HIRUDOTHERAPY IN LATERAL EPICONDYLITIS (TENNIS ELBOW)

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Abstract: Lateral Epicondylitis (Tennis elbow) is the pain in left elbow joint most notably in actively extending or passively flexing the wrist caused by overuse of the forearm and repetitive stress. Epicondylitis represents a degenerative process involving the origin of the extensor tendons at the lateral elbow and the flexor-pronator muscle group at the medial elbow. Epicondylitis causes pain and functional impairment and typically results from specific occupational and sports-related activities. Lateral Epicondylitis, initially described by Morris as lawn tennis elbow in 1882 and now most commonly termed tennis elbow, may occur in patients performing any activity that involves repeated supination and pronation of the forearm with the elbow in extension. The treatment usually available in allopathic medicine is steroids and NSAIDS but the recurrence is very common. In this research hirudo-therapy (Leech Therapy) was given to clinically diagnose seven Lateral Epicondylitis patients.

Keyword: Lateral Epicondylitis, Leech therapy, Elbow joint, Tendinopathy.

OBJECTIVE
To access the efficacy of leech therapy in lateral Epicondylitis

METHADOLOGY
Leeching was done in seven patients, the necessary pathological and biochemical investigation including C.T, B.T were done prior to the leech therapy. The patients were then properly prepared for Hirudotherapy after taking all aseptic measures. The leeches were allowed to suck till they fall down of their own (about 40-50 minute) the wounds were allowed to ooze for about 5-10 minutes and where later dressed hygienically. The patients were then followed up regularly every after one month for a period of one year. No history of recurrence was observed.

INTRODUCTION
Lateral epicondylites, or tennis elbow is a common pathology of both athletes and non-athletes affecting 1 to 3% of the population at large. (18,19) This condition is most often associated with overuse or a repulsive stress as opposite to an acute inflammatory reaction. The lack of pathological evidence of inflammation in these types of injuries has lead most authors to now refer to this condition as an epicondylodysis, abonding the mislabelled “itis”. (20,22,23) Lateral Epicondylitis was first described by Runge in 1873 as “SCHREIBEKRAMPFE” which means writer’s cramp(12). The condition was described as occurring in tennis players secondary to and improper backswing. Tennis elbow or lateral Epicondylitis in a condition caused by repetitive micro-trauma and failure of the healing process in the soft tissue attachments of the extensor carpi radialis brevis origin during occupational or sporting activities. However it is now recognised that the lateral Epicondyle, the annular ligament, the radial head and the capitellum may also contribute to the experience of pain in tennis elbow.

EPIDEMOLOGY OF TENNIS ELBOW
The prevalence of lateral Epicondyle Tendinopathy is estimated to be between 1% to 3% and usually between age of 35 to 50 years (1,2) in the general population and up to 15% in the high risk occupations that include butcher’s, manual labours, and employees in the fish processing industry. Smoking has also been associated with lateral Epicondyle Tendinopathy(14). Only 5% of the cases are associated with racquet sports(14). However, appropriately 50% of tennis players will suffer from this condition at one point in the career.

PATHOPHYSIOLOGY ASSOCIATED WITH TENNIS ELBOW
The suffix “itis” in lateral Epicondylitis implies an inflammatory condition associated with the extensor tendons of the lateral Epicondyle, The Extensor Carpi Radialis Bravis (ECRB) is the most common muscle tendon involved with this condition, and was initially described by Cariax in 1936 as the primary structure involved. On physical examination, patients typically have point tenderness medial and distal to the lateral epicondyle.(3,4) Early studies by Nirschl et al showed fibroblastic invasion and vascular granulation of the ECRB, which he termed “angiofibroblastic hyperplasia”(16) the histologic
characteristics revealed collagen disorganization, mucoid degeneration and lack of inflammatory cells. Microdialysis studies of the ECRB in patient affected with tennis elbow failed to show an increased in the inflammatory mediator prostaglandin E₂ compound to control subjects (16). The histological aspect of the injury to the ECRB origin appears to be multifaceted, involving hypovascular zones, eccentric and concentric tendon stress, and a microscopic degenerative response. (5) In 35% of cases the origin of m. extensor digitorum communis and ECRB will also be overstrained. (6) Microavulsion fractures may be seen as well as lymphocyte infiltration, calcification, scar tissue, and fibrinoid degeneration may be evident in some cases. Repair is by immature fibroblasts. (7,8). If the natural healing process fails, pathological alteration of tissue results in a fibroblastic and vascular response called angiofibroblastic degeneration. The pathology of tennis elbow is thus most likely to be angiofibroblastic degeneration at the origin of the wrist extensors, and more suitably referred to as lateral epicondylosis. (20,21,22,23) Since the inflammation has not been proven the terms “Tendinopathy” and “Tendinosis” are the preferred terminology.

**DIAGNOSTIC STUDIES:** Radiological analysis of lateral Epicondylitis may reveal calcification along the lateral epicondyle, however radiographs as an initial step in diagnosing lateral epicondylitis is not necessary. On the other hand a diagnostic ultrasound of the common extensor origin can be used to confirm lateral Epicondylitis in patients with elbow pain. MRI is an updated tool to the diagnosis of tennis elbow.

**Clinical diagnosis:** The diagnosis in tennis elbow is usually made clinically and the following techniques/signs confirm the diagnosis Maudsley’s test (26), Mill’s test (9,10,11), Cozen’s test (25) and chairlift test.

Plain radio-graphs of the elbow are the most common negative and offer little diagnostic value for tennis elbow. Calcification along the lateral epicondyle is the most common finding associated with this condition. (17) Magnetic resonance imaging (MRI) and diagnostic ultrasonography also may be performed in selected cases to verify the suspected diagnosis, assess the degree of tendonopathy present, and identify any coexisting abnormalities. (15) MRI has superior sensitivity compared to diagnostic ultrasonography, and produces imaging features that correlate well with histologic and surgical findings. (15) Despite this, ultrasound still remains useful in the evaluation of lateral epicondylic tendinopathy with a sensitivity and specificity as high as 80% and 50% respectively. Electrodiagnostic studies also may be used when the clinician suspects that the patient’s symptoms may be complicated by, or stemming from, a neurological source apart from tennis elbow. Testing in this scenario will help to exclude cervical radiculopathy affecting motor fibers and screen for focal neuropathies that can mimic the condition, such as posterior interosseous neuropathy.

**DISCUSSION**

Tennis elbow is more commonly reported as an overuse syndrome of the wrist extensors. Which cause local pain and restricted movements of arm. The treatment options are usually Nonsteroidal anti-inflammatory drugs, use of ice locally, ergonomic advice, physiotherapy, local corticosteroid injection and topical nitro glycerine. One of the new approaches of treatment for tennis elbow is that of autologous blood or platelet–rich plasma injections where the patients own blood is taken from a vein and injected around the area of tendon insertion.

**Table 1: Change in clinical symptoms score.**

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>I follow up</th>
<th>II follow up</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>8.14±1.86</td>
<td>5.14±1.68</td>
<td>2.29±1.60</td>
<td>1.00±0.82</td>
<td>0.29±0.78</td>
</tr>
<tr>
<td>Tenderness</td>
<td>7.45±2.37</td>
<td>4.57±1.51</td>
<td>2.29±1.69</td>
<td>0.86±1.21</td>
<td>0.29±0.49</td>
</tr>
</tbody>
</table>

Values are in mean±SD (n=7).

The autogenous blood injection carries with it growth factors from platelets and these growth factors act as mediators to induce the healing cascade. This promotes new tissue formation and has a 70% to 80% success rate in most clinical trials. Interestingly the success of this injection seems to persist without further injections being needed. As the above said treatment modalities have high chances of recurrence, so it has been decided that hirudotherapy (leeching) may be done in tennis elbow (Lateral Epicondylitis) and the same has proved tremendous effective in relieving the signs and symptoms of tennis elbow and curing if without recurrence.

**CONCLUSION**

Lateral epicondylitis is certainly a challenging musculoskeletal condition to treat and this is largely due to the lack of definitive evidence for the clinical efficacy of the myriad of treatment approaches so it has been seen that this new modality of treatment i.e Hirudotherapy (leech therapy) has proved very effective in treating lateral epicondylitis. (24)

**REFERENCE:**