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LEECH THERAPY IN TENNIS ELBOW: A CASE STUDY

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ABSTRACT

Lateral epicondylitis, also known as tennis elbow, is a painful condition involving the soft tissue over the lateral aspect of the elbow. The pain originates at or near the site of attachment of the common extensors to the lateral epicondyle and may radiate into the forearm and dorsum of the wrist. The pain usually disappears after work or recreational activities involving repeated motions of wrist extension and supination against resistance. Most people with this disorder injure themselves in activities other than tennis, such as pulling weeds, carrying suitcase or briefcase, or using screwdriver. The injury in tennis usually occurs when hitting a backhand with the elbow flexed. Shaking hands and opening doors can reproduce the pain. Striking the lateral elbow against a solid object may also induce pain. The treatment is usually rest, NSAIDS, icing, friction massage, injection of a glucocorticoid and elbow is placed in a sling or splinted at 90^0 flexion. A forearm band placed 2.5-5.0 cm below the elbow may help to reduce tension on the extensor muscles at their attachment to the lateral epicondyle. But these treatment options give symptomatic relief and recurrence occur. Leech therapy achieves a significant and long-lasting improvement of symptoms than conventional therapies. 3-6 leeches are placed directly over the inflamed lateral epicondyle and surrounding tissues. The efficacy of leech therapy in purely lateral and medial

epicondylitis (Golfer's elbow) is unclear. Leech therapy is a simple yet effective local treatment for painful tendonitis, and patients with these complaints are commonly seen in leeching practice. There are no data and/or clear expert opinions on the efficacy of leech therapy in the treatment of tenosynovitis at other sites.

KEYWORDS: Tennis elbow, Leech.

INTRODUCTION

Tennis elbow is a common cause of elbow joint pain, posing a challenge among the medical fraternity because the ailment is extremely difficult to cure with medications. In India, manual labourers and housewives, who require a less expensive, faster and effective treatment, are the most affected. Tennis elbow is a disease that interferes with a person's regular day-to-day activities and work because forearm and wrist movements are limited owing to pain. It is the commonest chronic disabling painful condition of elbow.

Since it is a tendinitis, it is classified as *Snayugata Vata Vyadhi*, which is well described in ayurvedic texts, with *Raktamokshana* as treatments. In Samhitas like *Charaka, Sushruta, Astanga, Bhavaprakashakara,* and *Yogratnakara,* we get a detailed description of *Snayugata Vata* with *lakshana* and *Chikitsa. Acharyas* have not mentioned particular *Nidana* for *Snayugata Vata,* hence *Vata Vyadhi Nidanas* are to be taken into consideration here because *Snayugata Vata* is mentioned under *Vata Vyadhi* by all the *Acharyas*. *Acharya Sushruta* has mentioned *Lakshana* of *Snayugata Vata in Sushruta Nidana (1/27).*

स्नायुप्राप्तः स्तम्भकम्पौ शूलमाक्षेपणं तथा ||

Acharya Sushruta has mentioned *Raktamokshana* in *Vata Vyadhi* and references are given below.

1. त्वङ्मांसासृक्सिराप्राप्ते कुर्याच्चासृग्विमोक्षणम् ॥ (*Su.Chi. 4/7)*
2. निरुद्धेऽस्थनि वायौ पाणिमन्थेन दारिते । नाडीं दत्वाऽस्थनि भिषक् चूषयेत्पवनं बली ॥ (*Su.Chi. 4/9)*
3. जयेत् सर्वाङ्गजं वातं सिरामोक्षैश्च बुद्धिमान् । (*Su.Chi. 4/11)*
4. एकाङ्गंगं च मतिमाञ्छृङ्गैश्चावस्थितं जयेत् ॥ (*Su.Chi. 4/11)*
5. स्त्राव्या.....वायुः सरुजः शोफो यश्चैकदेशजः ॥ (*Su.Su.25/20)*
6. तत्र वातपितकफदुष्टशोणितं यथासंख्यं क्रुङ्गजलौकोऽलाबुभिरवसेचयेत्, स्निग्धशीतरूक्षत्वात् ।

   सर्वाणि सर्वैर्वा ॥ (*Su.Su.13/4)*

- According to acharya sharangdhara,

सपीडे दुर्जये अनिले……..रक्तस्त्रावः प्रशस्यते ॥ (*Sha.U.12/17)*

So, in this case study, I choose leech therapy for tennis elbow according to the ayurvedic *Samhita.*

There are numerous treatment options for tennis elbow that are extensively practised in modern medicine. Rest, which is occasionally achieved by splinting the elbow joint, exercises, and local corticosteroid injections into the tender area around the tendon are the most common treatment options, but they rarely offer satisfactory results. If the symptoms do not settle, surgery is required. But it comes with limitations, like

1. Risk of recurrence
2. Risk of surgical and post-surgical complications
3. possibility of infections
4. Postoperative immobilisation and a long ambulatory period

The role *of jalaukavacharana*

- Inflammation is caused by the vitiation of *vata*, *pitta*, *kapha*, *rakta*, and *dushya tvak*, *mamsa* (C.Chi.12/8), A.H.Ni.13/21), and S.Su.17/3), according to Ayurveda.
- *Jalauka* reduces inflammation, as it is well known that leeches first eliminate the vitiated dusta *rakta*, resulting in the removal of the *srotoavrodha* of *vata dosha*. These two changes reduce the pain and inflammation.

Benefits of *jalaukavacharana*

1. Immediate pain relief
2. Outdoor procedure
3. It is the easiest method of bloodletting.
4. Highly economical with fewer complications

Tennis elbow's epidemiology

More than 1 million cases per year occur in India. The age of onset of lateral epicondylitis is between 30 and 55 years, with an equal male-to-female ratio. Only 5% of the cases are associated with racquet sports. However, an appropriate 50% tennis players will suffer from this condition at some point in their careers. High-risk occupations that include manual labourers and housewives.

Pathophysiology associated with the tennis elbow

Epicondyles are bony bumps at the bottom of the humerus where several forearm muscles begin their course. The ECRB (extensor carpi radialis brevis) muscle and tendon are usually involved in tennis elbow. Muscles, ligaments, and tendons hold the elbow joint together. Tennis elbow involves the muscles and tendons of the forearm that are responsible for the supination and extension of the wrist and fingers.

Cause

1. Overuse

Recent studies show that tennis elbow is often due to damage to a specific forearm muscle. The ERCB muscle helps stabilise the wrist when the elbow is straight. This occurs during a tennis groundstroke, for example. When the ERCB is weakened from overuse, microscopic tears form in the tendon where it attaches to the lateral epicondyle. The ERCB may also at increased risk for damage due because of its position. As the elbow bends and straightens, the muscle rubs against bony bumps. This can cause wear and tear of the muscle over the time.

2. Activities

Athletes are not the only people who get tennis elbow. Many people with tennis elbow participate in work or recreational activities that require repetitive and vigorous use of the forearm muscle or repetitive extension of the wrist and hand. Painters, plumbers and carpenters are particularly prone to developing tennis elbow. Studies have shown that auto workers, cooks and even butchers get tennis elbow more often than the rest of the population. It is thought that the repetition and weight lifting required in these occupations leads to injury. Playing tennis is a possible cause of tennis elbow, but other activities can also put you at risk.

3. Age

Most people who get tennis elbow are between the ages of 30 and 50, although anyone can get tennis elbow if they have the risk factors. In racquet sports like tennis, improper stroke technique and improper equipment may be risk factors.

4. Unknown

Tennis elbow can occur in the absence of a recognised repetitive injury. This occurance is called idiopathic, or of unknown cause.

MATERIALS AND METHODS

1. Aim

to evaluate the efficacy of *Jalaukavacharana* in tennis elbow.

2. Case report

A 49-year-old female patient visited OPD No. 7 of the Shalya Tantra Department on May 10, 2022, with complaints of pain in the right elbow region on the lateral side, stiffness, and an inability to do daily routine activities (squeezing clothes, gripping) for 4 months. There was no obvious history of trauma.

Patient details:

Patient's name: Satnaam Kaur

Address: Vishnu Garden, Haridwar

OPD No. 8716/1893

Occupation: Housewife

Religion: Hindu

Marital status: married

3. Assessment criteria:

- **Subjective parameters**

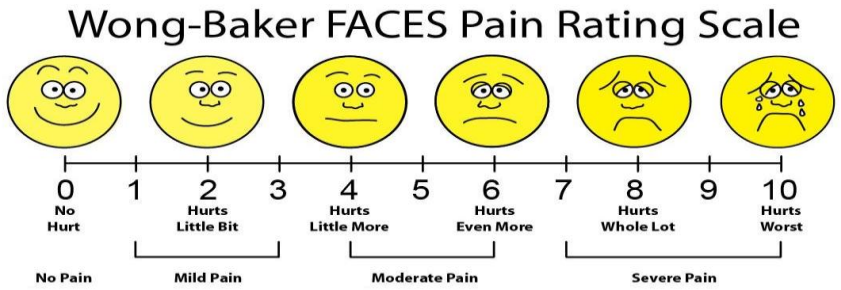
Criteria	Grade-0	Grade-1	Grade-2	Grade-3	Bt (before treatment)	At (after treatment)
Tenderness	No	Tenderness on deep palpation	Tenderness on light palpation	Don't allow to touch	Grade-1	Grade-0
Swelling	Absent	Present			Grade-1	Grade-0
Inability to do specific tasks (squeezing clothes, hammering, gripping, weight lifting, carrying a suitcase)	Can do specific tasks	Take rest in b/w specific tasks	Rest very often	Can't do specific tasks	Grade-2	Grade-0
Radiation of pain	No radiate	Up to forearm occasionally	Up to forearm continue	Up to hand	Grade-3	Grade-0
Cozen's	No pain	Pain against	Pain against	Pain	Grade-3	Grade-o

test	against any resistance	more resistance	moderate resistance	against light resistance		
Mill's test	Not positive	Pain at full palmer flexion	Pain at mid palmer flexion	Pain at beginning of palmar flexion	Grade-2	Grade-0
Maudsley's test	No pain against any resistance	Pain against more resistance	Pain against moderate resistance	Pain against light resistance	Grade-3	Grade-0
Stambha (stiffness)	Absence of stiffness	Morning stiffness lasts for 2 hours	Morning stiffness lasts for 6 hours	Morning stiffness lasts more than 6 hours	Grade-3	Grade-0

- **Objective parameter**

1. *Shoola* (Pain)

Explanation	Grade	Bt	At
No complaint of pain	0	Grade- 2	Grade-0
Pain at work and 1-3 on face pain scale	1		
Mild pain at rest and 4-6 on face pain scale	2		
Severe pain at rest and 7-10 on face pain scale	3		



2. Range of motion by goniometry

1) Wrist extension

Wrist extension	Grade		AT
Up to 70^0	0	**BT Grade-1`**	Grade-0
50^0	1		
30^0	2		
20^0	3		

2) Palmer flexion

Palmer flexion	Grade	Bt	At
Up to 80^0	0	Grade- 2	Grade-o
60^0	1		
40^0	2		
20^0	3		

4. Treatment plan

Only *Jalaukavacharana* **(**leech therapy)

The patient's tennis elbow was completely recovered by leech therapy with six sittings at 7-day intervals.

5. Procedure of *jalaukavacharana*

- ***Poorva karma* –** Leeches are dipped into the *haridra*-mixed water until they swim freely. Then they wash with normal water.
- ***Pradhana karma* –** Now put the leech through the mouth side to the lateral aspect of the right elbow joint. If the leech itself is not sucking blood, then a blood drop is placed on the leech application site. If leeches start sucking blood, we notice it through their sucking movement. According to Ayurveda, at the time of blood sucking, leech mouths form an 'ashwakhuraanan' shape.
- ***Paschata karma* –**After 45 minutes, leech removes itself from the site. If not, then place the *haridra* powder on the leech's mouth, and then the leech should remove itself from the site. Now that a triangular wound has occurred due to leech bite, a tight bandage has been applied with *Jatyadi Ghrita* to stop the bleeding. After all that, it is now time for *Jalauka Vamana*. For *vamana*, *haridra* onto the leech's mouth. Then the leech vomits out the sucking blood. After proper *vamana*, the leech again stays in *haridra* mixed water, then again starts to swim. Then I washed the leech with normal water and placed it in a water-filled container whose cover has many small holes for air.

Fig. Leech therapy in right tennis elbow.

RESULTS

Clinical examination of the patient revealed a regression of symptoms. Now, patients are able to do their daily routine activities without pain and with painless wrist movements (wrist extension, palmer flexion, supination, and pronation). After leech application, there were no serious adverse effects. Localized mild itching and mild bleeding at the bitten site were minor side effects of leech therapy that lasted for a mean of five days and required no treatment.

DISCUSSION

The mechanisms of action of leeches are still not fully understood. A plausible explanation would be the improvement of local tissue function due to pharmacologically active substances that have been found in leech saliva. After biting, the leeches inject saliva into the host to increase local blood flow and provide analgesia. In addition to hirudin, histamine-like vasodilators, kallikrein, bdellins, eglins, collagenase, and tryptase inhibitors, a variety of other analgesics, anesthetics, and proteinase inhibitors have been found in leech saliva. Hyaluronidase is also present, which might allow these substances to reach deeper tissue zones, leading to sustained improvements in function. It is very likely that leeches exert a strong, unspecific (placebo-like) effect. Tennis elbow causes an inability to do daily routine activities. It is most common among housewives, gardeners, and manual labourers. NSAIDS and intra-articular steroids provide only short-term relief. As the above-mentioned treatment modalities have high chances of recurrence, it has been decided that leech therapy may be done in tennis elbow, and the same has been approved as being tremendously effective in relieving the signs and symptoms of tennis elbow and curing it without recurrence.

CONCLUSION

According to the WHO, traditional Indian medicine is the holistic science of medicine, which has been practised and used on a large scale by Indians for centuries and is now becoming global due to its qualitative strength. Tennis elbow 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. As a result, this new treatment modality, i.e., leech therapy, has proven to be very effective in treating tennis elbow. Leech therapy is the best alternative that can be used to treat tenosynovitis and surpasses the pharmacological treatment of tenosynovitis, i.e., NSAIDS or corticosteroids.

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