

ORIGINAL RESEARCH

Tennis elbow treatment with triamcelone injection: A prospective study

¹Dr. Monesh KB, ²Dr. I Suresh, ³Dr. Prasanna TY

¹Assistant Professor, Department of Orthopaedics, Rajarajeshwari Medical College, Bangalore, Karnataka, India

²Professor, Department of Orthopaedics, Rajarajeshwari Medical College, Bangalore, Karnataka, India

³Associate Professor, Department of Orthopaedics, Rajarajeshwari Medical College, Bangalore, Karnataka, India

Corresponding Author

Dr. Monesh KB

Assistant Professor, Department of Orthopaedics, Rajarajeshwari Medical College, Bangalore, Karnataka, India

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ABSTRACT

Aim: The aim of the present study was to determine how effective triamcinolone acetonide was in the alleviation of pain in tennis elbow.

Methods: The study was conducted on the patients between 20 and 50 years of age who had positive clinical tests (were included in the study). The study included 200 patients.

Results: There were 130 men and 70 women in this research. One-quarter of the patients experienced involvement on the right side. According to age distribution, majority of the patients belonged to 20-30 years followed by 31-40 years and 41-50 years. There was statistical significance in the difference in means of pain score obtained using both VAS score at 12 weeks and 24 weeks. The outcome findings were superb in 180, good in 12, fair in 6 and bad in 2.

Conclusion: The study showed that triamcinolone acetonide is a useful preparation in the relief of tennis elbow.

Key words: Tennis elbow, triamcelone injection, treatment

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INTRODUCTION

Injection of a corticosteroid preparation into the sore region in tennis elbow (lateral humeral epicondylitis) is typical clinical practice.^{1,2} Following the injection, many individuals have an aggravation of their symptoms before they find relief from them 2 to 3 days later. Although most patients react effectively to injection with corticosteroid preparations, the prevalence of recurrence of symptoms at 6 months is considered to be significant.³

Tennis elbow is related to accumulated microtrauma from repeated wrist extension and alternate pronosupination of forearm with angiofibroblastic degeneration of the common extensor origin.⁴ There are several therapy options available, indicating no one method is beneficial in this illness. Common treatment includes physiotherapy, immobilization, and steroid injection.⁵ This therapy associated with a high probability of relapse and recurrence. This is due to intralesional steroid injection leads to permanent alterations inside the structure of the tendon and owing to misuse of the arm after injection as a consequence of immediate pain alleviation.⁶ Ultrasound treatment also has gained popularity. In

short-term research, utilising whole blood, Edward, and Calandruccio⁶ claimed 78% favourable outcomes in treating tennis elbow with the necessity of numerous injections.

Pain with resisted wrist extension and local elbow discomfort are the hallmark symptoms of individuals who report with chronic lateral epicondylar tendinopathy (tennis elbow). The discomfort is caused by small tears in the extensor carpi radialis brevis muscle leading to the development of angiofibroblastic dysplasia.⁷

The current research aimed to assess the efficacy of triamcinolone acetonide in relieving discomfort associated with tennis elbow.

MATERIALS AND METHODS

The study included individuals aged 20 to 50 years who had favourable results in clinical tests. The study included 200 patients in total.

This study did not include individuals with elbow arthritis, cervical spine issues, infection, myositis, prior elbow injuries, previous steroid injections, or surgical procedures.

The study examined the initial pain intensity and pain alleviation level one week after injecting 40 mg (1 ml) of triamcinolone acetonide without local anaesthetic into the tender region using the visual linear analogue technique, known for its simplicity, reliability, and reproducibility. The primary focus of the research was using Visual Analogue Scale (VAS) to assess pain intensity in patients. Furthermore, local discomfort, pain during wrist extension, grip strength, and elbow

swelling were assessed throughout different follow-up periods.

The last follow-up included evaluating clinical and functional results, which were analysed using statistical methods. Patients were assessed at weekly, 3-week, 2-month, 4-month, 6-month, and 12-month intervals.

The findings were analysed using descriptive statistics in SPSS version 20.

RESULTS

Table 1: Gender distribution and side involved

Gender	N	%
Male	130	65
Female	70	35
Side involved		
Right	150	75
Left	50	25

In the present study, there were 130 males and 70 females. 75% patients had right side involved.

Table 2: Age distribution

Age groups in years	N	%
20-30	112	56
31-40	58	29
41-50	30	15

According to age distribution, most of the patients belonged to 20-30 years followed by 31-40 years and 41-50 years.

Table 3: Distribution of the study participants according to the VAS

VAS	VAS pre-procedure	VAS week 12	VAS week 24
Mean	6.74	1.55	1.64
Std. Deviation	1.120	0.898	0.960
Median	7	1	2
Inter-quartile range	6-8	1-2	1-2
Mode	6	1	2
Minimum	5	0	0
Maximum	9	4	4

There was statistical significance in the difference of means of pain score obtained using both VAS score at 12 weeks and 24 weeks.

Table 4: Outcome

Outcome	N	%
Excellent	180	90
Good	12	6
Fair	6	3
Poor	2	1

The outcome results were excellent in 180, good in 12, fair in 6 and poor in 2.

DISCUSSION

Lateral epicondylitis of the elbow is a common issue in general practice, occurring at a rate of 4-7 cases per 1000 people each year.⁸⁻¹⁰ The condition is identified by discomfort and sensitivity around the lateral humeral epicondyle, as well as pain when dorsiflexion and radial deviation of the wrist are resisted. It often resolves on its own within 6-12 months, although symptoms may persist for up to 2 years or more.¹¹ Due

to significant pain and suffering, many patients need time away from work.

The study consisted of 130 males and 70 women. 25% of the patients had symptoms affecting the right side. The majority of patients were in the age groups of 20-30 years, followed by 31-40 years and 41-50 years, based on age distribution. Smid *et al.*¹² conducted a review of 13 randomised, controlled studies that assessed the impact of corticosteroid injections in comparison to placebo injections, injections with local

anaesthetic, and injections with dexamethasone and triamcinolone. The findings indicated that corticosteroid injections were effective in providing short-term pain relief and improving grip strength for lateral epicondylitis. However, no positive benefits were seen during intermediate- or long-term follow-up.

The difference in means of pain scores derived using VAS scores at 12 weeks and 24 weeks showed statistical significance. The results were excellent in 180 cases, good in 12 cases, fair in 6 cases, and poor in 2 cases. Altay *et al.*¹³ conducted a study comparing the treatment of 60 patients with 2 ml lidocaine to 60 patients treated with 1 ml lidocaine and 1 ml triamcinolone. Injections were administered using a peppering method involving 40-50 injections. A study examined the arm, shoulder, and hand impairments score, grip strength, and pain levels in 31 patients who had injections of lidocaine plus dexamethasone versus 33 patients who received lidocaine alone.¹⁴ In a third study, 19 participants were randomly assigned to undergo rehabilitation and a dummy injection, whereas 20 subjects were assigned to receive rehabilitation and a corticosteroid injection. There was no statistically significant difference between the two groups in terms of pain questionnaire responses, visual analogue pain scale ratings, and grip measurements at 4, 8, and 24 weeks ($P < 0.05$). Both groups showed considerable improvement over time, with over 80% of participants reporting better outcomes from the beginning to 6 months ($p < 0.5$).¹⁵ Price *et al.* (2016) discovered that the first reaction to steroid treatments was notably superior than lidocaine ($p < 0.5$), but, after 24 weeks, the levels of enhancement were comparable. The fact that caught attention was that over half of the patients treated with steroids had an aggravation of pain after the injection.

CONCLUSION

Triamcinolone acetonide was shown to be an effective preparation for the treatment of tennis elbow, according to the findings of the research.

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