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Role of Local Steroid Injection in Tennis Elbow

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ABSTRACT
The aim of this study was to evaluate the therapeutic effect of corticosteroid injections in the treatment of lateral epicondylitis. The study comprised of 225 patients divided into two groups. Group A (n=130) received local steroid injection (triamcinolone 40 mg mixed with lignocaine 2% 1 cc). Group B (n=95) received tab diclofenac 50 mg twice a day for first 2 weeks and then daily dose for another 2 weeks. Patients were followed 3 times; first at the start of the study, 2nd time after 6 months, and 3rd time after 12 months by using VAS scale and DASH score. At the end of study it was found that both the VAS and DASH scores showed improvement that was stastically significant ((p<0.0001). There were no complaints of any side-effects to the administered corticosteroid. No infection or any other complications were reported at the end of the study. In patients with tennis elbow, the use of local steroid injection is superior to the use oral NSAIDs

Keywords: NIL

INTRODUCTION

Describe as myriad symptoms around the lateral aspect of the elbow, occurs more frequently in nonathletes than athletes, with a peak incidence in the early fifth decade and a nearly equal gender incidence. Lateral epicondylitis can occur during activities that require repetitive supination and pronation of the forearm with the elbow in near full extension. Also named as lateral epicondylitis, peritendinitis of the elbow or rowing elbow (1). It affects up to 3% of the general population and is the most frequent type of myotendinosis(2,3). It starts as micro-tear mainly in the origin of extensor carpi radialis brevis. The microscopic appearance is that of immature reparative tissue resembling angio-fibroblastic hyperplasia. It can also involve the tendons of extensor carpi radialis longus and extensor digitorum communis(4).

The microtears develop as a result of excessive and abnormal use, with formation of immature repair tissue (5-7). Atypical patient complains of pain along the lateral epicondyle of the elbow that sometimes radiates along the entire lateral aspect of the forearm.It is a self-limiting disorder but in some patients, it leads into the chronicity (8,9). It occurs due to significant strain while performing repetitive tasks (10). The diagnosis is made on clinical examination by localising tenderness over lateral epicondyle about 5 mm distal and anterior to the condyle. Pain increases with resisted dorsiflexion of wrist and supination of forearm (cozens test), jug test, chair test etc . Plain radiographs are usually normal. Tendon thickening is seen on MRI with increased T1 and T2 signals (11).

A number of treatment options are available for tennis elbow including Non-steroidal anti-inflammatory drugs (NSAIDs), physiotherapy, ultrasonic therapy, stretching exercises, tennis elbow braces and extracorporeal shock-wave lithotripsy (ESWL).

MATERIAL AND METHODS

This study was conducted in postgraduate Department of Orthopedics GMC Srinagar between Nov 2016 to Oct 2018. Patients presenting with pain in the lateral part of elbow on resisted dorsiflexion of wrist with elbow extended and fingers flexed were included in the study. Diagnosis was made by cozens test, jug test, chair test etc.

Inclusion criteria

a) Patients diagnosed with TE as described above

b) Minimal of 6-months symptomatic duration

c) Due to possible side-effects risk of injection therapy, only patients with a VAS score of 9 or higher were included

d) Patients not responding to a standardized physiotherapy protocol

e)Patients giving consent to injection therapy

Exclusion criteria

Exclusion criteria included:

a) Previous elbow surgery of any kind

b) Rheumatic arthritis

c) Patients with symptoms of radial tunnel syndrome

d) Cervical radiculopathy

e) Elbow instability

f) Patients who were unable to understand the questionnaires

225 patients (120 male and 105 female) were included in study. 130 patients (70 men and 60 women) were placed in group A, and 95 patients (50 men and 45 women) were placed in group B. Group A received local steroid injection (Triamcinolone 40 mg mixed with injection lignocaine 2% 1 cc) and Group B received oral analgesics (Tab Diclofenac 50mg twice a day for first 2 weeks followed by daily dose for another 2 weeks). Patients were called after 6 and 12 months and results were recorded. Under all aseptic precautions, part was prepared and drapped. 40 mg of Triamcinolone injection was loaded along with 1 cc of 2% lignocaine. After proper consent from the patient, arm was semiflexed and steroid was injected locally at the most tender spot. Then range of motion at elbow was started. Patients were instructed to go for cold sponging twice daily for ist 2 days.

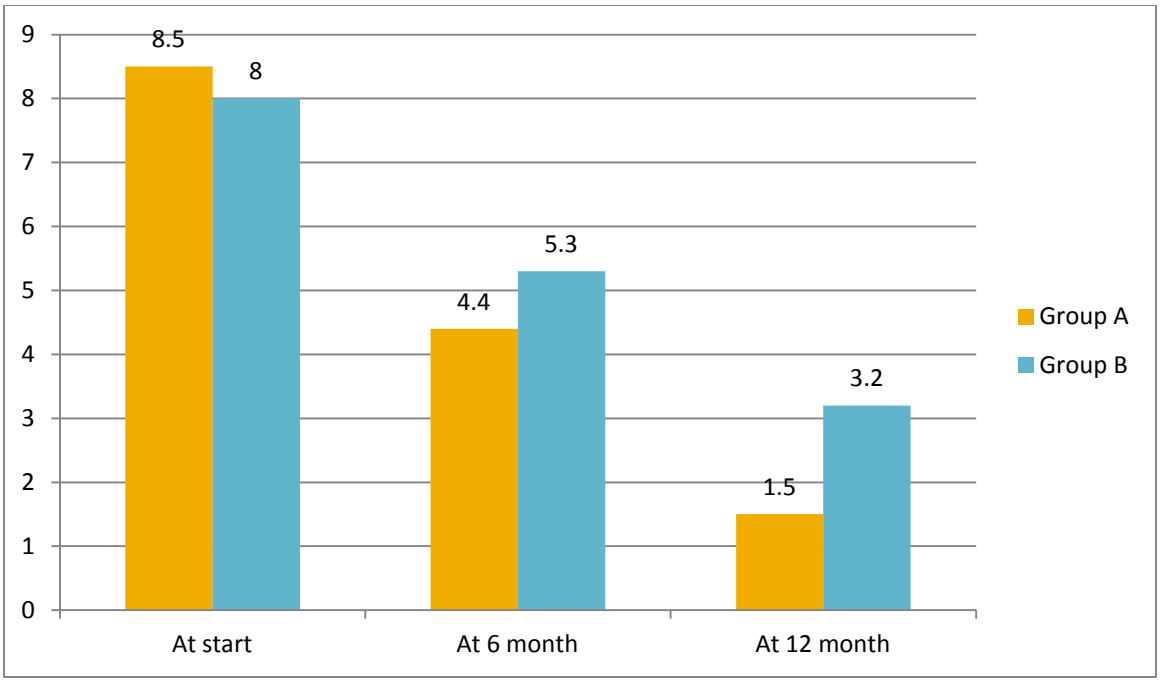
Assessment of patients was made on following times: first at the start of the study, second time after 6 months and third times after 12 months. VAS scale was used for assesment (0=no severity, 1–3 mild, 4–6 moderate, 7–9 sever, 10=maximum severity). Patients were also assessed using a DASH (Disabilities of the Arm Shoulder and Hand) score. Higher the score, greater the disability.

RESULTS

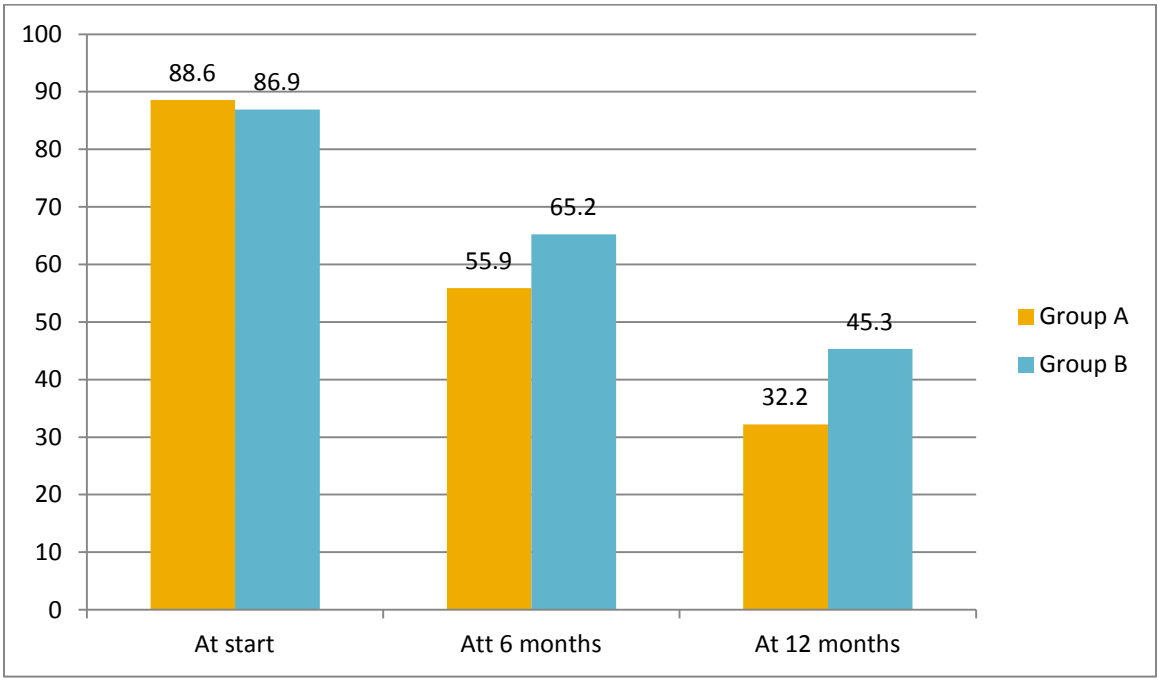
225 patients (120 male and 105 female) were included in study. The mean age was 48 years for male and 40 years for female. 130 patients (70 men and 60 women) were placed in group A, and 95 patients (50 men and 45 women) were placed in group B. In Group A, the right elbow were involved in 80 patients whereas the left elbow was involved in 50 patients, whereas in Group B, the right elbow was involved in 60 patients and the left elbow was involved in 35 patients, comprising a total right elbow involvement in 130 patients (57.7%) and left elbow involvement in 85 patients (37.7%).At the end of 12 months follow-up, 20 patients from Group A and 15 patients from Group B lost to follow-up. No complications were seen in patients in whom steroid was administered. Average VAS in group A was 8.5 initially, 4.4 at 6 month follow up and 1.5 at final follow up in 12 month. In group B average follow up initially was 8.0, 5.3 at 6 months and 3.2 at final follow up. The average DASH score in group A was 88.6, 55.9 and 32.2 initially, 6 months and 12 months respectively. The average DASH score in group B was 86.9, 65.2 and 45.3 initially, 6 months and 12 months respectively.

VAS SCALE

Volume 2, Issue 5; September-October 2019; Page No.352-355



DASH SCORE



DISCUSSION

Tennis elbow is a common condition seen by orthopedic surgeons. The disorder is of unknown etiology, however it is believed to originate from repetitive overuse with resultant micro-tearing that lead to an immature reparative response (12).It is a disease of 4th decade with slight male predominance. In our study the patients affected were in the forties, with men almost 1.4 times more involved than women. The dominant side was affected in most of the patients (1.6:1). Corticosteroid injections have been in use for a long time in treating chronic lateral epicondylitis. A study performed by by Smidt *et al.* showed successful results with corticosteroid treatment in reduction of pain and grip strength (13). However the results did not persist and recurrence

Volume 2, Issue 5; September-October 2019; Page No.352-355

was found in the injection group on long term basis. Similarly a study conducted by Bisset *et al* found corticosteroid injection showed significantly better results at six months but with high recurrence rates thereafter and significantly poorer outcomes in the long term compared with physiotherapy (14). Coombes *et al.* Concluded that corticosteroids were superior to other treatment methods in the short-term non-steroidal injections are of more benefit in the long term (15).In our study, effect of local steroid ing was compared with oral steroids. It was observed that the relief of pain was more effective and longer lasting than that of oral steroids. No patient in whom steroid was injected locally had any of complications e.g, infections, tendon rupture. The DASH score was less for group A (32.2) as compared to group B(45.3).

CONCLUSION

The method of local steroid injection in tennis elbow patients is inexpensive, effective, safe and easy to perform... The postoperative complications were nil, however there is a risk of tendon rupture in patients in whom the procedure was repeated quite frequently.

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Volume 2, Issue 5; September-October 2019; Page No.352-355