

Management of Chronic Venous Ulcer Through Ayurvedic Wound Healing Protocols: A Case Report.

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ABSTRACT

Introduction: Chronic venous ulcers are a challenging manifestation of chronic venous insufficiency, characterized by venous hypertension, edema, inflammation, impaired microcirculation, and delayed wound healing. Comprehensive wound management addressing wound purification, local circulation, microbial contamination, inflammation, and tissue regeneration may be beneficial in chronic non-healing ulcers. The present case report describes the clinical outcome of a comprehensive Ayurvedic wound-management protocol in a patient with chronic bilateral venous ulcers.

Methodology: A 67-year-old male presented with non-healing ulcers over B/L lower limbs for approximately 4–5 years, associated with pain, itching, edema, and hyperpigmentation. Colour Doppler examination demonstrated multiple superficial perforators in the left lower limb, supporting the diagnosis of venous insufficiency ulcer. From an Ayurvedic perspective, the clinical presentation was correlated with Sirajanya Dushta Vrana. A comprehensive multimodal treatment protocol was administered, comprising Jalaukavacharana, followed by Tila Taila Dhara, Panchavalkala Kwatha Dhavana, and Vrana Dhoopana using a medicated formulation containing Sariva, Guduchi, Nimba, and Vacha. This was followed by appropriate aseptic wound dressing and local application of conventional Nimbapatradi Ghrita. Along with topical management adjuvant internal Ayurvedic medications were prescribed such as Triphala Guggulu, Gandhak Rasayana, and Mahamanjishtadi Ghanavati. The wound healing was assessed periodically by using modified Bates-Jensen Wound Assessment Tool.

Result: The patient showed markable clinical response with gradual reduction in pain, edema, wound discharge, slough, and inflammation. Similarly the wound bed turned cleaner, with development of healthy granulation tissue followed by epithelialization and wound contraction. The wound assessments demonstrated progressive improvement in the overall wound symptoms during the treatment and follow-up period of 1 month with complete healing of non-healing varicose ulcer in 35 days.

Conclusion: The present case report demonstrates a effective outcome following an integrated, multimodal Ayurvedic wound-management protocol incorporating Jalaukavacharana, Tila Taila Dhara, Panchavalkala Kwatha Dhavana, Vrana Dhoopana, aseptic wound dressing with Nimba Patradi Ghrita application, and internal adjuvant Ayurvedic medications. Moreover further controlled clinical studies with larger sample size is required to establish the efficacy and safety of this comprehensive treatment approach....

Keywords: Venous Ulcer, Wound Healing, Vrana Dhoopana, Panchavalkal Kwatha, Leech Therapy, Sirajanya Dushta Vrana....

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INTRODUCTION

Venous ulcer or stasis ulcer, is the advanced manifestation of chronic venous insufficiency and remains one of the leading causes of chronic lower-limb wounds worldwide.¹

It develops primarily due to persistent venous hypertension resulting from incompetence of superficial, deep, or perforator venous valves. The sustained elevation in venous pressure leads to venous stasis, microcirculatory

dysfunction, tissue hypoxia, inflammation, lipodermatosclerosis, and ultimately skin breakdown with ulcer formation.² Venous ulcers account for nearly 70–80% of chronic leg ulcers and are associated with prolonged morbidity, recurrent infections, reduced mobility, and a considerable decline in quality of life.³

Several predisposing factors contribute to the development of venous ulcers, including prolonged standing, increasing age, obesity, pregnancy, chronic constipation, deep vein thrombosis, hereditary predisposition, and occupations requiring long hours in the standing position.⁴ Clinically, these ulcers are commonly located in the ankle region of the leg, particularly around the medial malleolus, and are often accompanied by edema, hyperpigmentation, varicosities, eczema, and lipodermatosclerosis.⁵ Duplex Doppler ultrasonography is considered the investigation of choice for confirming venous reflux and assessing the severity of venous insufficiency.⁶

The conventional management of venous ulcers includes compression therapy, limb elevation, meticulous wound care, infection control, and optimization of venous circulation. Patients with persistent venous reflux or recurrent ulcers may require interventions such as endovenous laser ablation, radiofrequency ablation, ultrasound-guided foam sclerotherapy, skin grafting, or surgical correction of venous incompetence. Despite advances in vascular surgery and wound management, recurrence rates remain high, emphasizing the need for effective long-term therapeutic strategies.⁷⁻¹²

From an Ayurvedic perspective, the clinical presentation of venous ulcer closely resembles *Siragata Vata* associated with *Dushta Vrana*, where in vitiated *Vata* affects the *Sira* (veins), leading to impaired circulation, pain, discoloration, swelling, and delayed wound healing.¹³ Classical Ayurvedic texts advocate a comprehensive approach aimed at correcting the underlying doshic imbalance while promoting tissue repair. Acharya Sushruta has advocated *Raaktamokshan* by *Jalukavacharan* as a prime treatment modality for the management of such non healing ulcers caused due to *rakta dushti*.¹⁴ Ayurvedic texts describe numerous herbal formulations for the management of *Vrana*, with emphasis on the principles of *Vrana Shodhana* (wound cleansing) and *Vrana Ropana* (wound healing). Among these, *Panchavalkala Kwatha*, a decoction prepared from the bark of five medicinal trees, is widely indicated for wound cleansing because of its *Shodhana*, *Ropana*, anti-inflammatory, antimicrobial, and astringent properties.¹⁵ In addition, *Tila Taila Dhara*¹⁶ over the affected lower limb and *Vrana Dhupana*¹⁷ (medicated herbal fumigation) were administered as adjunctive therapies to further facilitate wound healing.

In the present case study, a patient of venous ulcer was managed by holistic treatment approach which included

raktamokshan by leech application, *Panchavalkala Kwatha* for *Vrana Dhavana* (wound irrigation), and daily dressing with *Nimb patradi ghrita*. In addition, *Tila Taila Dhara* over the affected lower limb and *Vrana Dhupana* (medicated herbal fumigation) were given as adjunctive therapies to further promote wound healing. These interventions were intended to improve local circulation, reduce inflammation and microbial contamination, maintain wound hygiene, and accelerate wound healing. This comprehensive treatment regimen included conventional wound care along with adjuvant Ayurvedic internal medications such as *Triphala Guggulu*, *Gandhak Rasayan*, and *Mahamajishtadi Ghana Vati* till complete healing of the ulcer.

Case Report:-

Patient Information:-

A 67-year-old male presented to our outpatient department with recurrent non-healing ulcers over the B/L lower limb with an onset since 6 months. The ulcers were associated with pain, itching and progressive hyperpigmentation of the surrounding skin. The patient had a history of varicose vein from 4-5-years and history of Hypertension, which was managed with oral hypertensive agents. There was no history of trauma, smoking, alcohol use, or family history of venous disease. Initially the condition started as a nodule from the bulged varicose vein which gradually developed into ulcers. However due to the persistence of symptoms without relief over the past three months, the patient discontinued the medications and sought Ayurvedic treatment.

Clinical Findings

General and Systemic Examination:-

The patient was conscious, cooperative, and well-oriented to time, place, and person. Systemic examination revealed no abnormalities in the respiratory system or central nervous system. The patient was a known case of hypertension and was taking tablet Telmisartan 40 mg twice daily after meals. The findings of the general examination and laboratory investigations are presented in Table 1.

Rogi Samanya Pariksha (General Examination as per Ayurveda):-

Ashtavidha Pariksha (eightfold examination) was performed. *Nadi* (pulse) exhibited *Sarpa Gati* with a rate of 80/min. *Mala* (stool) and *Mutra* (urine) were found to be *Prakruta* (normal). *Jivha* (tongue) was *Sama* (coated). *Shabda* (speech) was *Spashta* (clear). *Sparsha* (temperature) was *Anushna-Sheeta*. *Drik* (vision) was within normal limits. The patient had *Madhyama Akriti* (moderate build) and *Vata-Pradhana Pitta-Anubandhi Prakriti*.

Table 1: General Examination and Laboratory Investigations

SR.NO	Parameter	Findings
1	Pulse	80/min
2	Blood Pressure	130/80 mmHg
3	SpO ₂	99% on room air
4	Respiratory Rate	18/min

5	Weight	85.9 kg
6	Bowel Habit	1–2 times/day
7	Micturition	5–6 times/day
8	FBS	79 mg/dL
9	PPBS	144 mg/dL
10	HIV, HCV, HBsAg	Negative

Arterial and Venous Colour Doppler (06/05/2026)

-Multiple superficial perforators were noted in the left lower limb around the ankle and knee regions.

Examination of ulcer (Day 1)

Local Examination

On local examination, an ulcer was present over the lateral aspect of the left lower leg in the region of the lateral malleolus, measuring approximately 2×3 cm. The wound bed contained 25–50% loosely adherent yellow slough. Purulent exudate was present, characterized as opaque, tan-yellow in colour, thin to thick in consistency, and without any foul odour. The amount of exudate was scant, with the wound appearing moist and showing no observable drainage. The periwound skin exhibited blackish hyperpigmentation. Non-pitting edema was noted extending more than 4 cm around the wound, along with induration involving 2–4 cm of the surrounding tissue and affecting more than 50% of the wound circumference. Granulation tissue was absent, and epithelialization covered less than 25% of the wound surface.

On the right lower limb, a small ulcer was observed over the medial aspect of the lower leg in the region of the medial

malleolus, measuring approximately 0.5×0.5 cm. No necrotic tissue or exudate was present. The periwound skin appeared bright red and blanched on pressure. Mild non-pitting edema extending less than 4 cm around the wound and induration of less than 2 cm were noted. Healthy bright red granulation tissue covered 75–100% of the wound bed. Epithelialization was well established, covering 75–100% of the wound surface and extending more than 0.5 cm into the wound bed, indicating an advanced stage of healing.

Overall, the ulcers were located around the gaiter area of both lower limbs, with the larger active ulcer situated near the lateral malleolus of the left leg and the smaller healing ulcer near the medial malleolus of the right leg, consistent with chronic venous insufficiency-associated ulceration.

Diagnostic Assessment:-

Based on the patient's history and clinical presentation, a diagnosis of bilateral venous ulcers was established. According to the Ayurvedic assessment the Lakshanas described in Table No 2, the condition was correlated with *Sirajanya Dushta Vrana*.

Table 2: Vrana Pariksha (Wound Assessment as per Ayurveda)

Parameter	Findings
Vrana Sthana	Lateral aspect of the left lower leg and medial aspect of the right lower leg
Vrana Varna	Predominantly Krishna-Shyava Varna (blackish-brown discoloration) around the wound with areas of Rakta Varna (reddish granulation tissue) and yellowish slough in the wound bed
Vrana Strava	Alpa-Madhyama Puyayukta, Peeta-Shweta, Picchila Strava
Vrana Vedana	Daha and Kandu Yukta Teevra Vedana
Vrana Akriti	Left Lower Limb: 2×3 cm; Right Lower Limb: 0.5×0.5 cm

Table 3: BATES-JENSEN WOUND ASSESSMENT PARAMETER¹⁸

SR. NO	PARAMETER	GRADE	DESCRIPTION
1	Size	1	Length x width < 4sq cm
		2	Length x width 4 - <16 sq cm
		3	Length x width 16.1 - <36 sq cm
		4	Length x width 36.1 - <80 sq cm
		5	Length x width > 80 sq cm
2	Necrotic tissue type	1	None visible
		2	White/grey non-viable tissue &/or non-adherent yellow slough

		3	Loosely adherent yellow slough
		4	Adherent, soft, black eschar
		5	Firmly adherent, hard, black eschar
3	Necrotic tissue amount	1	None visible
		2	< 25% of wound bed covered
		3	25% to 50% of wound covered
		4	50% and < 75% of wound covered
		5	75% to 100% of wound covered
4	Exudate type	1	None
		2	Bloody
		3	Serosanguineous: thin, watery, pale red/pink
		4	Serous: thin, watery, clear
		5	Purulent: thin or thick, opaque, tan/yellow, with or without odor
5	Exudate amount	1	None, dry wound
		2	Scant, wound moist but no observable exudate
		3	Small
		4	Moderate
		5	Large
6	Skin color surrounding wound	1	Pink or normal for ethnic group
		2	Bright red &/or blanches to touch
		3	White or grey pallor or hypopigmented
		4	Dark red or purple &/or non-blanchable
		5	Black or hyperpigmented
7	Peripheral edema	1	No swelling or edema
		2	Non-pitting edema extends < 4 cm around wound
		3	Non-pitting edema extends ≥ 4 cm around wound
		4	pitting edema extends < 4 cm around wound
		5	Crepitus and/or pitting edema extends > 4 cm around wound
8	Peripheral induration	1	None present
		2	Induration, < 2 cm around wound
		3	Induration 2-4 cm extending < 50% around wound
		4	Induration 2-4 cm extending ≥ 50% around wound
		5	Induration > 4 cm in any area around wound
9	Granulation tissue	1	Skin intact or partial thickness wound
		2	Bright, beefy red; 75% to 100% of wound filled &/or tissue overgrowth
		3	Bright, beefy red; < 75% & > 25% of wound filled
		4	Pink, &/or dull, dusky red &/or fills ≤ 25% of wound
		5	No granulation tissue present
10	Epithelialization	1	100% wound covered, surface intact
		2	75% to < 100% wound covered &/or epithelial tissue extend
		3	50% to < 75% wound covered &/or epithelial tissue extends to
		4	25% to < 50% wound covered
		5	< 25% wound covered

Therapeutic Interventions:-

A comprehensive Ayurvedic treatment protocol comprising both local and systemic therapies was employed for the management of the venous ulcer. Initially, *Jalaukavacharana* (leech therapy) was performed around the ulcer and the surrounding hyperpigmented area. Subsequently, *Tila Taila Dhara* was administered locally by continuously pouring lukewarm sesame oil over the ulcer bed and periwound tissue. This was followed by *Vrana Dhavana* with *Panchavalka Kwatha* once daily as a wound-cleansing procedure. *Vrana Dhoopana* was performed using a medicated Varti prepared from *Nimba* (*Azadirachta indica*), *Sariva* (*Hemidesmus indicus*), *Guduchi* (*Tinospora cordifolia*), and *Vacha* (*Acorus calamus*) incorporated with *Panchatikta Ghrita*. Adjuvantly, *Nimba Patradi Ghrita* was applied locally at bedtime and sterile dressing done following *Dhoopana*. Alongside local therapies, internal medications

were administered to address the underlying pathophysiology and support tissue repair. *Triphala Guggulu* was prescribed orally at a dose of 360 mg, two tablets twice daily after meals. *Gandhak Rasayana* was administered orally at a dose of 350 mg, two tablets twice daily after meals. *Mahamanjishtadi Ghanavati* was prescribed orally at a dose of 310 mg, two tablets twice daily after meals. The combined therapeutic approach was aimed at achieving *Vrana Shodhana* (wound purification), *Shotha Hara* (reduction of inflammation and edema), *Rakta Prasadana* (improvement of blood circulation), and *Vranaropana* (wound healing), thereby facilitating progressive ulcer healing and restoration of tissue integrity. The details of the clinical and therapeutic interventions timeline administered during the treatment period are mentioned in Table No 4. Clinical progression of venous ulcer during the course of treatment demonstrating sequential wound healing in FIGURE NO.15

Table no.4 - Timeline of clinical event and therapeutic interventions:-

Date / Follow-up	Clinical Events	Intervention Given
07/07/2026 (Admission)	Patient admitted with venous ulcer associated with pain, edema, and hyperpigmentation. Known case of HTN on Tab. Telmisartan 40 mg 1BD AF	<i>Jalaukavacharana</i> performed (two leech apply at left ulcer site). Internal medicines started: <i>Triphala Guggulu</i> , <i>Gandhak Rasayana</i> , <i>Mahamanjishtadi Ghana Vati</i> .
08/07/2026	Dressing of the Wound and assessment of parameters.	<i>Til Taila Dhara</i> , <i>Panchavalka Kwatha Dhavana</i> , <i>Dhoopana</i> with <i>Nimba-Sariva-Guduchi-Vacha Varti</i> , dressing with <i>nimb patradi ghrita</i> Internal medicines continued.
08/07/2026 – 16/07/2026 (Hospital Stay)	Daily wound care during hospital stay.	Continued <i>Til Taila Dhara</i> , <i>Panchavalka Dhavana</i> , <i>Dhoopana</i> , dressing with <i>nimb patradi ghrita</i> and internal medicines.
07/07/2026 – 07/08/2026	Dressing of the Wound and assessment of parameters.	<i>Triphala Guggulu</i> 360 mg, 2 tablets BD after food; <i>Gandhak Rasayan</i> 350 mg, 2 tablets BD after food, <i>Mahamanjishtadi Ghanavati</i> 310 mg, 2 tablets BD after meals administered for 30 days.
17/07/2026- 07/08/2026 (Follow-up)	Dressing of the Wound and assessment of parameters.	Alternate day dressing with <i>Nimb patradi ghrita</i> continued. Internal medicines (<i>Triphala Guggulu</i> , <i>Gandhak Rasayana</i> , <i>Mahamanjishtadi Ghana Vati</i>) continued.
11/08/2026	Final Assessment	Complete Wound healing Achieved.

Procedure of leech therapy (SOP)¹⁹:-

Purva karma (~pre-operative):- The procedure was explained to the patient and informed consent was obtained. The patient was positioned comfortably in a supine position, patient was informed about the Leech therapy

procedure to reduce anxiety the ulcer site was prepared (cleaned) with tap water.

Pradhan karma (~operative):- 2 leeches were applied to the left lower leg ulcer site. leeching finished spontaneously within 40 minutes of application. leech activity monitored

during the first 10 min, then assisted patient when leeches finished and fell off.

Paschat karma (~post operative):- There after that the turmeric powder is applied to the wound and sterile dressing is done which helps in stopping ooze and promote healing.



Figure no.1 – Leech Therapy

Procedure of *Taila Dhara*²⁰ (~Warm oil irrigation):-

Purva Karma (~Pre-operative):- The procedure was explained to the patient and informed consent was obtained. The patient was positioned comfortably in a supine position with the affected limb slightly elevated. All aseptic precautions were maintained and the therapist performed proper hand hygiene. The ulcer and surrounding area were gently cleaned with sterile normal saline to remove any discharge, slough, or debris. Sterile gauze were placed around the wound area. *Tila Taila* was warmed to a lukewarm temperature and transferred into a sterile Dhara vessel.

Pradhana Karma (~operative):- The Dhara vessel was held at a height of approximately 10–15 cm above the ulcer. A continuous stream of lukewarm *Tila Taila* was poured gently over the ulcer and surrounding tissues. The oil was allowed to flow uniformly over the wound surface and collected in a sterile tray placed beneath the limb. *Taila Dhara* was continued for approximately 20–30 minutes daily.

Paschat Karma (~Post-operative):- After completion of dhara the wound was then covered with sterile gauze .



Figure no.2 - Procedure of Warm oil irrigation

Procedure of *Panchavalka Kwatha Dhavana*²¹:- (~Cleansing with Medicated Decoction)

Method of Preparation - Coarse powder of *Panchavalka* was taken and mixed with eight parts of water. The mixture was boiled over mild heat with continuous stirring and reduced to one-fourth of its original volume. The decoction was filtered through a clean sterile cotton cloth and allowed to become lukewarm before use.

Purva Karma (~pre-operative) - The procedure was explained to the patient, and Informed consent was obtained. The patient was placed comfortably in a supine position with the affected limb elevated. Hand hygiene and aseptic precautions were maintained. The wound was initially cleaned with normal saline to remove slough and debris.

Pradhana Karma (~operative) - The ulcer was gently irrigated with lukewarm *Panchavalka Kwatha*. Cleaning was performed from the healthier area toward the ulcer bed. Slough, debris, and discharge were gently removed using sterile gauze. Irrigation was continued until the wound appeared clean.

Paschat Karma (~post-operative)

Following Dhavana, wound was then covered with sterile gauze .



Figure no .3 – Procedure of Vrana dhavan (~Cleansing with Medicated Decoction)

Procedure of *Vrana Dhoopana*²²:- (~Herbal Fumigation)

Method of Preparation - Powders of *Azadirachta indica*, *Hemidesmus indicus*, *Tinospora cordifolia*, and *Acorus calamus* (5 g each) were mixed in equal proportions with *Panchatikta Ghrita*. A sterile gauze piece measuring approximately 6 cm was soaked in the mixture and rolled into the form of a Varti. The Varti was allowed to dry and then stored in a sterile container until use.

Purva Karma(~pre-operative) - The procedure was explained to the patient, and written informed consent was obtained. The patient was positioned comfortably in a supine position with the affected limb elevated. The wound was cleaned with 0.9% normal saline to remove slough and debris.

Pradhana Karma(~operative) - The sterile medicated Varti was ignited, and the medicated fumes were directed toward the ulcer site for approximately 5–10 minutes. Care was taken to ensure adequate exposure of the wound to the medicated smoke without causing discomfort to the patient.

Paschat Karma(~post-operative) - After completion of *Dhoopana*, sterile dressing with *Nimb patradi ghrita* was applied. The patient was advised to maintain local hygiene and avoid contamination of the wound.



Figure no. 4 – Procedure of *Vrana Dhoopan* (~Herbal Fumigation)

FOLLOW-UP AND OUTCOME:-

The patient was followed up regularly during the treatment period, and wound healing was assessed serially using the Bates-Jensen Wound Assessment Tool (BWAT) mention in Table No 3. The assessment included wound characteristics such as necrotic tissue, amount and type of exudate, periwound skin changes, peripheral tissue edema and induration, granulation tissue, and epithelialization. At baseline, the left lower-limb ulcer measured approximately 2 × 3 cm and was associated with yellowish slough, purulent exudate, marked periwound hyperpigmentation, edema, induration, absence of healthy granulation tissue, and minimal epithelialization. The right lower-limb ulcer measured approximately 0.5 × 0.5 cm and showed comparatively advanced healing, with healthy granulation tissue and established epithelialization. During serial follow-up, progressive clinical improvement was observed. The amount of necrotic tissue and wound exudate gradually decreased, accompanied by improvement in periwound skin colour, edema, and induration. The wound bed progressively became cleaner, with development of healthy granulation tissue followed by epithelialization and wound contraction. A corresponding reduction in pain, edema, discharge, and local inflammatory changes was also observed. The right lower-limb ulcer showed comparatively rapid healing and was documented as healed by 17/07/2026 and detailed assessment of the ulcer has been mentioned in Table no.6. The left lower-limb ulcer demonstrated gradual improvement with progressive reduction in slough, exudate, edema, and induration, together with increasing granulation and epithelialization during subsequent follow-up. Daily local wound care with *Nimbapatradi Ghrita* was continued, along with the prescribed internal medications.

Table No.6:-Detailed assessment of ulcer

Figure 5 – Baseline (Left Leg-Day 0)	Figure- 6 Baseline (Right Leg-Day 0)	Figure-7 Left Leg (Day 3)
		



Result:-

The left lower limb ulcer demonstrated a progressive and sustained reduction in symptom severity throughout the treatment period as assessed by the Bates-Jensen Wound Assessment Tool mention in table no 5. Compared with the baseline assessment on 07/07/2026, the overall wound-assessment score decreased by 7.5% on 09/07/2026 and 15.0% on 11/07/2026, indicating early clinical improvement. The reduction further increased to 22.5% on 15/07/2026 and 32.5% on 19/07/2026, reflecting a gradual decline in wound severity. A marked improvement was observed thereafter, with symptom reduction reaching 47.5% on 23/07/2026 and 52.5% on 25/07/2026. Continued

healing was evident with reductions of 57.5% on 27/07/2026 and 62.5% on 29–30/07/2026. During the subsequent follow-up period, the ulcer showed further improvement, achieving a 67.5% reduction on 01/08/2026 and 72.5% on 03–05/08/2026. By 07/08/2026, the reduction had increased to 75.0%, reaching 77.5% on 09/08/2026, which was maintained until the final assessment on 11/08/2026. Overall, the findings indicate substantial and sustained wound healing, with a total reduction of 77.5% in wound-assessment scores from baseline to the end of the observation period.

Table 5 – Detailed wound assessment during treatment

vitiating of *Vata* and *Pitta Dosha* along with *Rakta Dushti*,

Sr. no	Parameter	07/07/26	09/07/26	11/07/26	13/07/26	15/07/26	17/07/26	19/07/26	21/07/26	23/07/26	25/07/26	27/07/26	29/07/26	30/07/26	01/08/26	03/08/26	05/08/26	07/08/26	09/08/26	11/08/26
1	Site of ulcer	L	R	L	R	L	R	L	R	L	R	L	R	L	L	L	L	L	L	L
2	Size	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	Necrotic Tissue Type	3	3	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
4	Necrotic Tissue Amount	3	3	3	1	2	1	2	1	2	1	2	1	2	2	1	1	1	1	1
5	Exudate Type	5	1	5	1	3	1	4	1	4	1	4	1	3	3	2	2	2	1	1
6	Exudate Amount	2	1	2	1	5	1	2	1	2	1	2	1	2	1	1	1	1	1	1
7	Surrounding Wound Skin Colour	5	1	5	2	2	2	4	1	4	1	3	1	3	2	2	2	2	1	1
8	Peripheral Tissue Edema	3	2	3	2	5	2	3	1	2	1	2	1	2	2	1	1	1	1	1
9	Peripheral Tissue Induration	4	2	4	2	3	2	4	1	3	1	3	1	3	3	2	2	1	1	1
10	Granulation Tissue	5	2	5	2	4	2	5	1	4	1	4	1	4	4	3	3	3	2	2
11	Epithelialization	5	2	5	2	5	2	5	1	4	1	4	1	4	4	3	3	3	2	2

Discussion:-

Venous ulcer represent the most advanced clinical manifestation of chronic venous insufficiency and is characterized by persistent venous hypertension, impaired microcirculation, chronic inflammation, tissue hypoxia, and delayed wound healing. These ulcers are associated with recurrent infections, prolonged morbidity, and a substantial reduction in quality of life. In the present case, the patient had a long-standing history of varicose veins accompanied by bilateral lower limb ulceration, edema, itching, pain, and hyperpigmentation. The ulcer was located in the gaiter region near the malleolus, a characteristic site of venous ulceration. Colour Doppler examination revealed multiple superficial perforators in the left lower limb, corroborating the diagnosis of chronic venous insufficiency. From an Ayurvedic perspective, the clinical presentation correlated with *Sirajanya Dushta Vrana*, characterized by *Krishna-Shyava Varna* (blackish discoloration), *Puyayukta Strava* (purulent discharge), *Daha*, *Kandu*, *Vedana*, and delayed wound healing.²³ The pathogenesis can be understood as the

leading to impaired circulation through the *Sira*, defective tissue nutrition, chronic inflammation, and subsequent ulcer formation. Therefore, the treatment strategy was aimed at achieving *Rakta Prasadana*, *Shotha Hara*, *Vrana Shodhana*, and *Vrana Ropana* simultaneously.²⁴

Jalaukavacharana, performed on the day of admission, served as the primary intervention for relieving venous congestion and local inflammation. The anticoagulant, vasodilatory, and anti-inflammatory bioactive molecules present in leech saliva are known to improve local microcirculation, reduce tissue edema, alleviate pain, and enhance oxygen and nutrient delivery to the wound bed. This intervention facilitated the removal of vitiated blood (*Dushta Rakta*) and created a favorable environment for subsequent wound-healing procedures.²⁵

Following *Jalaukavacharana*, *Tila Taila Dhara* was administered daily as a local therapeutic modality. *Tila Taila* possesses *Snigdha*, *Guru*, and *Vatahara* properties and is traditionally indicated for improving tissue nourishment and promoting healing. Continuous irrigation of the ulcer with lukewarm *Tila Taila* maintained a moist

wound environment, reduced tissue dryness, improved local blood flow, and enhanced tissue perfusion. These effects likely contributed to improved granulation tissue formation and accelerated wound repair.²⁶⁻²⁹

Panchavalkala Kwatha Dhavana was employed as a wound-cleansing procedure (*Vrana Shodhana*). *Panchavalkala* is rich in *Kashaya Rasa* and possesses documented antimicrobial, anti-inflammatory, astringent, and wound-healing properties. Regular irrigation with the decoction aided in the removal of slough, exudate, and necrotic debris while reducing microbial burden and local inflammation. This facilitated wound bed preparation and promoted the formation of healthy granulation tissue.³⁰

Vrana Dhoopana using a medicated *Varti* prepared from *Nimba*³¹ (*Azadirachta indica*), *Sariva* (*Hemidesmus indicus*), *Guduchi* (*Tinospora cordifolia*), and *Vacha* (*Acorus calamus*) mixed with *Panchatikta Ghrita* was administered as an adjunctive wound-purification measure. *Nimba* and *Guduchi* possess well-documented antimicrobial, anti-inflammatory, and immunomodulatory properties, whereas *Sariva* contributes to *Rakta Prasadana* and *Vacha* exhibits antimicrobial and deodorizing actions. The medicated fumigation helped reduce local contamination, improve wound hygiene, and create an environment conducive to tissue regeneration.

Nimba Patradi Ghrita was used as a local dressing throughout the treatment period. The formulation, containing *Nimba*, *Tila Kalka*, *Ghrita*, and *Madhu*, possesses significant *Vrana Shodhana* and *Vrana Ropana* properties. *Nimba* provides antimicrobial and anti-inflammatory effects, *Madhu* facilitates autolytic debridement and maintains optimal wound moisture, while *Ghrita* supports tissue regeneration and epithelialization. *Tila Kalka* further enhances local nourishment and tissue repair. The synergistic action of these ingredients promoted granulation tissue formation, epithelialization, wound contraction, and scar maturation, thereby accelerating wound healing.³²

Internal medications played an important role in addressing the systemic pathology associated with chronic venous insufficiency. *Triphala Guggulu*³³ acted as a *Shothahara*, *Vranashodhaka*, and *Lekhana* agent, reducing inflammation and promoting wound healing. *Gandhak Rasayana*³⁴ functioned as a potent *Rasayana* with antimicrobial, antioxidant, and immunomodulatory activities, thereby enhancing tissue regeneration and resistance to infection. *Mahamanjishtadi Ghanavati*³⁵, owing to its *Rakta Shodhaka* and anti-inflammatory properties, improved microvascular circulation, reduced venous congestion, and mitigated hyperpigmentation and inflammatory changes in the affected limb.

Clinically, progressive improvement was observed throughout the treatment period. Reduction in pain, edema, discharge, and periwound inflammation was evident following *Jalaukavacharana* and subsequent wound-care procedures. The wound bed became cleaner with a marked reduction in slough and exudate. Healthy granulation tissue developed progressively, followed by epithelialization and wound contraction, resulting in a significant reduction in ulcer size. These observations indicate that the integrated

Ayurvedic treatment protocol effectively addressed both the local wound pathology and the underlying circulatory impairment responsible for delayed healing.

The favorable clinical outcome observed in this case suggests that a multimodal Ayurvedic approach comprising *Jalaukavacharana*, *Tila Taila Dhara*, *Panchavalkala Kwatha Dhavana*, *Vrana Dhoopana*, *Nimba Patradi Ghrita* dressing, and appropriate internal medications may offer a safe, holistic, and cost-effective strategy for the management of chronic venous ulcers. Nevertheless, larger controlled clinical studies are warranted to further validate these findings and establish standardized evidence-based treatment protocols.

Conclusion:-

This case suggests that an integrated Ayurvedic wound management protocol comprising of *Jalaukavacharana*, *Tila Taila Dhara*, *Panchavalkala Kwatha Dhavana*, *Vrana Dhoopana*, and *Nimba Patradi Ghrita* dressing, along with internal medications has been proven effective in the management of chronic venous ulcers. It can be hypothesized that the treatment facilitated wound debridement, reduced inflammation, relieved venous congestion, promoted granulation tissue formation, re-epithelialization, and accelerated wound healing. Further clinical studies are warranted to validate these findings in a larger population...

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