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COMPARATIVE STUDY OF PHYSIOTHERAPY AND CORTICOSTEROID INJECTION OR BOTH SIMULTANEOUSLY IN GOLFER'S ELBOW OF ATHLETES

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ABSTRACT

Present study was done to find out the difference in treatment of Golfer's elbow in athletes and their effect on them . Fifty athletes, both male and female were selected from different sports. Their age range was between 20 years to 35 years. 6 athletes were lost in follow-up. The diagnosis was done by history , physical examination , radiography , ultrasound and EMG/NCS. They were categorized as mild , moderate and severe types of disabilities. 15 of them were selected for intralesional corticosteroid injections , 15 for physiotherapy and 14 for combined therapy .In 4 weeks improvement was noted with corticosteroid injection group , less with physiotherapy , but good improvement with combined group . In 12 weeks deterioration' were noted in only injection group , more improvement was noted with physiotherapy group but significant improvement was noted with combined group. At 26 weeks more deterioration with only injection group but excellent improvement was noted with combined group. Even physiotherapy alone group showed better results.

Key Words – Physiotherapy , Intralesional Corticosteroid injections , Categorized

1. INTRODUCTION

Golfer's Elbow or Medial Epicondylitis is a condition in which inner part of the elbow becomes painful and tender. In athletes it develops due to training error, improper technique and faulty equipment's or functional risk factors including lack of strength, endurance or flexibility **(Planchar, Halbrecht, & Lourie, 1996).** Pain is less common in medial epicondylitis than lateral epicondylitis. **(Kamien, 1988).** Golfer's and Tennis players often develops this condition because of the repetitive stress placed on the medial elbow soft tissues **(Field & Savoie, 1998).** Active contraction with forearm pronation and wrist palmar flexion, combined with extension at the elbow in motion progressed from the acceleration phase to the release phase results in an eccentric load to the flexor – pronator mass. The additional valgus stress in the throwing mechanism accelerates this mechanical tendency to overload the flexor-pronator mass **(Gabelet, 2001).**

In athletes repetitive microtrauma in the elbow occurs from chronic use **(Planchar, Halbrecht, & Lourie, 1996).** New studies show all muscles of common flexor tendon (CFT) affected except Palmaris Longus **(Ahmed, 2017)**. Although the diagnosis is often made clinically , imaging is helpful in evaluating overuse injuries in the elbow as tendons , ligaments & nerves can be evaluated **(Kijowski, Tuite and Sanford 2005).** In acute stage most effective treatment is rest combined with application of Ice and NSAIDS including ultrasound. Alteration of equipment as change of racquet, use of grip band, reduction of load on elbow, strengthening of flexor muscles and coaching from professional trainers **(Kamien, 1988)** etc. can help to protect from golfer's elbow. Use of brace, elastic strap also helps for pain free grip. Physical therapy and mobilisation technique are the primary management for medical epicondylitis **(Ann Rehabil Med, 2012).** Local corticosteroid injections are widely administered for the treatment of medial epicondylitis **(Stahl &, Kaufman 1997).**

Multiple modalities may provide relief inclusive of dry needling **(Gattie, Cleland, & Snodgrass, 2017),** Extracorporeal shock wave therapy **(Soakl et.al., 2012),** Iontophoresis **(Nirschl, et.al., 2003),** Phonophoresis **(Skaun et. al., 1984).** Elbow tapping may also be useful (INT J SPORTS MED 2013). Platelet rich plasma injections have been shown to reduce pain and improve functions **(Foster , et.al. 2009)** . Low dose electromyography guided Botulinum toxins (BTX) injection have been studied in refractory cases **(Alexandra Creuze et.al., 2018).** Prolotherapy may also provide relief in refractory cases **(Hause , Holland & Hemwal, 2009)** . Ultrasound guided autologous blood injection also tried **(Suresh, Ali and Connell, 2006).** Surgical management is indicated in refractory cases , but it usually not needed. Surgical management includes the release of the common flexor tendons at the epicondyle and debridement of the pathologic tissues .

2. METHODOLOGY

The study was conducted to compare between corticosteroid injection and physiotherapy or both simultaneously applied in the treatment of Golfer's elbow or medial epicondylitis . It was carried out in Jagannath Gupta Medical College and Hospital ; Budge budge ; Kolkata 700137. Golfer's elbow patients were diagnosed by clinicians at Orthopaedic

O.P.D. and Specialist Clinic of same hospital and the study period was approximately three years (December , 2016 to November , 2019). 46` athletes , both male and female were selected for study . Among them 2 athletes were lost in follow up . They were divided randomly into 3 groups . 15 of them were selected for Corticosteroid

injections only, 15 for Physiotherapy alone and 14 athletes for both Corticosteroid injections and Physiotherapy combined group. Immense care was taken before Injection pushing, specially on sterility. Physiotherapy was done under the guidance of experienced Physiotherapist.

3. RESULTS

Table 1 indicates in Corticosteroid injection group , there were 15 athletes . Three had mild symptoms, 5 withmoderate symptoms and 7 with severe symptoms . It was found that at 4 weeks, 3 from mild group (100 %), 4 from moderate group (80 %) and 4 from severe group (57.14) were relived from symptoms At 12 weeks 2 from mild group (66.6 %), 2 from moderate group (40 %) and 2 from severe group (28.5 %) were benefitted .At 26 weeks , 1 from mild group , 1 from moderate group and none from severe group relieved from symptoms (13.33 %). Taking all in consideration it was observed that 11 athletes were relieved from symptoms (73.33 %) at 4 weeks . At 12 weeks total 6 athletes were relieved (40 %) and in 26 weeks 2 athletes (13.33 %) got benefit from intralesional corticosteroid injection. **Table 2** indicates in physiotherapy alone group , among 15 athletes , 5 was with mild symptoms, 5 moderate and 5 with severe symptoms. At 4 weeks 3 from mild group (100 %), 2 from moderate group (40 %) and 1 from severe group (20 %) were benefited from physiotherapy. Taking all the groups in consideration 6 (40 %) were relived in 4 weeks. In 12 weeks 4 (80 %) from mild group 3 (60 %) from moderate group and 2 (40 %) from severe group, total 9 athletes (60 %) were benefited. At 26 weeks 5 (100 %) from mild group , 4 (80 %) from moderate group and 2 (40 %) from severe group, total 9 athletes (73.35 %) were benefited**.** **Table 3** reveals that in 4 weeks follow-up , there was a significant effect noted with the athletes receiving both physiotherapy and intralesional corticosteroid injections. Among the 14 athletes selected for both intralesional injection as well as physiotherapy, 3 of them had mild symptoms, 5 with moderate symptoms and 6 with severe symptoms. At 4 weeks , 3 (100 %) of mild group, 4 (80 %) of moderate group and 4 (66.66 %) of severe group consisting of total 11 (82.2 %) were relieved. At 12 weeks it was 3 (100 %) , 4 (80 %) and 5 (83.33 %) respectively, total 12 athletes (87.8 %) were relived. At 26 weeks, in mild group 3 (100 %), in moderate group 5 (100 %) and 5 (83.33 %) in severe group, total consisting of 13 out of 14 athletes (92.85 %) were benefited with both intralesional corticosteroid injection and physiotherapy.

It was observed in this study that intralesional corticosteroid injection alone has no long term beneficial effect, even less than physiotherapy. So the result of this study shows that there will be more beneficial effect, when both corticosteroid injection as well as physiotherapy were given side by side or simultaneously.

TABLE 1
IMPROVEMENT OF PATIENTS ON 4 WEEKS, 12 WEEKS AND 26 WEEKS , FOLLOWING INTRALIESIONAL CORTICOSTEROID INJECTION

Grading according to symptoms	Number of Athletes	4 Weeks	12 Weeks	26 Weeks
MILD	3	3 (100 %)	2 (66.66%)	1 (33.33 %)
MODERATE	5	4 (80 %)	2 (40 %)	1 (20 %)
SEVERE	7	4 (57.14 %)	2 (28.5 %)	0 (0 %)
TOTAL	15	11 (73.33 %)	6 (40 %)	2 (13.33 %)

TABLE 2
IMPROVEMENT OF PATIENTS ON 4 WEEKS, 12 WEEKS AND 26 WEEKS , FOLLOWING PHYSIOTHERAPY

Grading according to symptoms	Number of Athletes	4 Weeks	12 Weeks	26 Weeks
MILD	5	3 (100 %)	4 (80 %)	5 (100 %]
MODERATE	5	2 (40 %)	3 (60 %)	4 (80 %)
SEVERE	5	1 (20 %)	2 (40 %)	2 (40 %)
TOTAL	15	6 (40 %)	9 (60 %)	11 (73.33 %)

4. DISCUSSION

Golfer's elbow is a condition that causes pain in the medial side of the elbow where the tendons of the flexor muscles of wrist and forearm attach to the medial epicondyle of the elbow. This pain frequently radiates to forearm and wrist. It is not only limited to Golfer's only but athletes who repeatedly use their wrist or clinch their fingers as in tennis, hand ball, racquet sports, archery, bowling, weight lifting and javelin throwing are also affected. The symptoms are usually pain on the inner side of the forearm and wrist. There may be stiffness in the elbow joint, weakness of the hands and wrist and tingling and numbness of the fingers. Golfer's elbow pain may appear suddenly or gradually. Pain might worsen while swinging a golf club or racquet, squeezing or pitching a ball, shaking hands, lifting weight, picking up something with palm down and flexing the wrist. The problems generally occurs while same activity is done regularly for long time without rest. In athletes repetitive microtrauma in the elbow occurs from chronic use. If left untreated, they may develop chronic elbow pain , restricting range of motion and fixed flexion contracture of the elbow.

TABLE 3
INTRALESIONAL CORTICOSTEROID INJECTION WITH PHYSIOTHERAPY COMBINED GROUP

Grading according to symptoms	Number of Athletes	4 Weeks	12 Weeks	26 Weeks
MILD	3	3 (100%)	3 (100 %)	3 (100 %)
MODERATE	5	4 (80 %)	4 (80 %)	5 (100 %)
SEVERE	6	4 (66.66 %)	5 (83.33 %)	5 (83.33 %)
TOTAL	14	11 (82.22 %)	12 (85.71 %)	13 (92.85 %)

The site of pathology is the interface between pronator teres and flexor carpi radialis origin. Pressure on the affected area will elicit pain. Golfer's elbow test was performed by pronation and palmar flexion of the wrist against resistance while elbow will be extended. Pain will be felted over the attachment of the wrist flexor muscles on the medial aspect of the elbow. Radiography can help to rule out other causes of elbow pain such as fracture or arthritis. Sclerosis of medial border of the medial epicondyle normally can be seen in most of the cases. Strengthening and stretching exercises of forearm muscles should be done before sports activity. Sportsman should be educated by the trainers. There are various methods of treatments as rest, ice, analgesics, brace,

physiotherapy as strengthening of flexor muscles, reduction of load on the elbow etc. Intralesional corticosteroid injections are occasionally used. Surgery is seldom necessary and used only when conservative treatment fails . Newer treatment with platelet rich plasma was tried. Lontophoresiswas proved to be effective technique for reducing pain and improve strength and function of the elbow. Other new treatments are dry needling, phonophoresis, prolotherapy, Ultrasound guided autologous blood injection etc . This study was done to compare the treatment with intralesional corticosteroid injections , physiotherapy or both together in Golfer's elbow of athletes.

5. CONCLUSION

Golfer's elbow is a soft tissue disorder causes pain at the insertion of flexor muscles of the wrist and forearm in medial epicondyle of the elbow. Intralesional corticosteroid injection will not give significant relief, specially in long run. Physiotherapy alone is better than intralesional corticosteroid injection. Best result will be achieved if intralesional corticosteroid injection and physiotherapy both are given simultaneously.

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