

Integrative Evidence-Based Ayurvedic treatment and Jalaukavacharana in the Management of Dushta Vrana: A Case Report

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ABSTRACT:

In Ayurvedic literature, "*Vrana*" refers to a disruption in tissue continuity. At the same time, "*Dushta Vrana*" denotes a chronic, non-healing wound characterized by persistent imbalances in the *Doshas* and deeper involvement of the *Dhatus*, particularly *Raktha* (blood). These wounds are similar to chronic ulcers described in modern medicine and are associated with prolonged morbidity and a decreased quality of life. A 38-year-old male professional driver presented with a chronic non-healing ulcer located on the lateral aspect of the right ankle joint, which had persisted for one year. The clinical features observed included irregular wound margins, an unhealthy ulcer bed exhibiting discoloration (*Krishna-Rakta*), foul discharge, localized edema, intermittent pain, and delayed healing. A history of previous trauma to the same area was reported, alongside contributory lifestyle factors such as chronic smoking and alcohol consumption. Based on a thorough Ayurvedic clinical assessment, the condition has been diagnosed as *Dushta Vrana* of venous origin. The patient was managed according to Ayurvedic principles of *Vrana Shodhana* and *Vrana Ropana*. *Jalauka Avacharana* (leech therapy). was used as the primary intervention to address *Raktha Dushti* and local venous congestion, with appropriate local wound care and internal medications. Clinical parameters such as pain, discharge, discoloration, edema, wound morphology, and granulation tissue formation were assessed periodically. Following intervention, the ulcer demonstrated significant clinical improvement, including reduction in pain, discharge, and surrounding skin discoloration, along with healthy granulation tissue formation and progressive wound healing. This case study demonstrates that classical Ayurvedic interventions, particularly *Jalauka Avacharana*, can be effective in managing *Dushta Vrana*. The findings suggest that Ayurveda offers a viable complementary approach for chronic non-healing ulcers, warranting further controlled clinical studies.

KEYWORDS: *Ayurveda, Chronic non-healing ulcer, Dushta Vrana, Jalauka Avacharana, Vrana Shodhana.*

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INTRODUCTION:

Dushta Vrana refers to a chronic, contaminated wound in which the normal healing process is disturbed due to persistent Dosha vitiation and deeper Dhatu involvement. Classical texts describe *Dushta Vrana* as having features such as wide and irregular margins, unhealthy appearance, foul-smelling purulent discharge, pain, burning sensation, and prolonged duration. [1] Vitiation of *Raktha Dhatu* plays a central role in its pathogenesis, and due to its close association with *Rasa Dhatu*, the pathological process gradually affects *Mamsa* and *Meda Dhatus*, resulting in delayed tissue repair. [2]

Chronic non-healing ulcers present a significant health burden due to prolonged morbidity, frequent recurrence, and economic and psychological stress on patients. Such ulcers are commonly associated with systemic conditions like diabetes mellitus, venous insufficiency, peripheral vascular disease, and infections such as leprosy. In India, chronic wounds of the lower limbs are frequently attributed to trauma, diabetes, venous disorders, and neuropathic conditions. Ageing further impairs wound healing, leading to increased prevalence of chronic ulcers in older populations. [3]

Ayurveda offers a holistic and structured approach to wound management through the concept of *Shashti Upakrama*, which comprises sixty therapeutic measures for wound care. These interventions focus on *Vrana Shodhana* (cleansing and

detoxification) and *Vrana Ropana* (promotion of healing and tissue regeneration) [1]. Procedures such as *Vrana Prakshalana*, application of *Lepa*, and internal administration of *Kashaya* aim to control infection, reduce inflammation, balance Doshas, and facilitate healthy granulation and epithelialization [4]

This case study presents the successful management of *Dushta Vrana* using classical Ayurvedic treatment principles, demonstrating the effectiveness of traditional interventions for chronic non-healing wounds.

The novelty lies in the integrative *Shodhana-Ropana* protocol incorporating repeated *Jalaukavacharana* for a 27-year-old post-traumatic *Dushta Vrana*. Sequential day-wise documentation demonstrated progressive wound-bed improvement and healing.

CASE REPORT:

A 38-year-old male patient, employed as a professional driver, presented to the Outpatient Department of Shalya Tantra, Chaudhary Brahm Prakash Ayurved Charak Sansthan, New Delhi, with complaints of a chronic non-healing ulcer over the lateral aspect of the right ankle joint, associated with blackish discoloration of the surrounding skin, localized swelling, and intermittent pain (Fig-1). The patient also reported hyperpigmentation of the left lower limb.

Chief Complaints

- Chronic non-healing ulcer over the lateral aspect of the right ankle
- Blackish discoloration of the surrounding skin
- Localized swelling around the ankle joint
- Intermittent pain
- Since 1 years

History of Present Illness

The patient first noticed a small ulcerative lesion over the lateral aspect of the right ankle approximately one year before presentation. The onset was insidious, followed by progressive discoloration and edema around the affected region. Despite undergoing conventional conservative management, including local wound care and medications, the ulcer failed to heal completely and persisted without remission, indicating a chronic course. There was no history of fever, acute infection, or sudden worsening of symptoms.

Past Medical History

- History of minor trauma to the same ankle region approximately 27 years ago
- No history of diabetes mellitus, hypertension, peripheral vascular disease, or peripheral neuropathy
- No previous surgical interventions on the affected limb

Personal and Lifestyle History

- Chronic alcohol consumption
- Regular cigarette smoking
- Mixed dietary habits
- Irregular bowel habits

Family History: NIL

Drug History : NIL

Allergy history : NIL

Relevant Psychosocial history : Nil

Considering the chronicity of the ulcer, associated skin changes, absence of systemic metabolic disorders, and occupational factors involving prolonged sitting, the condition was diagnosed as *Dushta Vrana*, likely of venous origin. Management was planned according to Ayurvedic principles of *Vrana Shodhana* and *Vrana Ropana*, with *Jalauka Avacharana* (leech therapy) employed as a key intervention to address *Raktha Dushti*, local congestion, and impaired wound healing.

Clinical Findings:

On general examination, the patient was conscious, oriented, and hemodynamically stable. Vital signs were within normal limits. Systemic examination did not reveal any abnormality. Bowel habits, appetite, and micturition were reported to be normal. Local examination of the affected limb revealed an ulcer located on the upper lateral aspect of the right leg, extending above and involving the lateral malleolus. The ulcer exhibited an irregular, non-uniform appearance with a partially oval to geographic outline. The margins were uneven and ill-defined. Surrounding skin features and other local signs were assessed in relation to the ulcer.

ROGIPARIKSHA

1. **Prakrithi:** *Pitta- kapha*

2. **Mala Pariksha:** *Prakrita* (normal bowel habits)

3. **Mootra Pariksha:** *Peeta* (yellow), *Prakrita*
4. **Jihwa:** *Aliptha jihwa*
5. **Shabda:** *Spashta* (clear speech)
6. **Drik:** *Prakrita* (normal vision)
7. **Aakriti:** *Prakrita* (normal body build)

ROGA PARIKSHA

The patient presented with *Dusta Vrana*, a chronic non-healing ulcer, located on the lateral aspect of the right ankle joint, just above the lateral malleolus. On local examination, the ulcer demonstrated an irregular and non-uniform morphology with a partially oval to geographic configuration. The margins were uneven and poorly defined, suggestive of an unhealthy wound edge. The ulcer bed showed features consistent with *dushta* pathology, including discoloration ranging from dark (*Krishna*) to reddish (*Rakta*), indicating chronic vitiation of tissues. The base appeared unhealthy with involvement of deeper structures, suggestive of *Mamsa dushti*. Palpation revealed variable consistency, ranging from soft (*Mridu*) to indurated (*Atikatina*), with altered local temperature, predominantly increased warmth (*Ushna*). Unhealthy discharge was observed, consistent with *Putipooya* and vitiated blood (*Dusta Shonita*), reflecting chronic inflammation and impaired wound healing. The ulcer was associated with persistent pain and demonstrated a prolonged course (*Deergha Kaalaanubandha*), confirming its chronic and non-healing nature.

VRANA PAREEKSHA

Vrana – 1
Edge and margin - Sloping, irregular margin,

Floor - Covered with unhealthy granulation tissue
Base - Indurated Discharge - Seropurulent
Surrounding area - Pigmented with black colour.
Tenderness - Slightly was Present.
Edema - Pitting edema of the dorsum of the right foot

VRANA PANCHALAKSHANAM

Gandha: *Poothi Gandam*
Varna: Reddish Discolouration
Sravam: *Snigdha Sravam*
Vedana: *Daha Osha*
Aakrithi : *Asama*

Investigations:

CBC (Hb - 13.3gm% TLC : 5700
PLATELET COUNT : 2.21LAKH
BLEEDING TIME : 1min 30 second
CLOTTING TIME: 4 min 50 sec
SEROLOGY: HBsAg - Negative
HIV I & II - Negative
Anti-HCV-negative

THERAPEUTIC INTERVENTION:

The details of prescribed medicines and time line is mentioned in table-1 and table-2 respectively

Diagnostic Assessment

The diagnosis was established based on a comprehensive clinical evaluation, Ayurvedic examination (*Roga Pariksha and Rogi Pariksha*), local wound assessment, and laboratory investigations. The patient presented with a chronic non-healing ulcer over the lateral aspect of the right ankle with irregular margins, unhealthy granulation tissue, seropurulent discharge, surrounding

hyperpigmentation, localized edema, and intermittent pain of prolonged duration. These clinical features were consistent with the classical description of *Dushta Vrana* in Ayurvedic literature [1].

Routine laboratory investigations, including complete blood count, bleeding time, clotting time, and serological screening for HIV, hepatitis B surface antigen (HBsAg), and hepatitis C virus (Anti-HCV), were performed to assess the patient's general health and fitness for *Jalaukavacharana* (leech therapy). All investigation results were within normal limits, and no evidence of systemic infection or hematological abnormality was detected.

The diagnosis of *Dushta Vrana*, likely of *venous origin*, was supported by the chronicity of the ulcer, its location around the ankle, surrounding skin pigmentation, pitting edema, history of prolonged sitting related to the patient's occupation as a professional driver, and the absence of diabetes mellitus, peripheral arterial disease, hypertension, peripheral neuropathy, or other systemic illnesses known to impair wound healing.

Patient Care Guidelines

The patient received detailed instructions regarding wound care, lifestyle modifications, medication adherence, and follow-up to optimize wound healing and prevent recurrence.

Wound Care

- The ulcer was cleaned regularly using *Panchavalkala Kwatham* [7] or sterile normal saline under aseptic conditions before dressing.

- *Jathyadi Tailam* [8] was applied as a local dressing after each wound cleansing to facilitate *Vrana Shodhana* (wound cleansing) and *Vrana Ropana* (wound healing).
- The patient was advised to keep the wound clean and dry, avoid contamination, and refrain from self-manipulation of the ulcer.
- Dressings were changed as scheduled, and the wound was examined for pain, discharge, edema, discoloration, granulation tissue, and reduction in wound size.

Care Following *Jalaukavacharana*

- The patient was instructed to keep the treated area clean and avoid rubbing or scratching the bite site.
- Mild oozing after leech therapy was explained as an expected finding and managed with sterile dressing.
- The patient was advised to report immediately if excessive bleeding, increasing pain, fever, foul-smelling discharge, or other signs of infection developed.

Limb Care

- Elevation of the affected lower limb during rest was advised to reduce venous congestion and edema.
- Prolonged standing or sitting with the legs dependent was discouraged.
- Trauma, excessive pressure, and friction over the ulcerated area were avoided.

Medication Adherence

The patient was instructed to continue the prescribed Ayurvedic medications throughout the treatment period as advised:

- *Brihat Manjisthadi Kwatham* – 40 mL twice daily.
- *Samshamani Vati* – Two tablets twice daily.
- *Chandraprabha Vati* – Two tablets twice daily.
- *Arogyavardhini Vati* – Two tablets twice daily.
- *Haritaki Choorna* – One teaspoon at bedtime with warm water.

Lifestyle and Dietary Advice

- Smoking cessation and abstinence from alcohol were strongly recommended to improve tissue perfusion and wound healing.
- A balanced diet rich in protein, fresh fruits, vegetables, and adequate fluids was advised to support tissue regeneration.
- Regular bowel habits were encouraged as part of maintaining

overall health according to Ayurvedic principles.

- Adequate rest and proper sleep were recommended, while strenuous activities that could increase stress on the affected limb were avoided.

Follow-up

The patient attended scheduled follow-up visits for clinical assessment. At each visit, wound healing was evaluated by assessing pain, discharge, edema, discoloration, wound dimensions, and granulation tissue formation. The healing stages are mentioned in table-2,3,4. The patient was advised to continue follow-up until complete wound healing was achieved and to return immediately if any recurrence or complications occurred.

Table-1: Therapeutic Intervention:

Drug	Dose	Frequency	Duration
Brihatmanjisthadhi kwatham	40ML	Twice daily	Throughout the treatment
Samshamani vati	2 TAB	Twice daily	Throughout the treatment
Chandraprabha vati	2 TAB	Twice daily	Throughout the treatment
Aarogyavardini vati	2 TAB	Twice daily	Throughout the treatment
Harithki choornam	1 TSP	At bedtime	Throughout the treatment

Table-2: Timeline

DAY 0 – 01/12/2025	1. Admission and baseline assessment were carried out. An active wound with bleeding was present. 2. The patient was planned for <i>Jalukavacharana</i> (leech therapy). 3. The ulcer was cleaned with <i>Panchavalkala Kwatha</i>, followed by dressing with <i>Jatyadi Taila</i>. The ulcer was subsequently kept open for observation.
DAY 1 – 02/12/2025	1. First sitting of <i>Jalukavacharana</i> (leech therapy): The first sitting of <i>Jalukavacharana</i> was performed. The ulcer was cleaned with normal saline, followed by dressing with <i>Jatyadi Taila</i>. The patient showed reduction in pain and less bleeding after the procedure. 2. The patient was prescribed <i>Brihat Manjisthadi Kwatha</i> 40

	ml-0-40 ml, <i>Samshamani Vati</i> 2-0-2 A/F, <i>Arogyavardhini Vati</i> 2-0-2 A/F, <i>Chandraprabha Vati</i> 2-0-2 A/F, and <i>Haritaki Choorna</i> 2 tsp with warm water at night.
DAY 4 – 04/12/2025	1. Second sitting of <i>Jalukavacharana</i> (leech therapy) was performed. The ulcer was cleaned with <i>Panchavalkala Kwatha</i>, followed by dressing with <i>Jatyadi Taila</i>. A decrease in discharge from the ulcer was noted. 2. The patient continued <i>Brihat Manjisthadi Kwatha</i> 40 ml-0-40 ml, <i>Samshamani Vati</i> 2-0-2 A/F, <i>Arogyavardhini Vati</i> 2-0-2 A/F, <i>Chandraprabha Vati</i> 2-0-2 A/F, and <i>Haritaki Choorna</i> 2 tsp with warm water at night.
DAY 10 – 12/12/2025	1. Third sitting of <i>Jalukavacharana</i> (leech therapy) was performed. Healthy granulation tissue was observed at the ulcer site, indicating improvement in the wound healing process. 2. The ulcer was cleaned with <i>Panchavalkala Kwatha</i>, followed by dressing with <i>Jatyadi Taila</i>. 3. The patient continued <i>Brihat Manjisthadi Kwatha</i> 40 ml-0-40 ml, <i>Samshamani Vati</i> 2-0-2 A/F, <i>Arogyavardhini Vati</i> 2-0-2 A/F, <i>Chandraprabha Vati</i> 2-0-2 A/F, and <i>Haritaki Choorna</i> 2 tsp with warm water at night.
DAY 14 – 16/12/2025	1. Fourth sitting of <i>Jalukavacharana</i> (leech therapy) was performed. A significant reduction in the wound size was observed, indicating progressive wound healing. 2. The ulcer was cleaned with <i>Panchavalkala Kwatha</i>, followed by dressing with <i>Jatyadi Taila</i>. 3. The patient continued <i>Brihat Manjisthadi Kwatha</i> 40 ml-0-40 ml, <i>Samshamani Vati</i> 2-0-2 A/F, <i>Arogyavardhini Vati</i> 2-0-2 A/F, <i>Chandraprabha Vati</i> 2-0-2 A/F, and <i>Haritaki Choorna</i> 2 tsp with warm water at night.
DAY 21 – 24/12/2025	1. Follow-up assessment: On follow-up, the wound was found to be healing well, with no bleeding observed. 2. Dressing was done with <i>Jatyadi Taila</i>. The patient was advised to continue <i>Arogyavardhini Vati</i> 2-0-2 A/F, <i>Chandraprabha Vati</i> 2-0-2 A/F, and <i>Haritaki Choorna</i> 2 tsp with warm water at night.

Table- 3: Clinical outcome table

Parameter	Baseline	Day 7	Day 14	Day 21
Pain (Vas)	8	5	3	1
Discharge	Profuse	Moderate	Mild	Nil
Edema	Present	Reduced	Minimal	Absent
Granulation Tissue	Poor	Improving	Healthy	Complete



Figure-1: Dusta Vranam (Non- Healing Wound)



Figure-2: Shudda Vranam (Clean Wound)



Figure-3: Rohitha Vranam (Healing)



Figure-4: Ruhyamana Vranam (Healed)

DISCUSSION:

According to Ayurvedic principles, the management of *Dushta Vrana* primarily involves *Vrana Shodhana* (wound cleansing) followed by *Vrana Ropana* (promotion of wound healing). In the present case, *Jalaukavacharana* served as the principal intervention for correcting *Rakta Dushti* and relieving local venous congestion. Classical Ayurvedic texts recommend *Jalaukavacharana* in chronic inflammatory conditions and *Dushta Vrana* because of its ability to remove

vitiated *Rakta*, reduce local Dosha accumulation, alleviate pain, and facilitate wound healing. From a modern biomedical perspective, the therapeutic effects of leech therapy are attributed to numerous biologically active molecules present in leech saliva, including hirudin, destabilase, bdellins, eglins, hyaluronidase, histamine-like vasodilators, and platelet aggregation inhibitors [13]. These compounds exhibit anticoagulant, thrombolytic, anti-inflammatory, vasodilatory, antimicrobial, and analgesic activities,

thereby improving microcirculation, relieving venous hypertension, reducing inflammation, enhancing tissue oxygenation, promoting angiogenesis, and accelerating wound repair. These mechanisms provide biological plausibility for the clinical improvement observed in the present case.

The favourable outcome was also likely supported by the combined actions of the internal and external Ayurvedic interventions. *Brihat Manjishadi Kwatham*, recognized for its *Rakta Shodhana*, anti-inflammatory, antioxidant, and antimicrobial properties, may have contributed to reducing inflammation and promoting tissue repair. *Samshamani Vati* (*Guduchi Ghana*), a well-known *Rasayana* formulation, possesses immunomodulatory, antioxidant, and anti-inflammatory activities that may enhance host defence mechanisms and facilitate tissue regeneration. *Chandraprabha Vati* and *Arogyavardhini Vati* are traditionally indicated for reducing *Kleda*, improving *Agni*, promoting *Srotoshodhana*, and correcting metabolic disturbances, thereby supporting wound healing at a systemic level. Local wound cleansing with *Panchavalkala Kwatham* [7] which possesses *Kashaya Rasa* along with (*Shodhana*(cleansing), *Ropana*(Healing) *Kledaghna* (Absorbent) and *Raktashodhaka*(Blood purification) properties, may have reduced exudate, controlled local infection, promoted wound contraction, and enhanced epithelialization. Application of *Jatyadi Tailam* [8], known for its *Shodhana*, *Ropana*, *Lekhana*, and *Vedanasthapana* properties, likely facilitated slough

removal, reduced pain, promoted healthy granulation tissue formation, and accelerated epithelial regeneration. Collectively, these interventions appear to have acted synergistically by reducing inflammation, controlling wound exudate, improving local circulation, promoting healthy granulation tissue, and facilitating conversion of *Dushta Vrana* into *Shuddha Vrana* and subsequently *Ruhyamana Vrana*.

The observed reduction in *Srava* (wound discharge), *Vedana* (pain), *Varna* (discoloration), and *Shotha* (edema) corresponds with the classical Ayurvedic description of progressive wound healing. Excessive *Srava* in *Dushta Vrana* reflects persistent *Dosha Dushti*, chronic inflammation, and impaired healing. Reduction in foul-smelling discharge together with improvement in wound colour and healthy granulation tissue formation indicates successful *Vrana Shodhana* followed by *Vrana Ropana*. Similarly, alleviation of pain may be explained through the removal of *Margavarodha*, pacification of aggravated *Vata* and *Pitta Doshas*, and improvement in local blood circulation following *Jalaukavacharana*. These classical explanations correlate well with contemporary understanding of reduced inflammatory mediators, improved perfusion, and enhanced tissue regeneration following hirudotherapy.

The findings of the present case are consistent with previously published Ayurvedic case reports describing successful management of *Dushta Vrana* and chronic venous ulcers using *Jalaukavacharana* combined with

Shodhana and *Ropana* therapies. Previous reports have similarly documented reductions in pain, edema, discharge, unhealthy granulation tissue, and progressive wound healing. However, the present case further demonstrates favourable clinical outcomes in a patient with chronic venous congestion and multiple lifestyle-related risk factors, thereby supporting the potential role of integrative Ayurvedic management in difficult-to-heal ulcers.

Overall, this case supports the potential role of *Jalaukavacharana*, combined with appropriate systemic and local Ayurvedic therapies, as a safe and effective complementary approach for the management of chronic non-healing ulcers. Further well-designed prospective studies and randomized controlled clinical trials employing objective wound-healing outcome measures are required to validate these findings and establish stronger evidence for the integration of Ayurvedic wound management into contemporary clinical practice.

CONCLUSION

The integrative Ayurvedic approach comprising *Jalaukavacharana*, *Vrana Shodhana*, *Vrana Ropana*, and internal medications was associated with progressive healing and symptomatic improvement of chronic *Dushta Vrana* without reported adverse events. As a single case report, these findings are not generalizable; further well-designed clinical studies with larger samples and longer follow-up are warranted to establish safety, efficacy, and reproducibility.

Patient Perspective

The patient reported gradual relief of pain and reduction in discharge after initiation of *Jalaukavacharana*. He expressed satisfaction with the improvement in wound healing and was able to resume routine occupational activities without discomfort.

Declaration of Patient Consent

Written informed consent was obtained from the patient for publication of this case report and the accompanying clinical photographs. The patient was informed about the nature and purpose of the publication, and consented to the use of anonymized clinical information and images for academic and scientific purposes. Every effort has been made to protect the patient's identity, and no identifying personal information has been disclosed in this manuscript. A copy of the signed informed consent is available for review by the Editor-in-Chief upon reasonable request.

Strength of study:

The principal strength of this report lies in the successful management of a chronic non-healing ulcer that had not responded adequately to previous conservative treatment, using a standardized classical Ayurvedic treatment protocol with serial clinical follow-up. Nevertheless, several limitations should be acknowledged.

Limitation of study:

This is a single-patient observation without a control group, objective wound-healing scales, quantitative wound-area measurements, microbiological culture, venous Doppler evaluation, or long-term follow-up to assess recurrence.

Consequently, although the clinical outcome is encouraging, the individual contribution of each therapeutic component cannot be determined.

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