

EFFECT OF JALAUKAVACARANA IN INFLAMMATORY JOINT DISORDERS- A CASE STUDY

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ABSTRACT

Raktamokshana is of two types basically, one is shastrakruta and other is ashastrakruta. Leech therapy comes under ashastrakruta raktamokṣaṇa karma for treating localized pain. Acharya Susruta mentioned it in pittaduṣṭarakta, avagaḍhaduṣṭapittavyadhi, toda, etc. In practice it is observed that it effectively alleviates pain and relieves joint inflammation rapidly and improves joint functions as well.

In this case study a patient diagnosed with sandhigatavata with inflammatory changes was treated with Jaluka/leech. The findings of the study suggested that sandhigatavata with inflammatory changes showed improvement in terms of pain & inflammation when treated with Jalaukavachran.

Keywords: Leech, Sandhigatavata, Inflammatory changes

INTRODUCTION

All ancient cultures practiced Leech therapy including Indian and Greek civilizations. The use of leeches in modern medicine made its comeback in the 1980s after years of deterioration, with the arrival of microsurgery such as plastic surgeries. Acharya Susruta mentions leech therapy as a strength in panchakarma and is aimed at Rakta vitiated by pitta, deep seated vitiated pitta disease, pain, etc.¹. Medical science has

enormous springs in terms of diagnosis and treatment yet there is renewed interest in leech therapy among modern as well as traditional medicine practitioners. Most of the studies on leech therapy are found for plastic surgery and pain reduction in osteoarthritis. The bite of a leech is actually painless. Recent studies have shown its melodramatic effect in relieving symptoms of osteoarthritis. Keeping this in

mind a case study was undertaken to assess the said benefits of leech therapy in inflammatory joint in reducing the symptoms.

AIMS AND OBJECTIVES

1. To evaluate the effect of leech therapy in inflammatory conditions of knee joint.
2. To evaluate the effect of its implication in reducing inflammation, pain and associated symptoms.

INCLUSION CRITERIA

- Patient with definite diagnosis of osteoarthritis.
- Diabetic individual on medications and under control.
- Patient with history of essential hypertension on medication.

EXCLUSION CRITERIA

- Infection.
- Wound.
- Existing ulcers, non-healing ulcer.
- Patient on nonsteroidal anti-inflammatory drugs.

MATERIALS AND METHODS

STUDY METHODOLOGY

Place –

OPD and IPD Department of Shalyatantra, D. Y. Patil Ayurveda Hospital & Research Centre. Nerul, Navi Mumbai.

Intervention

Four leeches (*Hirudo medicinalis*) were applied at painful peri-articular sites of the knee joint in a patient of Sandhigatavata with inflammatory changes

Duration of application – 30 min to 45 min

1st application- On 0 day

2nd application – On 3rd day

3rd application – On 6th day

1st Follow up – 15days

2nd Follow up – 1 month

3rd Follow up – 2 months

Duration with follow up – 2 months

Pre-operative & post-operative procedure of Leech therapy was followed.

Research Protocol

The research protocol was reviewed and approved by institutional ethics committee, included 3 sittings, follow up on 15th day, 1 month and at the end of 2 months. The patient fulfilling the diagnostic criteria were selected for the study and examined thoroughly.

The Patient was advised routine investigations including CBC, RBS, and LFT, blood urea, serum creatinine, BT, CT, HIV 1 and 2 before the leech therapy. X-Ray of the involved joint was also done to diagnose the disease. All reports are within normal limits.

LEECH THERAPY /JALŪKĀVACARAṆA

There are 12 variety of leeches found but; only 6 varieties of non-poisonous leeches are used for medicinal purpose. The sankumukhi type of leech is preferably used for medicinal purposes due to its easy availability and rapid blood sucking capacity.

As per standard explanation of Ayurveda, the leech neither too long, nor too small should be preferred for therapeutic purposes².

The leech should be stored in a well-labeled container having multiple pores on the top for proper ventilation. The water of the container should be replaced after 5-6 days. The leech should be feed in proper manner. It is better to avoid direct exposure of sunlight to the leeches.

Method of Application³

Pre-procedure/Purva karma:

Decontamination of leech by pouring the leech in water mixed with turmeric powder.

Patient preparation:

The part to which leech was to be applied was cleaned by normal saline and dried.

Procedure/Pradhana karma:

Gharshana was done with cow dung or mud on particular part where leech was to be applied. Before application the skin was pricked with a sharp and sterile needle so that a drop of blood would come out. Then the leech was applied through its mouth towards the affected part and when it acquired a horse shoe shape along with signs of active peristalsis the leech was covered by wet cotton. If the leech was not ready to suck the blood from the body part, then application of honey, ghrita was done. If after all this efforts Jalauka was not ready to suck the blood then new Jalauka was taken.

Observation of leech:

Itching and slight burning sensation at the site of bite. Pulsations on the body of leech was visible.

Removal of leech:

After 45-60 minutes the leech got detached by itself.

Post-procedure/Paschata karma:

Care of Patient:

After detachment of leech there was a triangular wound created by the mouth of the leech. The blood came out from the wound. The bleeding from wound was checked by application of turmeric (*Curcuma longa*) powder.

Care of Leech:

The leech that was applied to the lesion underwent the process of vamana. For the emesis of leech turmeric powder was applied over the mouth of the leech. Sometimes pressing of the leech from caudal to front-end was required for proper emesis. After proper emesis leeches were put in fresh water, where it swam swiftly and then settled down. The leech was replaced in a clean jar or aquarium.

Precautions during Leech Application

- Gentle handling of the leech.
- Cover the leech with wet cotton.
- Bleeding and clotting time of the patient should be normal.
- The frequency of leech application.

Generally leech should be applied once in a week for up to six sessions. One leech should be reserved for a particular patient to avoid cross infection.

CRITERIA FOR ASSESSMENT OF RESULTS

To assess the efficacy of the therapy objectively, all the signs and symptoms were given score depending upon their severity. Gradation of signs and symptoms were as following:

Pain

Gradation of pain was done by visual analogue scale

- 0- no pain
- 1-3 – mild pain
- 4-6 – moderate
- 7-9 – Severe
- 10 – worst possible

Swelling

- 0 – Nil
- 1 – Mild tenderness, causing patient to wince on digital pressure
- 2 – Moderate tenderness, causing patient to wince on withdrawal of digital pressure
- 3 – Severe tenderness, patient hesitant to touch and temperature variation.

Stiffness

- 0 – Nil
- 1 – Mild
- 2 – Moderate
- 3 – Severe

Restriction of Movement

0 - Absence of movement
1 - 75% restriction of movement

2 - 50% restriction of movement
3 - 25% restriction of movement

Parameters	Before treatment	After treatment
Pain	7	2
Swelling	3	1
Stiffness	3	0
ROM	1	3

Percentage of Relief		
Parameters	Before treatment	After treatment
Pain	70%	20%
Swelling	75%	25%
Stiffness	75%	0%
ROM	75%	25%

RESULTS

Application of leeches led to rapid relief of pain along with marked improvement in Swelling, Stiffness and Restriction of movement. There was sustained improvement even after 2 months in the absence of major complications. In this patient pain and Swelling was reduced by 50%, stiffness was reduced drastically upto 75% and Range of movement improved by 50% after the complete treatment.

DISCUSSION

There were many references found in *Charaka* and *Sushruta* that they treated successfully many painful wounds and other medical conditions such as *Kustha*, *Switra*, *Vatarakta*, *Sandhigataavata*, etc., by the application of leeches. Since long-term therapy for osteoarthritis of the knee has limited options and treatment carries significant risk for serious adverse effects in established science ⁴ new therapeutic approaches should be considered.

Leech therapy, although extensively used for treating pain throughout the medical history has never been evaluated in a modern scientific con-

text ⁵ these injuries include a variety of disorders that cause pain in bones, joints, muscles, or surrounding structures. The pain can be acute or chronic, focal or diffuse.

Acharya Vagbhata has explained the necessity of Leech therapy in painful conditions of the joints where all signs of inflammation are present. These pitta and rakta dominant conditions are to be tackled by applying leech which are by nature mild and have properties like moistness, sliminess, dampness, coldness. Their ability is to suck the vitiated blood and tackle such inflammatory conditions of the musculoskeletal system. In turn the leech salivary enzyme contains active substances which are proven anti-inflammatory, histamine like vaso dialators, superoxide production and poorly characterized anesthetics and analgesic compounds. By the application of leech in these inflammatory conditions of the joints the pathway of inflammation and thereby pain stimuli seem to be withdrawn.

CONCLUSION

Leech therapy is an effective treatment for rapid reduction of pain associated with conditions like inflammatory conditions of the joints. It is effective in vata, rakta dhatu vitiation. Leech therapy is specially indicated in rakta vitiated conditions and after drainage of vitiated rakta inflammation and pain subsides.

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