



ORIGINAL RESEARCH PAPER

Orthopaedics

A STUDY TO EVALUATE THE MANAGEMENT OF LATERAL EPICONDYLITIS

KEY WORDS: Triamcinolone acetate , lateral epicondylitis , lignocaine

Dr. Sunil Kumar Dewangan

Asst Professor , Dept of Orthopaedics , Raipur Institute of Medical Sciences, Raipur , CG , India

Dr Navin Singh*

Asst Professor , Dept of Orthopaedics , Raipur Institute of Medical Sciences, Raipur , CG , India *Corresponding Author

ABSTRACT

Introduction: Tennis elbow or lateral epicondylitis is a painful condition causing significant morbidity in patients. It is one of the most common painful disorders that are encountered in the clinical practice. There is a paucity of evidence-based data, which establish superiority of a particular treatment modality over others. Hence this study to evaluate the treatment modality with Triamcinolone acetate and Lignocaine

Method: Study was designed as prospective study. Study was conducted in patients attending orthopaedic outpatient department (OPD) during study period and who were ready to participate were included in the study. Verbal consent & data was collected from them by interview technique. A pre-designed, structured questionnaire was used to collect necessary information. The patients were subjected to visual analog scale (VAS) and numerical pain scale on a scale of 1–10. The patients were injected with Triamcinolone acetate 40 mg (1 ml) and lignocaine (1 ml) locally at the site of the tendon.

Results: Among Total 67 patients participated in the study After 5 days , 50 patients showed good improvement, 10 patients showed moderate improvement, 5 patients showed mild improvement, and 2 patients had no improvement.

Conclusion: We demonstrated the beneficial effect of the local infiltrations with steroids and lignocaine in resistant cases of tennis elbow.

INTRODUCTION

Lateral epicondylitis / Tennis Elbow is a painful, condition causing significant morbidity in patients.¹ The condition is one of the most common painful disorders that are encountered in the clinical practice by the family physicians. It is related to the overuse of the extensor tendons of the forearm although relatively little is known about its natural history.² The disease leads to significant curtailment in the mobility of the wrist and also affects the quality of the life. The disease is characterized by the tenderness at the epicondyle. The pathophysiological basis is poorly understood and is characterized by the degenerative process, injury, inflammation, and repair mechanisms.³ On the basis of the pathophysiological mechanisms, growth factors and bone marrow elements have been tried to augment the local repair.⁴ The management of resistant cases includes local injections with PRP, autologous blood, prolotherapy, steroids, extracorporeal shock wave therapy, and anesthetic agents.⁵ There is a paucity of evidence-based data, which establish superiority of a particular treatment modality over others.⁶ The data on the management of lateral epicondylitis from India are even scantier.^{7,8} Previous studies have shown the benefits of steroids in resistant cases.⁹ Local steroid injection has been shown to give a consistent, predictable short-term relief from the pain, and the movement limitation.¹⁰ Hence, we conducted this study to evaluate the response to local infiltration with steroids and lignocaine in resistant cases of lateral epicondylitis attending a hospital in a rural area.

METHODOLOGY

After local ethical committee approval study was done Over a period of 7 months .A Prospective Study was conducted in Orthopaedics Department of a tertiary Medical Institute of Raipur District CG, India among cases attending orthopaedic outpatient department (OPD) during study period and who gave consent to participate, having more than one month of pain and no relief by Analgesics / Physiotherapy were included in the study. Cases who were not ready to participate , patients with any coexisting major illness, local trauma, or neoplastic lesion were excluded from the study. Sample size was 67 .

After explaining purpose of the study and obtaining verbal consent, data was collected from them by interview technique. A pre-designed, structured questionnaire was used to collect necessary information. Questions were mainly

pertaining to their complaints. The clinical findings and X-ray findings were obtained from individual case records prepared by resident doctors and other faculty members of orthopaedic department. The patients were subjected to visual analog scale (VAS) and numerical pain scale on a scale of 1–10. The VAS was assessed at the baseline and should be more than 4 for inclusion into the study and local injection therapy.

A significance level of 0.05 was used in all analyses. Information was analysed by using the Microsoft Excel and SPSS (Version 20 , IBM , USA) . Chi square test was used to test the statistical significance.

RESULTS

The patients were injected with Triamcinolone acetate 40 mg (1 ml) and lignocaine (1 ml) locally at the site of the tendon. Close watch was kept for any systemic side effect. The improvement in pain is graded based on the quantum of change in the VAS score. A reduction by ≥ 3 is termed as good, ≥ 2 as moderate, and ≥ 1 as mild improvement The study population (n = 67) had a mean age of 39.2 ± 5.5 years . After 5 days , 50 patients showed good improvement, 10 patients showed moderate improvement, 5 patients showed mild improvement, and two patients had no improvement. the rate of improvement at 28 days in all the patients, and one patient who did not improve in 7 days failed to report for the subsequent follow-up. Post procedure, the patients discontinued analgesic drugs within 48 h and none of the patients had any major adverse consequence related to the procedure. All the patients were advised to support the elbow in a sling for 24 h after the injection. No patient reported any adverse effects.

DISCUSSION

Our study showed a beneficial effect of a combination therapy, in resistant cases of lateral epicondylitis, which is one of the most common musculoskeletal disorders. Previous studies have shown that corticosteroid injections have given good relief but have a high rate of relapse.^{11,12} In the limited follow-up data of our study, we had shown a reduction in relapse with the combination of an anesthetic agent to the corticosteroid. Steroids give excellent pain relief immediately after the local injection leading to excessive use of the arm.¹³ In fact, this is one of the main reasons responsible for the high relapse rates with the use of steroids.¹⁴ Hence, all

the patients are advised to rest the arm in a sling at least for the 24–48 h postprocedure.

The local anesthetic agent used in our study, lignocaine, also has certain properties that make the combination therapy attractive. It has a synergistic action with the steroid and prolongs the durability of action of the steroid.¹⁵ The lignocaine injection has also been used as a diagnostic marker before the steroid injection.¹⁶ A significant improvement of pain after the lignocaine injection predicts a favorable response to the subsequent steroid injection. Marwaha et al.¹⁷ also found similar results.

CONCLUSION:

Our study demonstrated the beneficial effect of the local infiltrations with Triamcinolone acetate and lignocaine in resistant cases of tennis elbow. Our findings have more relevance to rural and tribal areas, where ultrasonic therapy and botulinum toxin are not widely available and costly. Further randomized studies involving a large number of patients are essential to identify the best treatment option in chronic lateral epicondylitis.

ACKNOWLEDGEMENTS

We would like to thank Professor & Head, Dept. of Orthopaedics for his always available guidance to us.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Ethics Committee

REFERENCES

- Behrens SB, Deren ME, Matson AP, Bruce B, Green A. A review of modern management of lateral epicondylitis. *Phys Sportsmed* 2012;40:34-40.
- Zeisig E. Natural course in tennis elbow – Lateral epicondylitis after all? *Knee Surg Sports Traumatol Arthrosc* 2012;20:2549-52.
- Nirschl RP. Tennis elbow tendinosis: Pathoanatomy, nonsurgical and surgical management. In: Gordon SL, Blair SJ, Fine LJ, editors. *Repetitive Motion Disorders of the Upper Extremity*. Rosemont, IL: American Academy of Orthopaedic Surgeons; 1995. p. 467-79.
- Maffulli N, Longo UG, Denaro V. Novel approaches for the management of tendinopathy. *J Bone Joint Surg Am* 2010;92:2604-13.
- Lin YC, Tu YK, Chen SS, Lin IL, Chen SC, Guo HR. Comparison between botulinum toxin and corticosteroid injection in the treatment of acute and subacute tennis elbow: A prospective, randomized, double-blind, active drug-controlled pilot study. *Am J Phys Med Rehabil* 2010;89:653-9.
- Labelle H, Guibert R, Joncas J, Newman N, Fallaha M, Rivard CH. Lack of scientific evidence for the treatment of lateral epicondylitis of the elbow. An attempted meta-analysis. *J Bone Joint Surg Br* 1992;74:646-51.
- Tonk G, Kumar A, Gupta A. Platelet rich plasma versus laser therapy in lateral epicondylitis of elbow. *Indian J Orthop* 2014;48:390-3.
- Yadav R, Kothari SY, Borah D. Comparison of local injection of platelet rich plasma and corticosteroids in the treatment of lateral epicondylitis of humerus. *J Clin Diagn Res* 2015;9:RC05-7.
- Behera P, Dhillon M, Aggarwal S, Marwaha N, Prakash M. Leukocyte-poor platelet-rich plasma versus bupivacaine for recalcitrant lateral epicondylar tendinopathy. *J Orthop Surg (Hong Kong)* 2015;23:6-10.
- Smidt N, van der Windt DA, Assendelft WJ, Devillé WL, Korthals-de Bos IB, Bouter LM. Corticosteroid injections, physiotherapy, or a wait-and-see policy for lateral epicondylitis: A randomised controlled trial. *Lancet* 2002;359:657-62.
- Tonks JH, Pai SK, Murali SR. Steroid injection therapy is the best conservative treatment for lateral epicondylitis: A prospective randomised controlled trial. *Int J Clin Pract* 2007;61:240-6.
- Kazemi M, Azma K, Tavana B, Rezaiee Moghaddam F, Panahi A. Autologous blood versus corticosteroid local injection in the short-term treatment of lateral elbow tendinopathy: A randomized clinical trial of efficacy. *Am J Phys Med Rehabil* 2010;89:660-7.
- Wolf JM, Ozer K, Scott F, Gordon MJ, Williams AE. Comparison of autologous blood, corticosteroid, and saline injection in the treatment of lateral epicondylitis: A prospective, randomized, controlled multicenter study. *J Hand Surg Am* 2011;36:1269-72.
- Lewis M, Hay EM, Paterson SM, Croft P. Local steroid injections for tennis elbow: Does the pain get worse before it gets better?: Results from a randomized controlled trial. *Clin J Pain* 2005;21:330-4.
- Yarrobino TE, Kalbfleisch JH, Ferslew KE, Panus PC. Lidocaine iontophoresis mediates analgesia in lateral epicondylalgia treatment. *Physiother Res Int* 2006;11:152-60.
- Mehra A, Zaman T, Jenkin AI. The use of a mobile lithotripter in the treatment of tennis elbow and plantar fasciitis. *Surgeon* 2003;1:290-2.
- Marwaha V, Pawah AK, Muthukrishnan J, Hari Kumar KH. Combined steroid and lignocaine injection in resistant cases of tennis elbow: A prospective, interventional study from India. *J Family Med Prim Care* 2017;6:498-501.