

# Effect of Leech Therapy on Varicose Ulcer: A Case Study

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## ABSTRACT

Varicose ulcer is a chronic venous ulcer commonly affecting the lower limbs due to venous insufficiency and impaired circulation. It is characterized by pain, edema, hyperpigmentation, discharge, and delayed wound healing. Conventional treatment often requires prolonged wound care and may show delayed recovery. In Ayurveda, varicose ulcer can be correlated with Dushta Vrana associated with Siragata Vata and Rakta Dushti<sup>[2]</sup>. Jalaukavacharana (leech therapy) is an important para-surgical procedure described in Sushruta Samhita under Raktamokshana Chikitsa. This case study demonstrates the efficacy of leech therapy in the management of a chronic varicose ulcer. Significant improvement was observed in pain, edema, discharge, and wound healing after repeated sittings of leech application.

**Keywords:** Varicose ulcer, Jalaukavacharana, Leech therapy, Dushta Vrana, Venous ulcer, Ayurveda.

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## INTRODUCTION

Varicose ulcer, also known as venous ulcer, develops due to chronic venous hypertension resulting from valvular incompetence of veins<sup>[3]</sup>. It commonly affects the gaiter area of the lower limb and is associated with prolonged standing, obesity, aging, and chronic venous insufficiency. Clinical features include: Non-healing ulcer, Pain and burning sensation, Edema, Hyperpigmentation, Serous discharge, Foul smell, Difficulty in walking<sup>[4]</sup>. In Ayurveda, these symptoms resemble Dushta Vrana. Acharya Sushruta advocated Raktamokshana therapy for diseases involving vitiated blood and localized congestion.<sup>[1]</sup> Leech therapy is considered especially useful in inflammatory and vascular disorders because of its anticoagulant, anti-inflammatory, and circulation-enhancing effects.

## CASE REPORT

A 52 years old Male patient came to OPD Shalyatantra department hospital with wound over left lower leg, Admitted to our hospital for further treatment and management.  
OPD/IPD No. -2025/1356

### Chief Complaints

Non-healing ulcer over left lower leg since 4 months  
Pain and burning sensation  
Swelling of left leg  
Serous discharge from ulcer  
Difficulty in walking

### History of Present Illness

The patient was apparently asymptomatic 1 year ago, after which he gradually developed dilated tortuous veins over the left lower limb associated with edema. Four months prior to admission, he developed an ulcer over the medial aspect of the left lower leg.

The ulcer gradually increased in size and was associated with pain, discharge, and blackish discoloration around the wound. The patient had taken conventional treatment with minimal improvement and was admitted for Ayurvedic management.

### Past History

No history of diabetes mellitus, No hypertension, No tuberculosis, No major surgery

### General Examination

Parameter	Findings
Pulse	78/min
BP	130/80mmHg
Temperature	Afebrile
Pallor	Absent
Icterus	Absent

### Local Examination

Findings	Description
Site	Medial aspect of left lower leg
Size of ulcer	5 × 4 cm
Shape	Irregular
Floor	Slough present
Margin	Irregular
Edge	Sloping
Discharge	Serous
Surrounding skin	Hyperpigmented
Tenderness	Present
Dilated veins	Present

### Investigation

Hb -12.4 gm%  
TLC- 8,200/mm<sup>3</sup>  
ESR- 28 mm/hr  
Blood Sugar- Normal  
HIV/HBsAg- Negative  
Venous Doppler on 8/08/25 s/o Varicose veins with venous incompetence

### DIAGNOSIS

**Modern Diagnosis** -Varicose ulcer due to chronic venous insufficiency.

**Ayurvedic Diagnosis** -Dushta Vrana associated with Siragata Vata and Rakta Dushti.

### TREATMENT PLAN

#### Local Treatment - Jalaukavacharana

Medicinal leeches applied around ulcer margins  
Once weekly for 8 sittings

#### Procedure

Cleaning of ulcer with normal saline  
Application of medicinal leech near congested area  
Allowing blood suction for 40- 50 minutes  
Detachment using turmeric powder  
Sterile dressing done after procedure

#### Internal Medications

Medicine	Dose	Duration
Triphala Guggulu	2 tablets BD	15 days
Kaishora Guggulu	2 tablets BD	15 days

Gandhak Rasayan	250 mg BD	15 days
Mahamanjishthadi Kwath	20 ml BD	15 days

### OBSERVATION AND RESULTS

Parameter	Before Treatment	After 8 Sitzings
Pain	Severe	Mild
Edema	Moderate	Minimal
Discharge	Present	Absent
Slough	Present	Reduced
Ulcer Size	5 × 4 cm	2 × 1.5 cm
Tenderness	Present	Absent

Photos of varicose ulcer before and after treatment.



### RESULT

Significant improvement was observed after 8 sittings of leech therapy: Reduction in pain and burning sensation, Decreased edema, Reduction in discharge and slough, Healthy granulation tissue formation, Reduction in ulcer size And Improved walking ability.

### DISCUSSION

Jalaukavacharana acts through both Ayurvedic and modern mechanisms.

#### Ayurvedic Perspective

Leech therapy:

1. Removes vitiated blood (Dushta Rakta)
2. Reduces Pitta and Rakta Dushti

- 3.Improves local circulation
- 4.Promotes Vrana Shodhana and Vrana Ropana

#### **Modern Perspective**

Leech saliva contains:

1. Hirudin (anticoagulant)
2. Calin (anti-platelet)
3. Hyaluronidase (improves tissue permeability)
4. Bdelins and eglins (anti-inflammatory)

These substances improve microcirculation, reduce venous congestion, enhance oxygenation, and promote wound healing. The present case showed marked clinical improvement after repeated sittings of leech therapy combined with Ayurvedic medicines.

#### **CONCLUSION**

Leech therapy (Jalaukavacharana) is an effective and safe Ayurvedic para-surgical procedure in the management of varicose ulcer. It helps reduce pain, edema, discharge, and promotes wound healing by improving venous circulation and reducing inflammation. This case study highlights the importance of integrating Ayurvedic therapies with proper wound care in chronic venous ulcers. Further clinical studies with larger sample sizes are needed to establish scientific validation and standardized protocols.

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