

## ROLE OF NIMBA PATOLA PATRA KWATH, MADHU GHRITA LEPA AND SAHACHARADI TAILA ABHYANG IN THE MANAGEMENT OF CHROINC VENOUS ULCER: A CASE STUDY

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### ABSTRACT

**Introduction:** Venous leg ulcers are chronic wounds caused by venous insufficiency and are characterized by pain, discharge, foul odor, itching, and delayed healing. In Ayurveda, such chronic infected ulcers can be correlated with Siragranthi janya Dushta Vrana. The present case report evaluates the efficacy of Neem-Patolapatradi Kwatha Prakshalana, Madhu-Ghrita Lepa and sahacharadi taila Abhyanga in the management of a venous ulcer. **Methods:** A 45-year-old male presented with multiple ulcers over the left leg associated with pain, purulent discharge, foul smell, itching, and difficulty in walking for six months. Bilateral lower limb varicosities were present. After clinical examination and investigations, the condition was diagnosed as Dushta Vrana (venous ulcer). Following wound debridement, daily wound irrigation with freshly prepared Neem-

Patolapatradi Kwatha was performed, followed by application of Madhu-Ghrita Lepa and sterile dressing. Kaishore Guggulu and Mahamanjisthadi Kwatha were administered internally, along with Sahacharadi Taila Abhyanga. **Results:** Progressive reduction in pain, itching, discharge, and foul smell was observed during treatment. Healthy granulation tissue developed, and ulcer size decreased steadily. Complete healing of all ulcers was achieved within 30 days without complications or adverse effects. **Discussion and Conclusion:** The combined Vrana Shodhana and Vrana Ropana effects of Neem, Patola, Madhu, and Ghrita, supported by internal Ayurvedic medications, contributed to effective wound healing. This

case suggests that the Ayurvedic treatment protocol may be beneficial in the management of venous ulcers and warrants further clinical evaluation.

**KEYWORDS:** Dushta Vrana, Venous Ulcer, neemb patol patra kwath, Madhu ghritha lepa, sahacharadi taila, Wound Healing.

## BACKGROUND

Venous ulceration is the most common type of leg ulceration and a significant clinical problem, affecting approximately 1% of the population and 3% of people over 80 years of age in westernized countries.<sup>[1]</sup> Venous ulcer, also known as varicose ulcer, is the most common type of chronic lower limb ulcer resulting from chronic venous insufficiency and sustained venous hypertension. It typically occurs in the gaiter zone of the leg, particularly on the medial aspect of the lower one-third of the leg along the distribution of the long saphenous vein, and less commonly on the lateral aspect associated with short saphenous vein incompetence. Clinically, venous ulcers are usually shallow and superficial with sloping edges, a floor covered by pale granulation tissue, and are generally confined above the deep fascia. The surrounding skin often exhibits hyperpigmentation, induration, edema, lipodermatosclerosis, itching, and tenderness due to chronic venous stasis. Women are affected more frequently, and ulceration commonly develops after years of untreated venous disease.

The pathogenesis of venous ulceration is attributed to persistent venous hypertension leading to microcirculatory disturbances. The widely accepted Fibrin Cuff Theory proposes that fibrin deposition around capillaries impairs diffusion of oxygen and nutrients to tissues, while the White Cell Trapping Theory suggests leukocyte sequestration within capillaries causing inflammation, endothelial damage, and tissue hypoxia. These mechanisms ultimately result in delayed wound healing and chronic ulcer formation.<sup>[2]</sup>

In Ayurveda, venous ulcer can be correlated with Shiragranthi Janya Dushta vrana.<sup>[3]</sup> When Shiragranthi persists for a Deerghakalanubadhi Avastha (~ prolonged period) and remains untreated, continuous exposure to Nidana sevan (~ Etiological factors) leads to vitiation of Dosha, Dushya and Rakta, resulting in impaired local circulation and tissue nutrition. Clinically manifests with Vivarnta (~Discoloration), Ruja (~ Pain), Shtotha (~ swelling) and eventually progress to a chronic non-healing ulcer as Dushta vrana.<sup>[4]</sup> The management of venous ulcer in Ayurveda is based on the principles of Dushta vrana chikitsa, emphasizing on

Shodhana(wound cleansing) and Ropan ( Wound healing) as decribed under Shashti upkarma (60 treatment modalities of wound) by Acharya susruta.<sup>[5,6]</sup> In the present study , an attempt was made to apply these classical principles though Nimba-Patola Patra kwath prakshalna (wound irrigation), Madhu Ghrita lepa, Sahacharadi Taila Abhyanga (~medicated massage) and appropriate internal medications. The treatment was aimed at wound cleansing, improving circulation, promoting local circulation, promoting healthy granulation tissue formation, accelerating wound healing and alleviating the symptoms associated with chronic venous ulcer, thereby enhancing the patient's quality of life.

### CASE PRESENTATION

A 45 year male patient presented to the OPD of Shalya Tantra with complaints of multiple ulcers over left lower limb associated with pain, purulent discharge, foul smell, itching and difficulty in walking for past six months. The patient also had prominent varicosities over both lower limbs. The symptoms had gradually progressed despite previous conservative treatment.

There was no history of diabetes mellitus, hypertension, thyroid disorder, tuberculosis, trauma or any other major systemic illness. The patient had no significant surgical history and no known drug allergies.

### Clinical findings

#### General examination

**Table 1: Systemic Examination.**

CNS	Well conscious and oriented to time, person and place.
CVS	S1 S2 normal
RS	Bilateral airway clear and symmetrical, normal vesicular breathing heard , No added sounds heard.
GIT	Scar mark absent, No organomegaly ,soft,non-tenderness abdomen

#### On local examination

Number of ulcers – 3 Site of ulcer – two on posterior aspect of left lower limb and one near medial malleolus of left leg. Ulcer size- posterior aspect measuring 3×3×0.5 cm(upper one) and 1.5×1.5×0.5 cm (lower one) and 3.5×3.5×0.5 cm over left medial malleolus.

Floor – covered with slough and unhealthy granulation tissues

Margin – sloped

Discharge – purulent

Order- foul

Surrounding skin- pigmented and suggestive of chronic venous insufficiency On examination of venous system, dilated and tortuous veins were observed in both upper thigh tested positive for Trendelenburg test and Mose's sign confirmed it to be a varicose ulcer. Peripheral pulses were palpable and there were no clinical feature suggestive of arterial insufficiency.

**Table 2: Asthtavidha Pariksha (~ 8 Folds of examination).**

Nadi	80 /min., Regular
Mutra	3-4 times a day and 0-1 times at night, Pale yellow in color and odourless.
Mala	Once /day with Niram mala symptoms
Jihwa	Malavrita (coated)
Shabda	Gambhira (Kaphaj prakriti)
Sparsha	Anushana sheeta, Snigdha
Drik	Prakrit (Normal)
Aakriti	Madhyam

**Table 3: Dashvidha Pariksha (~ 10 Folds of examination)**

Prakriti	Pitta- kaphaja
Vikriti	Dosha Dushya Nimitta (mainly tridosha dosha and Rakta dhatu)
Saara	Madhyam
Samhanana	Madhyam
Satmaya	Madhyam
Satva	Madhyam
Pramana	Madhyam
Ahara shakti	Abhyaharana Shakti: Madhyam, Jarana shakti: Madhyama
Vyayama	Madhyam
Vaya	Madhyavastha

Based on detailed history, clinical examination and laboratory investigations, the case was diagnosed as Siragranthi janya Dushta vrana corresponding to venous(varicose) ulcer.

## INVESTIGATIONS

TLC –  $5.46 \times 10^3 / \text{mm}^3$

Platelet count-1.57 lakh

Hb%-11.4 g/dl

RBS- 76 mg/dl

TSH-0.37  $\mu\text{IU/ml}$

BT-1 min 46 sec

CT-4 min 49 sec

Sr creatinine- 1 mg/dl

Blood urea-18 mg/dl

ECG- sinus rhythm

HIV, HbsAg, AntiHCV- non reactive

x-ray of left foot (AP/Lateral view)- Mild soft tissue swelling noted

## **MATERIALS and METHODS**

As per ayurveda classical classics, the management of Dushta Vrana primarily involves Shodhan(wound cleansing and purification) followed by Vrana Ropana(promotion of wound healing).

In the present case, treatment was planned on the principles of Dushta vrana chikitsa.

### **Therapeutic interventions**

#### **External medications**

1. Neemb Patol Patra kwath<sup>[7]</sup> – After proper wound debridement, wound was irrigated with freshly prepared kwath from leaves of Neemb(Azadirachta indica) and Patol(Tricosanthes dioica) with the help of a sterile 20 ml syringe.  
Dose of kwath- quantity sufficient to wash wound.
2. Madhu Ghrita lepa<sup>[8]</sup>– After cleaning the wound with kwath, wound was dried with sterile gauze. Daily freshly prepared kalka(paste) of Madhu(Honey) and Ghrita was applied over wounds. The wound was covered with sterile gauze and dressed properly using aseptic precautions.

Daily dressing was performed for 30 days and the wound was assessed at regular intervals for signs of healing.

3. Daily local abhyanga with Sahachradi tail<sup>[9]</sup> over bilateral lower limb in Anuloma(downward direction).

#### **Internal medications**

##### **1. Kaishore guggulu<sup>[10]</sup>**

Dose – 2 pills twice daily after food with leukwarm water for 30 days.

##### **2. Mahamanjsthadi kwath<sup>[11]</sup>**

Dose – 20 ml twice daily after food for 30 days.

Advised for lower limb elevation.

No Antibiotics was administered to the patient.

### Assesement criteria

**Table 4: Subjective parameter with scoring.**

Pain (Ruja) (Visual Analogue Scale)	No pain	0
	Mild or bearable (1-3)	1
	Moderate (4-6)	2
	Severe (7-10)	3
Itching (Kandu)	No itching	0
	Mild itching (Relieve by manual touch)	1
	Moderate itching (Not relieve by manual touch)	2
	Severe itching (intractable continuous pain not relieve by manual touch)	3
Discharge (Srava)	No discharge-	0
	Scanty or little discharge-	1
	Seropurulent discharge	2
	Profuse purulent discharge with slough –	3
Smell (Vrana Gandha)	No Smell	0
	Mild smell (Smell only during removal of dressing)	1
	Moderate smell (Smell from nearer of patient with intact dressing)	2
	Severe Smell (Smell from 3meter away from the patient with intact dressing)	3
Colour (Vrana Varna)	Normal skin Colour -	0
	Pinkish-	1
	Red -	2
	Pale –	3

**Table 5: objective parameter with scoring.**

Size (cm <sup>3</sup> ) (length x breath x depth):	Complete reduction	0
	Upto 80% reduction	1
	Upto 40% reduction	2
	No reduction	3
Epithalization	Complete epithalization (100%)-	0
	Moderate (>50%)-	1
	Partial (25-50%) -	2
	No epithalization-	3
Healthy/unhealthy granulation tissue	Red healthy granulation tissue-	0
	Unhealthy granulation tissue without slough-	1
	Unhealthy granulation tissue with slough-	2
	Unhealthy granulation tissue with slough and surrounding edema-	3

**OBSERVATION AND RESULTS****Table 6: Scoring grading with interpretation.**

Parameter	Day 0	Day 7	Day 14	Day 21	Day 30
Ruja(Pain)	3(severe)	2(moderate)	1(mild)	0(No pain)	0(No pain)
Kandu(Itching)	2(Moderate)	1(mild)	1(mild)	0(No itching)	0(No itching)
Srava(discharge)	3(Profuse purulent discharge with slough)	1(Scanty discharge)	0(No discharge)	0(No discharge)	0(no discharge)
Vrana varna(Color)	3(Pale)	2(Red)	2(Pink)	1(Pinkish)	0(Normal skin color)
Vrana Gandha(Smell)	2(Moderate smell)	0(No smell)	0	0	0(No smell)
Wound size	0(No reduction)	2(upto 40% reduction)	2(upto 60% reduction)	1(upto 80% reduction)	0 (Complete reduction)
Epithelization	3(No epithelization)	2(25%)	2(50 %)	1(>50%)	0(Complete epithelization)
Granulation tissue	3(unhealthy granulation tissue with slough and edema)	2(unhealthy granulation tissue with slough)	1(Unhealthy granulation tissue without slough)	0(Red healthy granulation tissue)	0

The patient showed significant improvement in all subjective and objective parameters, with complete wound healing characterized by absence of pain, discharge, smell, healthy granulation tissue, complete epithelization and marked wound contraction by day 30.

**CLINICAL PHOTOGRAPHS**

Enclosed.

**Day 0 (Before Treatment)**

Ulcers over posterior aspect of left lower leg.



Ulcers over left medial Malleolus.

Day 7



Day 14





Day 21



Day 30 (After Treatment)





## DISCUSSION

Probable mode of action of the medications based on principles of Dushta varna chikitsa are.

### Neemb-patol patra kwath

This kwath pacifies pitta and vata due to its Tikta ras, sheeta veerya, and snigdha guna. Neemb patol patra kwath has shodhana(wound cleaning) and Ropana(wound healing) properties and it remove slough and unhealthy tissues and promotes granulation and epithelization of the wound. Neemb leaves contains flavonoids, polyphenols and tannins with strong antioxidant activity which scavenges Reactive oxygen species(ROS) protecting tissues from oxidative damage and support cell proliferation. Neemb contains alkaloids such as Nimbin, Nimbidin, and Quercetin that inhibits the growth of Staphylococci, E.coli, Pseudomonas and candida albicans, thus reducing the infection risk and promoting a cleaner wound environment.<sup>[12]</sup> Patol leaves rich in flavonoids tannins, and phenolics act as natural antioxidants which downregulates pro- inflammatory cytokines(such as TNF $\alpha$  and IL 18 while upregulating anti-inflammatory cytokines (like IL-10) thus suppress swelling.<sup>[13,14]</sup>

### Madu ghrita lepa

Madhu possesses Shodhana and Ropan properties, helping cleanse wounds and promote healing.<sup>[15]</sup> The high osmolarity of honey draws lymph from tissues, reducing edema and inhibiting bacterial growth.<sup>[16]</sup> Honey exhibits broad-spectrum antibacterial activity through hydrogen peroxide production and low PH.<sup>[17]</sup> Honey promotes granulation tissue formation and angiogenesis.<sup>[18]</sup> Honey stimulates fibroblast proliferation and collagen synthesis, accelerating wound contraction.<sup>[19]</sup>

Ghrita is described as Vata-Pittahar, Rasayan and vrana ropak.<sup>[20]</sup> Ghrit maintains a moist wound environment, facilitating epithelial cell migration.<sup>[21]</sup> Essential fatty acids present in

ghrita support cell membrane repair and tissue regeneration. Anti-oxidant constituents such as vitamins A and E in ghrita help protect regenerating tissue from oxidative damage.<sup>[22]</sup>

### **Sahacharadi taila Abhyanga**

Abhyanga with sahacharadi taila alleviates vata, thereby reducing pain(Ruja), stiffness(stambha) and heaviness( Gaurava)associated with chronic venous insufficiency.<sup>[23]</sup> Massage with tail enhances superficial blood and lymphatic circulation, which helps reduce venous stasis and lower limb edema associated with chronic venous insufficiency. Improved lymphatic drainage decreases tissue congestion around the ulcer. Abhyanga improves calf muscle pump function which is essential for venous return. Better venous return decreases ambulatory venous hypertension, one of the principal mechanisms responsible for development and persistence of venous ulcers. This contributes to reduction of edema and improved tissue oxygenation.<sup>[24]</sup>

### **Kaishore guggulu**

Kaishore guggulu contains Guduchi, Triphala, Trikatu and guggulu, which help in the purification of vitiated Rakta and promote healing of chronic wounds (Dushta vrana). It is useful in conditions associated with shotha (Inflammation), Paka(Suppuration) and chronic ulceration.<sup>[25]</sup> Kaishore guggulu acts as Rasayana by supporting tissue repair, healthy granulation tissue formation and epithelization in chronic non- healing ulcers. Triphala and Guduchi scavenge free radicals, protecting tissues from oxidative stress seen in chronic venous ulcers. Guggulosterones and guduchi phytoconstituents inhibits inflammation mediators, reducing wound inflammation.<sup>[26]</sup>

### **Mahamanjsthadi kwath**

Mahamanjsthadi kwath is a potent Raktashodhaka and Raktaprasadaka drug. It purifies vitiated blood, improves microcirculation, reduces discoloration and supports wound healing. It acts as varnya and kandughana formulation helping in reducing hyperpigmentation, itching and skin changes commonly associated with chronic venous insufficiency.<sup>[27]</sup> The ethanolic extract of *R. cordifolia* has lipoxygenase inhibitory activity and its ethyl acetate fraction is most potent in this regard.<sup>[28]</sup>

## **CONCLUSION**

The present case demonstrates the effectiveness of Ayurvedic management in a chronic venous ulcer unresponsive to conventional treatment for six months. Nimba–Patola Patra

Kwatha Prakshalana facilitated wound cleansing, Madhu-Ghrita Lepa promoted healthy granulation and wound healing, while Sahacharadi Taila Abhyanga helped improve local circulation and reduce venous stasis. The combined effect of local and internal therapies resulted in complete ulcer healing within 30 days, with no recurrence observed during a follow-up period of four months. These findings suggest that Ayurveda may offer a safe, cost-effective, and promising approach for the management of chronic venous ulcers. Further clinical studies with larger sample sizes are warranted to validate these results and establish the wider applicability of this treatment protocol.

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Nil.

### **Conflicts of interest**

There are no conflicts of interest.

### **Ethical Consideration**

Written informed consent was obtained from the patient for publication of clinical details and images. Ethical committee approval was not required as this is a single case study.

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