

EFFICACY OF JALAUKA AVCHARAN IN TENNIS ELBOW; A SINGLE CASE STUDY

Dr. Shivam Shukla¹, Dr. Rajeev Kumar², Dr. Sangita Jagotra³ and Dr. Yogesh Kumar⁴

¹PG scholar Dept. of Shalya Tantra Gurukul Campus U.A.U. Haridwar, India.

²Assistant Prof. Dept. of Shalya Tantra Gurukul Campus U.A.U. Haridwar, India.

³PG scholar Dept. of RS&BK Post Graduate Training and Research Institute
Government Ayurvedic College Patiala, Punjab, India.

⁴P.G. Scholar, Dept. of Panchkarma, Gurukul Campus, Uttarakhand Ayurved University,
Haridwar, India.

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*Corresponding Author

Dr. Shivam Shukla

PG scholar Dept. of Shalya
Tantra Gurukul Campus
U.A.U. Haridwar, India.

ABSTRACT

Tennis elbow which is also known as Lateral epicondylitis which is a painful disorder of elbow joint resulting in the pain while moving the joint. This disease commonly affects in the middle age. The exact pathology of the disease is not known yet however the probable cause is the inflammation of tendon or may be damaged fibers of the common extensor muscles which connects to the joint capsule. The condition is usually self-limiting over the period of 1 to 1½ year. Many surgical and intra-muscular injections therapy were introduced by the modern science for lessen the sufferings of the patients but

condition may persists or relapse over a period of time. Leech therapy is considered as a *Rakhtmokshna* procedure to get rid of the *Doshas*. Leech had proven its beneficial results skin disorders, reducing local tissue inflammations, pain management in O.A and many more. Therefore in this case study we had tested leech therapy in Lateral Epicondylitis to get relief in the symptoms.

KEYWORDS: Tennis Elbow, Lateral Epicondylitis, Extensor muscles, Leech therapy and *Rakhtmokshna*.

INTRODUCTION

Upper limbs are one of the most used part of the body in day to day life and among the upper limb elbow joint is almost in working condition through-out the day. Just imagine how

difficult for a person to have pain in the elbow joint and every movement will be painful for him/her. The pain in the Lateral side of the elbow is the most common complaint with which presents in the OPD. No history of trauma and pain to the lateral epicondyle of humerus particular to the site of the origin of extensor muscle is enough to make a provisional diagnosis for the Lateral epicondylitis or Tennis Elbow.^[1] It is a common disorder for the tennis players but the condition is quite usually seen in the common people also. The condition usually encounter when there will be an overuse of the joint or repetitive stress over the joint which leads to inflammatory reaction of the tissue.

The disease was first described by Runge^[2] in 1873. The condition was explained as a chronic symptomatic degeneration of the extensor tendons of wrist and also involving their attachments at the lateral epicondyle of the humerus. The condition is affecting 1 to 3% of the population, middle age is more commonly affecting with this condition and both the sexes are equally predisposed to the disease.

Leech therapy/ *Jalauka Avcharan* is one the oldest therapeutic technique. Among many varieties *Hirudo medicinalis* is widely used for hirudo-therapy. The leech has shown its beneficial effects in inflammatory diseases, Osteoarthritis, skin disorders etc. About 20 different bioactive substances^[3] were detected in the saliva of the leech. Some of them are Hirudin, antistatin, eglin, guamerin, saratin, bdellin, carboxypeptidase inhibitor etc. These bioactive agents have analgesic, anti-inflammatory, platelet inhibitory, anticoagulant and thrombin regulatory functions. Due to all the bioactive agents the Medicinal Leech Therapy (MLT) have multidisciplinary approaches. And in many disorder it is not an alternative but a integrative choice of treatment.

In Lateral epicondylitis or Tennis Elbow there is inflammatory condition of the tissue which is easily relieved by these bioactive agents as the leech saliva shows it analgesic and anti-inflammatory properties.

AETIOLOGY

Due to the unknown pathology of this condition the exact cause of the epicondylitis is not identified yet. In most of cases Extensor carpi radialis brevis (ECRB).^[4] is involved. However the other muscles like supinator and other wrist extensors like extensor carpi radialis longus, extensor digitorum, extensor digiti minimi and extensor carpi ulnaris may also be involved.

Smoking, tobacco and Obesity is considers as a risk factor to the Lateral epicondylitis. Many

authors believe that due to unknown pathology the condition should be stated as tendinosis or epicondylosis.

A case study is as follow

A 32 year old female patient presented in Shalya OPD having chief complaints of:

1. Pain in Right Elbow joint from 2 weeks
2. Tenderness to touch
3. Unable to perform daily work, comb hairs, put tea in cup or opening door.
4. Wrist grip felt weaker.
5. Extension of the fingers against the resistance causes pain to the lateral side of the elbow.

All these complaint had lasted from 7 months which had now got worsen from 2 weeks.

Presenting Concern

A 32 year old female patient was asymptomatic before 7 months later she develops pain in Elbow region while performing work in kitchen. The pain subsides after the rest. After some days again the severe agonizing pain initiated while lifting weight in right hand. Patient got conservative treatment for allopathic clinic but did not get relieve. Later on pain was referred to Orthopedic Surgeon for corticosteroid injection therapy. The injection subsides the pain and other symptoms for about one and half month and patient continue her daily routine work. In last 2 week her symptoms relapsed and this time worse than before.

History of past illness

No H/O HTN, T2DM, TB, Asthma and other illness.

Table No. 1: showing patient's details.

PATIENT DETAILS	
Name	Sushila
Age	32 years
Sex	Female
OPD/ARN no.	2654
IPD No	9131
Date	21 May 2021
Address	Harilok vihar, Haridwar
Occupation	Housewife
Religion	Hindu
Marital status	Married

Table No. 2: presenting personal history of patient.

PERSONAL HISTORY	
Addiction	No addiction
Bowel	Regular
Appetite	Normal
Sleep	Sound sleep
Urine	Normal micturition

Table No 3: representing general examination.

GENERAL EXAMINATION	
Pallor	Not present
Icterus	Not present
Oedema	Not present
Clubbing	Not present
Blood pressure	130/80 mmHg

Systemic Examination

1. Respiratory – B/L Equal air entry
2. Gastrointestinal- NAD
3. Cardiovascular -NAD
4. Central nervous- NAD

On Examination

Table No. 4: Containing Ashtavidha and Dashvidha Pariksha.

<i>Ashtavidha Pariksha</i>	<i>Dashvidha Pariksha</i>
<i>Nadi</i> = 84/min. Regular	<i>Prakriti</i> = Pitta-Kaphaj
<i>Mala</i> = Samanya	<i>Vikriti</i> = Pitta-Vataj
<i>Mutra</i> = Samanya	<i>Sara</i> = Mans-sara
<i>Jihva</i> = Ishathasaam/Niram	<i>Samhanan</i> = Madhyama
<i>Shabda</i> = Samanya	<i>Pramana</i> = Madhyama
<i>Sparsha</i> = Snigdha	<i>Satva</i> = Madhyama
<i>Drika</i> = Samanya	<i>Satmaya</i> = Madhyama
<i>Akriti</i> = Madhyama	<i>Aharashakti</i> = Madhyama
	<i>Vyayamashakti</i> = Madhyama
	<i>Vaya</i> = Madhyama-avstha

- **On Inspection** — On comparing both limbs, no discoloration or pigmentation was seen at the lateral epicondyle. Also no signs of acute inflammation were present over the site.

Range Of Motion (ROM) – Except Flexion and Extension all other range of Motions were adequate. Patient experience difficulty while performing flexion and extension movement.

Performing **Resisted Wrist Extension & Grip Strength**,^[5] proven quite painful for patient

which makes the patient unable to complete this examination.

- **On Palpation:** The site of origin of the Common Extensor Muscle fibers was tender on direct palpation.

Cozen's Test^[6]: Positive

Mill's Test^[7]: It can also be said Positive because patient felt uncomfortable but did not feel pain at Lateral Epicondyle.

Pain Rating – The pain was progressively increased and the nature is achy, stiff, and sometimes throbbing. The pain rated 9/10 in intensity on the basis of Wong- Baker's face pain scale.

INVESTIGATIONS

Table No. 5: showing the investigations of patient.

Parameter	Values
Hb%	11.4
ESR	27
TLC (/cu mm)	6800
DLC	
Neutrophils (%)	71
Lymphocytes (%)Eosinophils(%) Basophils (%)	24
Monocytes (%)	04
	00
	01
RBS (mg/dL)	99.04

NIDAN PANCHAK

Table No. 6: representing *Nidan Panchak* of Tennis Elbow.

<i>Nidan</i>	<i>Vaat-Pittaj ahar, Virudh ahar, Abhighaat, Vegadharna.</i>
<i>Poorva roop</i>	Stiffness and mild Pain
<i>Roop</i>	Achy Pain, Tenderness, Wrist grip felt weaker.
<i>Upshaya</i>	Symptoms that relief in <i>Grishma Ritu</i> .
<i>Samprapti</i> (Probable)	Due to <i>Nidan Sevana Vaat</i> and <i>Pitta Dosha</i> got vitiated. <i>Vaat</i> brings <i>Pitta</i> at the <i>Kurpur Sandhi</i> and there they vitiates <i>Rakhta Dhatu</i> and results into Inflammation of the tissue.

VYADHI VINISCHAYA (DIAGNOSIS)

Snayugat Vaata; Lateral Epicondylitis.

MATERIAL AND METHODS

The patient was suffering from elbow pain, restricted elbow movements and tenderness at lateral epicondyle from last 7 months. She was registered for our present study in OPD and IPD of Shalya Tantra dept. of Gurukul Campus of U.A.U. Haridwar. On the basis of signs and symptoms she was diagnosed as Lateral Epicondylitis or Tennis Elbow. The patient was treated with Leech Therapy along with conservative ayurvedic management for 1½ month. Leech therapy was done 7 times at the interval of 7 days.

Assessment Criteria

- **Subjective parameter**

1. PAIN

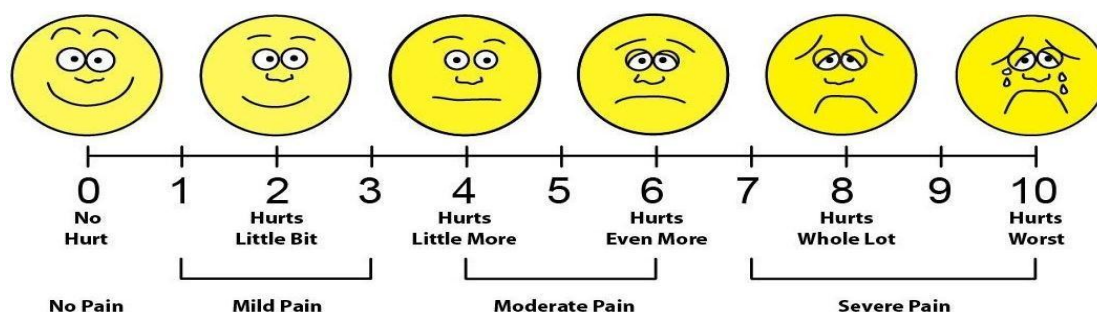


Table No. 7: Representing Grading of pain.

Explanation	Grade
No complaint of pain	0
Negligible/ tolerable pain.	1—3
Localized tolerable pain completely relived by hot fomentation	4—6
Intolerable pain, not completely relived by hot fomentation, have to take oral analgesic medication and no disturbance in sleep	7—8
Continuous and intolerable pain with sleep disturbance. Patient seek medical help as early as possible.	9—10

2. TENDERNESS

Table No. 8: representing Grading of Tenderness.

Explanation	Grade
No tenderness	0
The patient winces with pain	1
The patient winces with pain and withdraws the hand	2
The patient does not allow the elbow to be touched	3

- **Objective parameter**

3. RANGE OF MOTION

Range of motion was assessed on the basis of flexion and extension of the elbow and the

degree of angle was measured with the help of Goniometer.

a. Extension

Table No. 9: representing Grading of Extension type of ROM.

Explanation	Grade
Less than or equal to 25 degree	0
Between 25-60 degree	1
Between 60- 90 degree	2
Between 90-120 degree	3
Between 120-150 degree	4

b. Flexion

Table No. 10: representing Grading of Flexion type of ROM.

Explanation	Grade
More than or equal to 150 degree	0
Between 120-150 degree	1
Between 90- 120 degree	2
Between 60-90 degree	3
Less than 60 degree	4

TREATMENT

1. *Nidana Parivarjana*
2. *Jalauka Avcharana*/ Leech therapy
3. *Shaman Chikitsa*

- *Nidana Parivarjana*
- Weight lifting.
- Playing Tennis or any other sports which includes wrist moment
- Avoid kitchen works
- Prevent elbow from trauma

✓ *Jalauka Avcharana*/ Leech Therapy.^[8]

7 sittings of *Jalauka Avcharana karma* was done at the interval of 7 days under the observation of experts. Injection Tetnux Toxoid 0.5 ml was given intra-muscular 1 hour prior to the *Jalauka avcharana*. The *Jalauka Avcharna Karma* was done under 3 headings.

i) *POORVA KARMA Jalauka Shodhana*

The *Jalauka* was collected from pond and collected in a jar. Now this *Jalauka* was took out from the jar into a tray having turmeric water in it. *Jalauka* start moving into the tray. By this procedure the *Jalauka* got activated and hungry. After sometime the turmeric settles down

into the base of tray and *Jalauka Shodhana* is said to be completed.

Part preparation The site for the application of *Jalauka* is the Right elbow particularly the skin over the lateral epicondyle, which is also the most tender point. The part was cleaned with Savlon □ Betadine □ Spirit.

Instruments

5 cc syringe for blood collection Gauze pieces

Instrument tray Kidney tray Turmeric powder

A pair of sterile gloves Distilled Water

ii) PRADHAN KARMA

Leech Application

The part of the elbow was cleaned as stated above. The *Shodhit Jalauka* was wrapped in a gauze piece and placed over the Lateral Epicondyle. Initially few drops of patient's blood was pour over the site to make the leech adherent over the point. After a few seconds *Jalauka* fixes its head and tail over the patient's elbow and attains *Ashwakhurvata* Position.

The *Jalauka* was covered with sterile gauze pieces and drops of distilled water was pour over the *Jalauka* drop by drop. The *Jalauka* sucks the blood and slowly increases in the size.

Leech removal

Leech removal was done after 30 minutes from the *Jalauka* fixes its head. On 3rd and 5th sitting *Jalauka* leaves the skin by own its own while on the other sittings turmeric powder was pour over the head and sucker part of *Jalauka* to make it free from the skin.

iii) PASCHAAT KARMA *Jalauka Vamana*

Jalauka vamana is consider an important part as this may affects the life of *Jalauka* if done improperly. For the *vamana* we have poured dired turmeric power over the *Jalauka*. After few seconds *Jalauka* vomits out the whole blood. No need was felt to apply pressure for *Vaman Karma*.

Dressing of wound

The wound over the elbow of the patient was cleaned with betadine and dressed with turmeric powder. A tight bandaging was done to prevent further ozzing of blood from the elbow.



✓ Shaman Chikitsa

Table No. 11: Showing the Drugs used for *Shaman Chikitsa* the internal medicines was advised for 2 month.

S. No.	Darvya	Dose	Duration		Anupana	
1.	a. Ajmodadi Choorna b. Godanti Bhasam c. Shankh Bhasam	3 gm 500 mg 250 mg	Herbo-mineral mixture given Twice daily(BD)		Luke water	warm
2.	Lakshadi Guggulu	500 mg	Twice (BD)	daily	Luke water	warm
3.	Triodoshang Guggulu	500 mg	Twice (BD)	daily	Luke water	warm

RESULTS

Table No. 12: Comparing the symptoms before after treatment of Tennis Elbow.

S. No	Symptoms	BT	AT
1.	Pain	9	3
2.	Tenderness	3	1
3.	ROM Flexion	2	1
4.	ROM Extension	3	1

DISCUSSION

Lateral epicondylitis is believed as an acute inflammatory condition in which the fibers of Extensor carpi radialis brevis got inflamed resulting into pain in the elbow joint. Weight lifting, extensive wrist movement and Indian kitchen work especially roti making cause increase in work load over this muscle. Resulting in the acute inflammation of the muscle insertion. The condition is usually self-limiting if given proper rest for about 6 months to 1 year. But upper limbs are the most used part for an individual so complete rest for such a minor disease is almost impossible.

The modern sciences still don't have any universally accepted treatment regime for this condition. But *Ayurveda*, one of the oldest healing system of medicine, have potential to solve such a challenging and unsolved problems of modern medical science. Leech therapy was practiced from a long period for various diseased conditions. It is believed that among *Tri-Doshas*, leech nullifies *Pitta Dosha*.^[9] *Pitta Dosha* and *Rakhta Dhatu* are considered as *Samandharmi*. Therefore leech had proven beneficial for both *Pittaj* and *Rakhtaj Vyadhi*. In inflammation it is considered that there is involvement of *Pitta Dosha* and *Rakhta Dushti*. Therefore on this hypothesis leech therapy was used in Lateral Epicondylitis.

DISCUSSION ON RESULTS

Pain score before the initiation of the treatment was 9 as per visual analog pain scale. Patient have continuous pain along with sleep disturbance due to pain. Patient have to take oral analgesic pill (diclofenac sodium) twice daily. After first sitting of the leech therapy the pain analysis was done. The score comes out to be 8/10. The pain tends to decrease with each sitting and after last sitting i.e 7th sitting, the score was 3/10.

Table No. 13: showing pain scoring on each therapy sitting.

Sitting of therapy	Pain Score out of 10
First	8
Second	7
Third	5
Fourth	5
Fifth	4
Sixth	4
Seventh	3

It had been seen that symptomatically pain management was good. Patient herself seen a great improvement in pain scale. *Pitta dosha* along with *Rakhta dhatu* causes inflammation

which got nullified by *Jalauka* thus pain subsides.

Tenderness grading was 3 before the initiation of the treatment which means patient does not allows to touch the elbow joint for inspection. However after 1st sitting the tenderness grade remains 3. This is due to the fear factor which make patient resist to touch her elbow. But after successive sittings the grading changed and after 7th sitting the grading comes out 1 and patient experiences pain on applying pressure over the epicondyle. Tenderness was due to the accumulation of *Doshas* and *Jalauka* sucks the *Avgaad*¹⁰ *doshic* accumulation from the site. Thus is relieves the tenderness over the elbow region.

Range of Motion both **Flexion & Extension** had also improved due to lessen pain and stiffness over the elbow joint.



The leech is said to be effective for *Avgaad* (superficial) *doshas*. Also the local involvement of the *Pitta* and *Rakhta doshas* will be superficial in lateral epicondylitis therefore they can be easily sucked out by *Jalauka* and gives symptomatic relief from the very first sitting.

Discussion on Internal Medicines

Ajmodadi Chooran Shankh Bhasam & Godanti Bhasam is a herbo-mineral product given for relief of pain and inflammation. It acts over the *Vaat dosha* mainly and Epicondyle is a bony structure which is seat of *Vaat Dosha*, so this combination is given twice daily for getting better results and prevent relapse of symptoms.

Trayo-Doshang Guggulu is a *Guggulu* preparation which acts over all the three *doshas* and maintain their equilibrium.

CONCLUSION

We had got an extremely significant results from the leech therapy on the Tennis Elbow. The main aim was to gain relief, returning to normal routine and minimal relapse of symptoms which was achieved. The improvement of the parameter was given mainly by the leech therapy. However the internal medication given support to therapy, prevents the accumulation of *doshas* and helped in reoccurrence of the symptoms. So by this case study an attempt is made to provide a safe and effective treatment approach for Tennis Elbow.

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