb is more common than the left limb (Right-32, Left-15) not a single case reported bilateral involvement.

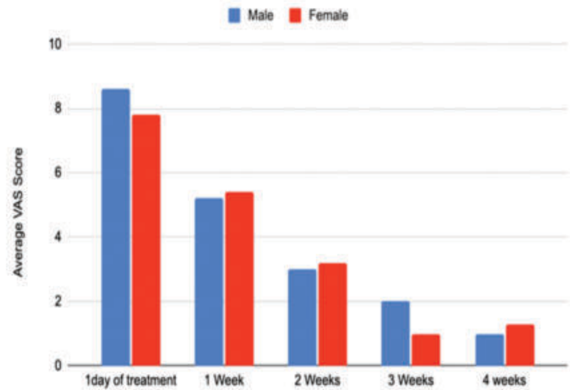
The baseline visual analogue score was 8 to 9 on the first day of consultation, the significant decrement was noted on subsequent follow-ups (p-<0.0001), 1 week follow up 35 patients had good improvement in symptoms, 3 patients showed moderate and 2 patients showed mild improvement, 3 patients had no improvement. On 4 week follow up 39 patients showed excellent improvement, 1 doesn't improve 7 patients fail to report to follow-ups.

Post administration of corticosteroid injection patient was kept on analgesic drugs for 48 hrs and none of the patients had any major side effects related to the injection.

All patient advice post-procedure to keep the treated limb in an arm sling for 24 hours.

Table no-1

	1day of treatment	1 Week	2 Weeks	3 Weeks	4 weeks
Male	8.6	5.2	3	2	1
Female	7.8	5.4	3.2	1	1.3



DISCUSSION

study of steroid injection for tennis elbow (lateral epicondylitis) shows a beneficial effect of a Cocktail of Inj. Triamcinolone 40mg 1ml plus Inj. Dexamethasone 8mg 1m therapy, in resistant cases of a tennis elbow (lateral epicondylitis), is one of the commonest pains full condition of musculoskeletal disorders. The maximum patients had shown Good improvement in the 1st week after injection, which was sustained for a month. Recent studies have shown that corticosteroid injections have given good pain relief but have a high rate of recurrence. In the limited follow-up data of this study, the study has shown a reduction in recurrence with the combination of an anaesthetic agent with the corticosteroid Steroids give immediate and excellent pain relief after the local injection leading to Patient Strat's excessive use of the arm. eventually, that is one of the major reasons accountable for the high chances of recurrence rates with the use of steroids. Therefore, all the patients are strictly advised to rest their arm in a sling for the 24–48 h post-procedure.

The family Doctor is often the first person of contact with patients of lateral epicondylitis. They are anticipated to be aware of disease etiopathogenesis and recognize the accurate therapeutic approach and make it an early referral of resistant cases for a specialist consultant. This helps in decreasing the morbidity associated with lateral epicondylitis. The local anaesthetic used in our study, lignocaine, also has certain properties that make the cocktail therapy effective. It has the synergistic action with a steroid and prolongs the duration of the action of the steroid. lignocaine injection is also used as a diagnostic agent before the steroid injection. A remarkable improvement of the pain after a lignocaine injection predicts a good response to the following steroid injection.

Many other invasive treatments studied by the researchers include Platelet-rich plasma (PRP), the botulinum toxin, and growth factors. None of them published research and meta-analyses could signify the ideal treatment for chronic lateral epicondylitis. The controversy is also there regarding the condition's pathogenesis and mechanism, which causes lateral epicondylitis.

Recent studies have shifted their focus from an inflammatory process to a degenerative process. This is established despite a fact that most trials and studies show using steroids has shown immediate and consistent benefit in the condition. The recent literature is overwhelmed with many more studies showing the beneficial effects of the growth factors, Platelet-rich plasma PRP, or whole blood. The favourable outcome of the blood and the blood products is primarily mediated by platelets released growth factors that help in tissue repair and regeneration. Even though our study showed the benefit of combination Steroid drug therapy has certain restrictions such as less study sample size, patients from the single ecological background, and deficiency of the placebo arm for comparison. (2)(7)

CONCLUSION

The study shows the use of a Cocktail of Inj. Triamcinolone 40mg 1ml plus Inj. Dexamethasone 8mg 1m and Local Anaesthetic for Lateral epicondylitis (Tennis Elbow) in Patient previously treated with NSAIDs Or Ultrasonic Therapy. The Study Finding is more relevant for Developing countries, where Patients with this condition cannot get ultrasonic or botulinum toxin therapy. Further, the much larger number of patients for this study with randomization is essential to identify a better treatment modality in patients with chronic lateral epicondylitis.

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