

## Treatment of varicose ulcers using unified strategy - a case report

<sup>1</sup>Dr. Rutuja Subhash Bhosale, <sup>\*2</sup>Dr. Amit Ashok Paliwal, <sup>3</sup>Dr. Sanjay C. Babar, <sup>4</sup>Dr. Mahesh Pandurang Jadhav, <sup>5</sup>Dr. Priyanka Dushyant Patil, <sup>6</sup>Dr. Vinod Bharat Hendawale, <sup>7</sup>Dr. Hemil Kumudchandra Patel, <sup>8</sup>Dr. Pranesh Gaikwad

<sup>1</sup>PG Scholar, Department of Shalya Tantra, Dr. D. Y. Patil college of Ayurved and Research Centre, Dr. D. Y. Patil Vidyapeeth (Deemed to be University), Pimpri, Pune, 411018, Maharashtra, India.

Email id- [drutujab36@gmail.com](mailto:drutujab36@gmail.com) Orcid id- 0009-0008-4065-4427

<sup>2</sup>Professor, Department of Shalya Tantra, Dr. D. Y. Patil college of Ayurved and Research Centre, Dr. D. Y. Patil Vidyapeeth (Deemed to be University), Pimpri, Pune, 411018, Maharashtra India.

Email id – [dramitpaliwal@gmail.com](mailto:dramitpaliwal@gmail.com) Orcid id- 0000-0001-6917-9086

<sup>3</sup>Professor and HOD, Department of Shalya Tantra, Dr. D. Y. Patil college of Ayurved and Research Centre, Dr. D. Y. Patil Vidyapeeth (Deemed to be University) Pimpri, Pune, 411018, Maharashtra India. Orcid id- 0000-0002-6773-5867

<sup>4</sup>Associate Professor, Department of Shalya Tantra, Dr. D. Y. Patil college of Ayurved and Research Centre, Dr. D. Y. Patil Vidyapeeth (Deemed to be University), Pimpri, Pune, 411018, Maharashtra India. Orcid id- 0009-0002-8157-4374

<sup>5</sup>Associate Professor, Department of Shalya Tantra, Dr. D. Y. Patil college of Ayurved and Research Centre, Dr. D. Y. Patil Vidyapeeth (Deemed to be University), Pimpri, Pune, 411018, Maharashtra India. Orcid id- 0000-0002-1017-8449

<sup>6</sup>Assistant Professor, Department of Shalya Tantra, Dr. D. Y. Patil college of Ayurved and Research Centre, Dr. D. Y. Patil Vidyapeeth (Deemed to be University), Pimpri, Pune, 411018, Maharashtra India. Orcid 0009-0003-0187-7795

<sup>7</sup>PG Scholar, Department of Shalyatantra, Dr. D. Y. Patil college of Ayurved and research centre, Dr. D. Y. Patil Vidyapeeth (Deemed to be University), Pimpri, Pune, 411018, Maharashtra, India. Orcid id – 0009-0003-3689-0738

<sup>8</sup>Associate Professor, Department of Panchkarma, Dr. D. Y. Patil College of Ayurved and Research Centre, Pimpri, Pune.

Corresponding Author: **Dr. Amit Ashok Paliwal**

Professor, Department of Shalya Tantra, Dr. D. Y. Patil college of Ayurved and Research Centre, Dr. D. Y. Patil Vidyapeeth (Deemed to be University), Pimpri, Pune, 411018, Maharashtra India.

Email id – [dramitpaliwal@gmail.com](mailto:dramitpaliwal@gmail.com)

### KEYWORDS

Varicose vein,  
Stasis ulcer,  
Nonhealing  
ulcer, leech  
therapy,  
Purification

### ABSTRACT

**Introduction:** Varicose ulcers are lesions that develop as a result of improper venous valve function, commonly in the lower limbs. A weakened venous valve prevents blood from flowing backward, which increases vein pressure, which in turn causes hypertension and venous ulcers.

**Clinical finding:** They mainly occur throughout the distal medial leg, which is frequently excruciatingly awful, prone to bleeding, susceptible to infection.

**Diagnosis:** This ailment is known as *Dushta Vrana* (infectious or chronic wound) in Ayurved. **Interventions:** With the particular *Shodhana* therapy (purification), it is manageable. To treat the instance presented here, *Shigru Churna* (Moringa oleifera powder) 4000mg orally, *Shigru Kwath Avagah Sweda* (submerge leg in warm Moringa oleifera decoction), and *Jalauka Avacharan* (leech application) were used.

**Outcome:** After 28 days of satisfactory treatment, the wound was thoroughly discussed.

**Conclusion:** The oral administration of *Shigru Churna* and *Avagah Sweda* of *Shigru Churna Kwatha* and *Jalaukavacharan* effective in management of non-healing varicose ulcer.

## INTRODUCTION

Stasis ulcers are lesions that develop as a result of improper venous valve function, particularly in the lower limbs<sup>[1]</sup>. Damaged venous valves not only prevent blood from flowing backward but also increase vein pressure, which causes stress and eventually leads to venous ulcers. Since venous pressure is lower than arterial pressure as a result, blood is not pushed into the area as efficiently<sup>[3]</sup>. Even if various treatment strategies are used in allied sciences, treating varicose ulcers is a challenge for doctors and a nightmare for the suffering patients. This ailment is known as *Dushta Vrana* (chronic wound) in Ayurveda<sup>[1]</sup>. Without professional guidance and care, a venous ulcer typically does not recover. The ulcers typically spread quickly without cleansing and consistent dressings. Venous ulcers may impair mobility and quality of life and cause excruciating pain. The more skin damage and the more challenging it is to repair, the longer the venous ulcer persists. 1.69% of older people have venous leg ulcers every year. Overall incidence rates for men and women are 0.76% and 1.42%, respectively<sup>[2]</sup>. Such diseases are referred to as *Dushta Vrana* (non-healing wounds) in traditional Indian medicine because they are brought on by vitiated Doshas and is best treated with a targeted form of *Shodhana* therapy (Purification therapy). *Shigru Kwatha Avagaha Sweda*, *Jalauka Avacharan*, and *Shigru Churna* 4000mg orally BD with warm water were administered as part of the therapeutic protocol. The results of the study demonstrated wound healing up to 90% after 28 days of treatment for a diagnosed instance of varicose ulcer. *Shodhana* (purification) and *Shamana* (pacification) therapies are effective in treating this. The effectiveness of *Shigru Churna* orally, *Shigru Kwatha avagaha Sweda* and *Jalauka Avacharan* are in treating the patient's varicose ulcer and accelerating its healing were evaluated.

## PATIENT INFORMATION

A male patient, 50 years of age, complained about varicose veins in left lower limb since 5 years and he had varicose ulcers on the medial area of his left ankle joint two years prior. He had become accustomed to standing for extended periods of time at work (Security guard), i.e. roughly 8 to 10 hours throughout the previous 22 to 30 years. Patient complaints of yellowish red ulcers with foul smell above the medial malleolus of the left lower limb for two years, connected to a scorching and prickling feeling around the ulcers, oedema, and discolouration across left lower limb that is blackish in colour. He proceeded to receive more care in the Shalyatantra OPD of our hospital.

There were no documented cases of any chronic conditions, including hypertension and diabetes mellitus.

## FAMILY HISTORY

No any family history of varicose veins.

## PAST INTERVENTIONS:

The patient had a history of similar complaints for 2 years, for this he took allopathic treatment, daily dressing and he got relief for some time. In order to treat the illness, vascular surgeon prescribed tablet Daflon 500mg 1 tablet twice a day for 1 month, varicose stockings, limb elevation and still he got not relief for same. Doctor advised him to do surgery for varicose vein but patient was not willing for surgery.

## CLINICAL FINDINGS:

During the initial general examination, the patient's blood pressure was 130/80 mmHg while in the sitting position, his pulse rate was steady at 74 beats per minute, and his volume was normal. He was hemodynamically stable.

### On local examination,

#### On Inspection -

Site - Medial Malleolus of the left leg.

A huge yellowish-red ulcer and a single small oval ulcer with sloping margins were seen, accompanied by a minor serous discharge surrounding the left leg's medial malleolus.

The size of the larger ulcer was 3 cm in length, 2 cm in width, and 1.75 cm deep. In addition, the patient's left ankle joint and feet developed swelling and a blackish staining.

### On Palpation –

Grade III discomfort surrounding an ulcer.

The left lower limb's varicosity in the calf area tested positive for the Trendelenburg test but negative for the Moses sign and pedal pulse, which was indicative of characteristics of a varicose ulcer, was evident.

Based on signs and symptoms like, *Attivivrtta Vraṇa* (extending nature), *Utsanna* (elevated margin), *Rakta varṇa* (reddish), *Srav* (secretion), *Daha* (a scorching feeling), and *Shopha* (swelling) existing in the patient, The individual's diagnosis was *Duṣṭa Vraṇa* with *Vata Pradhana Tridoshaja Vraṇa*. and investigations shown in table 1.

Prior to the recording and publication of the patient's case history, informed consent was acquired.

	Reading	Unit
<b>Haemoglobin</b>	14.1	gm/dl
<b>White blood cells</b>	8200	mm <sup>3</sup>
<b>Platelet</b>	2.21	lac/ mm <sup>3</sup>
<b>Random blood sugar</b>	98	mg/dl
<b>HIV</b>	Negative	
<b>HBsAg</b>	Negative	

Table no. 1: Investigations

### TIMELINE:



Figure no. 1: Timeline of case

## DIAGNOSTIC ASSESSMENT:

After a thorough assessment and local examination, varicose ulcer was diagnosed. Wound assessment shown in table 2

Duration of varicosities	5 years
Duration of wounds	2 years
Pain	8 (VAS scale)
Discharge	Present - seropurulent
Number	Two
Size	Bigger ulcer - $3 \times 2 \times 1.75$ cm
Position	Medial Malleolus of the left leg.
Edge	Ragged
Floor	White fibrous tissue
Surrounding area	Indurated, Hyperpigmented
Bleeding	No acute bleeding
Regional lymph nodes	Non palpable

**Table no. 2: Wound assessment**

## THERAPEUTIC INTERVENTION:

The following treatment schedule was executed:

- *Shigru Churna* 4000mg orally BD with warm water for 28 days; for cleansing the vital system. This enhances the person's *Agni* metabolism. In any therapy, this is the first and most important stage.
- *Shigru Churna Avagah Sweda* (Figure 4) twice daily for 15 minutes and daily dressing, continue for 28 days; Which Cleansing the wound and promote granulation.
- Along with *Jalauka Avacharan* (Figure 5) twice a week continue for 28 days; Which improves blood circulation and cleans vitiated blood and promote wound healing.

## FOLLOW UP AND OUTCOMES WITH INTERVENTION:

Day	Clinical findings	Treatment
Day 0	Discharge – seropurulent +++ Tenderness - ++ Edge – Ragged Floor – unhealthy, pale granulation tissue Margin – irregular, thin Surrounding area – oedematous, Indurated, Hyperpigmented.	<ul style="list-style-type: none"> <li>- <i>Shigru churna kwatha avagaha sweda</i>, twice daily.</li> <li>- <i>Shigru churna</i> 4000mg orally, twice daily with warm water.</li> <li>- <i>Jalauka Avacharan</i> twice a week.</li> </ul>
Day 7	Discharge - seropurulent++ Tenderness - ++ Edge – sloping, pale purple blue in colour Floor – Unhealthy granulation tissue Margin – irregular Surrounding area -Indurated, Hyperpigmented.	Same as above
Day 14	Discharge - + Tenderness - + Edge – sloping Floor – Healthy granulation tissue	Same as above

	Margin – regular Surrounding area- Indurated, pigmented.	
Day 21	Discharge – No Tenderness - No Edge – sloping Floor – Healthy granulation tissue Margin – regular Surrounding area- pigmented.	Same as above
Day 28	Discharge – No Tenderness - No Edge – sloping Floor – wholesome granulation tissue Margin – normal Surrounding area – normal	Same as above

**Table no. 3: Follow up, outcomes and interventions**

The Visual Analogue Scale (VAS) was used to quantify the pain, the figure-of-eight method was used to measure the oedema (ankle joint swelling), and the ulcerated lesion was evaluated using measurement and granulation tissue production. Figure 2<sup>[7]</sup>. Improvement in wound healing as number of days increases shown in table 4.

Characteristics	Points
Granulation	
None	0
One quarter of wound area	1
One half of wound area	2
Two thirds of wound area	3
Complete wound area	4
Color	
Pale	0
Pink	1
Bright—red	2
Consistency	
Spongy	0
Solid	1
Maximum	
Total score	7

**Figure no. 2: Granulation Tissue**

Signs and symptoms	Before treatment (Figure 3)	Day 14 (Figure 6)	Day 28 (Figure 7)
Ankle edema	25cm	23.7cm	20.4cm
Size of ulcer (in cm)	3 × 2 × 1.75 cm	2 x 1 x 0.5 cm	0.4× 0.3 × 0.2 cm
Granulation tissue (figure no.1)	0	4	7
Pain (according to VAS scale)	8	6	2

#### Table no. 4 : Improvement in wound healing

#### DISCUSSION

In order to treat varicose ulcer, we have started *Shigru Churna* 4000mg orally with warm water, twice daily; *Shigru Churna Kwatha Avagah Sweda*(Submerge of lower limb in warm medicated decoction) (Figure 3) ; *Jalaukavacharan* (leech therapy).

According to *Charaka*, *Shigru* is *Katu*(pungent), *tikta*(bitter) in *rasa*(taste) which shows *Krimighna*(anthelmintic) and anti-bacterial activities<sup>[8]</sup>. *Laghu*(light), *Ruksha*(dry) *Guna*(quality) helps in reducing inflammation<sup>[8]</sup>. It eradicated the slough and the wound bed was cleared of debris as a result of the *Ruksha guna* absorbing the *Kleda* that was present and eventually doing the *Lekhana karma*. It is *Ushna Virya*(hot potency), gives analgesic effect and also contains Vitamins and Anti-oxidant. Stronger collagen deposition, improved alignment and maturation all appear to contribute to the pro-healing effect. *Shigru Churna* has Antibacterial activity, Antifungal activity, Antioxidant activity, Anti-inflammatory, Wound healing activity, Hypotensive activity<sup>[4]</sup>.

We did *Jalauka Avacharan* (leech application) (figure 4) because *Jalauka*(leech) removes vitiated blood from local site, improves blood circulation, decreased blood pressure and promotes wound healing. In the *grathitha* (clotted) and *avagadha rakta* (thick blood); *Jalauka* (medicinal leech) is mentioned. Leech's saliva contains analgesic properties that work by counteracting cytokines with anti-inflammatory chemicals, so stopping certain steps in the usual pain developing cascade<sup>[5]</sup>. Histamine, serotonin, steroids, enzymes, protease inhibitors, antimicrobial agents, hirudin, factor Xa inhibitor, destabilize, and hyaluronidase are all found in leech saliva and have anticoagulant, thrombolytic, vasodilator, and anti-inflammatory properties in addition to improving blood circulation. Leech therapy causes localized hyperaemia, enhances cell permeability, and promotes blood flow and tissue renewal<sup>[6]</sup>. This case study shows that major improvements can be achieved when treatment is administered in accordance with Ayurvedic standards.



Figure no. 3: Before treatment





Figure no. 4: *Shigru Churna Avagah Sweda*



Figure no. 5: *Jalaauka Avacharan*



Figure no. 6: After 14 days of treatment



Figure no. 7: After 28 days of treatment

## CONCLUSION

Therapeutic procedures, *Shodhana* (purification therapy) like *Shigru churna* orally, *Shigru Churna Kwath avagaha Sweda* and *Jalaauka avacharan* address non-healing ulcers and facilitate their healing.

## PATIENT PERSPECTIVE

“After being diagnosed with varicose veins and varicose ulcer and having difficulty with my daily routine, I decided to go for ayurvedic treatment instead of surgery. I started a custom Ayurvedic program, which included adjustments to my diet and Ayurvedic medicines, I started to see improvements.”

## INFORMED CONSENT

The patient indicated that they understood the suggested Ayurvedic treatment by writing their informed consent prior to the initiation of the treatment. Additionally, the patient gave a formal informed agreement for the release of their clinical information.

## ACKNOWLEDGEMENTS

We would like to express my gratitude to author 2 for his valuable and helpful recommendations throughout the manuscript process. We express our gratitude to author 3, 4, 5, 6 and 8 for offering advice on a personal and professional level. We would like to express our gratitude to Author 7 for his essential assistance in preparing this article. We would like to express our heartfelt gratitude to University for their consistent support and inspiration in the pursuit of academic writing and research.

**AUTHORS' CONTRIBUTION STATEMENT:** Author 1 conceived of the presented idea and developed the theoretical formalism. Author 1 & 7 contributed to drug preparation and carried out the experiment. Author 1 & 7 wrote the manuscript.

Author 2, 3, 4, 5, 6 and 8 analysed the data, helped in editing manuscript and contributed to the interpretation of the results.

All authors discussed the results and contributed to the final manuscript and provided critical feedback and helped shape the research, analysis and manuscript.

Financial Support – Nil

Conflicts of interest – Nil

## REFERENCES

1. Toshikhane HD. An integrated approach in the treatment of varicose ulcer. [Internet]. Available from: [www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov). Jan-Mar 2013;161-4.

Here are your references converted to Vancouver style while preserving the original data:

2. Margolis DJ, Bilker WB, Santanna J, Baumgarten M. Venous leg ulcer: incidence and prevalence in the elderly. *J Am Acad Dermatol*. 2002;46(3):381-6.

3. Das S. Diseases of veins. 1st ed. Calcutta: S. Das Publication; 13 Old Mayors' Court.

4. Sethi DPK. A classical review on Shigru (*Moringa oleifera* Lam). *WJPR*. 2021;10(2):372-93.

5. Hildebrandt JP, Lemke S. Small bite, large impact—saliva and salivary molecules in the medicinal leech, *Hirudo medicinalis*. *Naturwissenschaften*. 2011;98:995-1008.

6. Koeppen D, Aurich M, Rampp T. Medicinal leech therapy in pain syndromes: a narrative review. *Wiener Medizinische Wochenschrift*. 2014 Mar 1;164(5-6):95-102.

7. Perez D. Modern wound care for the poor: a randomized clinical trial comparing the vacuum system with conventional saline-soaked gauze dressings. *Am J Surg*. 2009 May;199(1):14-20. doi:10.1016/j.amjsurg.2008.12.029.

8. Sharma AP. Dravyaguna Vijnana. Vol 2. Shobhanjan: Chaukhambha Bharati Academy; p. 111-4.

9. Zegarra TI, Tadi P. CEAP classification of venous disorders. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan. Updated 2023 Mar 27. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK579277/>.