



INTEGRATED APPROACH TOWARDS MANAGEMENT OF VENOUS ULCER WITH NIMBA TILA KALKA: A CASE REPORT

PROTIVA TALUKDAR^{1*} SHIVANI A C² PRASANNA NARASIMHA RAO³

^{1*}Final Year Postgraduate Scholar, Dept. of Shalyatantra, Shree Dharmasthala Manjunatheswara College of Ayurveda and Hospital, Hassan, Karnataka, INDIA

²Assistant Professor, Dept. of Shalyatantra, Shree Dharmasthala Manjunatheswara College of Ayurveda and Hospital, Hassan, Karnataka, INDIA

³Principal and Professor, Dept. of Shalyatantra, Shree Dharmasthala Manjunatheswara College of Ayurveda and Hospital, Hassan, Karnataka, INDIA

Corresponding Email id: protivatalukadar17@gmail.com Access this article online: www.jahm.co.in

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ABSTRACT:

This case report is the description of multiple varicose ulcers over right lower limb of a 35 years old male, working as a bakery store shopkeeper. Pain and burning sensation with serous discharge was present from the ulcers. In right lower limb venous Doppler, incompetent perforators were noted, which indicated varicose ulcers. Patient was also having complaints of bilateral tortuous dilated veins, RT>LT. As he got no relief with regular wound dressing, so for better treatment he got admitted to SDMCAH, Hassan, Karnataka. In Ayurveda varicose ulcers can be considered as *Siragranthijanya vrana*. Integrated treatment given with *Nimba Tila kalka* as external application for 10days and 3 sittings of leech therapy. After 10days patient got symptomatic relief with healed multiple venous ulcers over right lower limb. In this case study, an attempt is made to prove the efficacy of *Nimba Tila kalka* as an integrated approach in the management of non healing venous ulcers.

Key Words: Venous ulcers, *Vrana*, *Nimba Tila kalka*, *Jalukavacharana*, Leech therapy, Case report

INTRODUCTION

A venous leg ulcer is the wound occur due to chronic venous insufficiency. It is due to improper function of venous valves of the leg [1]. venous ulcers are also called stasis ulcer, it is the major cause of chronic wounds, occurring in 70% to 90% of chronic wound cases. It occurs due to raised intravenous pressure secondary to deep vein thrombosis (DVT), obesity, injury, chronic constipation, and long-standing occupation. There are multiple theories regarding the pathogenesis of venous leg ulcers. Persistently increased intravenous pressure which damages the walls of veins and causes stretching, loss of elasticity, hyper lipodermato-sclerosis finally end up in ulcer formation. Venous hypertension, brin cuff theory, inflammatory trap theory, dysregulation of various cytokines and some thrombophilic conditions are implicated as the various theories behind the pathophysiology of the condition [2].

Diagnosis is confirmed by techniques like ankle-brachial pressure index (ABPI), screening test using nylon monofilament, Duplex Doppler ultrasound, Photoplethysmography, Pulse oximetry, Toe brachial pressure index (TBPI), measuring Transcutaneous oxygen. In this case, diagnosis was confirmed by Duplex Doppler ultrasound scanning of the lower limb venous System [3].

Conservative management of venous ulcers includes use of compression stocking or bandage to prevent worsening of varicose veins, foot elevation, antibiotics and regular cleaning and dressing of ulcer. However, if patient do not respond, then surgical measures like skin grafting, terminal interruption of reflux source technique (TIRS) by sclerotherapy, laser ablation of varicose veins or surgical correction of superficial venous reflux is performed [4].

According to Statistics venous ulcers is ranging from 54 to 78% by the fifth year after healing. Hence, for the surgeons, management of varicose ulcer is still a difficult task. If varicose ulcer is left untreated then, wound infection causing increased pain, swelling, redness and pus, loss of mobility and may occur severe complications like osteomyelitis, septicaemia or malignancy etc.

In Ayurvedic perspective, varicose ulcers can be considered as *Siragranthijanya vran* [5]. As per *Acharya Susruta*, in persons who are weak and those who indulge more in physical exercises, vata gets aggravated, conquers the network of veins, squeezes and dries them up and gives rise to an elevated, quickly developing and round swelling of veins termed as *Siragranthi*. [6] If the disease is not managed properly, it may result in complications like wounds and weakness. [7] *Nimba Tila kalka lepa*

(~paste) can be considered as one of the effective and convenient method for healing of non healing venous ulcers. *Sushruta* has given much importance for *Raktamokshan* for *vrana* treatment. Bloodletting using leeches are most unique and cheapest method, even in infected wounds and abscesses [8]. It lets out the impure blood, thus advocated in management of wounds caused due to vitiated *Rakta*[9].

This case report is the description of almost complete healing of multiple varicose ulcers case with symptomatic relief, developed on the medial and lateral aspects of right lower limb of a patient with Ayurvedic modalities. The case is unique in the sense that ulcers were in multiple sites and healed completely after 2 weeks with cost effective and non surgical measures. Basic principles of management adopted were *raktasodhana*, *vrana sodhana*, *vrana ropana*, *soolahar*, *krimighna*, *tvacya*, *balya* and *Sothahar*.

CASE REPORT:

Objective of case study: To evaluate clinical efficacy of *Nimba Tila Kalka lepa* and Leech therapy in the patient with Varicose ulcer.

Type of study: Observational single case design without control group

Study center: SDM College of ayurveda and hospital, Hassan, Karnataka

Name of the patient- Not mentioned

Registration no: OP-036725 and IPD-117820
Date of Admission- 11/11/22, Age- 35 yrs, Gender- Male, Religion- Hindu, Occupation- bakery shop shopkeeper, Diet- Veg - Non Veg Both

Chief complaints and its duration- Pain and Swelling over Right lower leg, multiple infected wound over medial and lateral aspect of right leg- biggest ones measuring 3x4cm and 3x3cm, blackish skin discoloration and Serous discharge from the wound since 1 year
Brief history (including onset and progress)
Patient has been suffering from above symptoms since last 1 year. He took treatment for the same at private clinic and inspite of taking internal medications with topical application, wound got infected and not healed. Hence, he came to SDM Hospital for further management. Patient is not a known case of Diabetes, Hypertension, Asthama, and Tuberculosis, Heart disease or any other major illness. Similarly, there was no surgical history and addiction history.

General examination- DAY1: All the vital parameters were within normal limits. Hb – 12.2 gm/dl; Wbc – 7,500 /cu mm of blood; RBS – 111 mg/dl; ESR – 11 mm /hour; Viral Markers– Negative; Coagulation profile– Normal; X-ray left leg – Essentially normal study; Other Examinations Abdomen/Rectal Examination– No IVC obstruction, Pelvic tumor etc.

Arterial and venous colour Doppler: Multiple lower limb Competent SF and FP valves; No incompetent perforators seen in the right evidence of DVT or Ischemia

Table 1: wound examination day 1 (11/11/22)

Features	Over medial side of right leg	Over lateral side of right leg
Site	Anterior Medial aspect	Over posterior lateral aspect
Size	4x4x 0.5cm	4x3x0.3cm
Shape	Oval	Oval
Edge	Irregular, rough	Irregular, rough
Floor	Unhealthy tissue and scabs seen	Unhealthy tissue and scabs seen
Discharge	Serous	Serous
Smell	Foul	Foul
Discoloration	Blackish	Brownish
Tenderness	Severe	Severe
Margin	Irregular	Irregular
Pain	Severe	Severe
Swelling	Medium	Mild
Itching	Present	Present

Diagnosis: Non healing varicose ulcer

MATERIAL AND METHODS

After the assessment, *Nimba tila kalka lepa* applied twice day for 10days. *Nimba* leaves and *Tila* mixed together in 2:1 quantity with equal amount of water and paste was made, which applied over wound for 20-30mints, then wound was washed with Normal Saline. Alternatively three days Leeches were applied all around the lesion. When Leeches left the

site by their own (after sucking blood for approx. 30 min.) wound was cleaned and dressing with gauge piece. 2. Dressing was changed every day and cleaning was done with normal saline before application of lepa 3. Patient was advised to take *Kaisore guggulu* (Two tablets two times a day) and *Mahamanjsthadi kashaya* (15ml twice daily with luke warm water) internally.

Table 2: Timeline of the case

DATES	Medical history with intervention
10.08.2021	Small blister appear over right ankle

03.03.2022	Blister gradually increased in numbers and pain, swelling associated with itching developed over right lower limb. Patient applied some topical allopathic medications but condition not improved
11.11.2022	Patient developed multiple ulcers, having severe pain, swelling and foul smell, and discharge from ulcers with difficulty in walking. He got admitted to SDMCAH, Hassan and <i>Nimba Tila kalka lepa</i> was applied twice a day over wound. Internal medicine given. Three sittings of <i>jalaukavacharana</i> (~leech therapy) done on alternative days.
20. 11. 2022	Patient got symptomatic relief and healing condition of wound appear. Patient got discharged from hospital and internal medications given.
12.12.2022	Patient came for follow up to OPD of SDMCAH, Hassan with completely healed wound with no fresh complaints

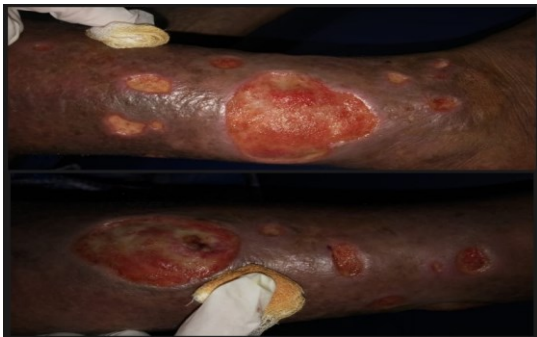


FIG 1: wound examination day 1 (11/11/22)



FIG 3: *Nimba Tila Kalka*



FIG 2: Application of *Nimba Tila Kalka*



FIG 4: Wound examination Day 7 (17.11.23)

Observation:

After 10days of treatment, patient got symptomatic relief with healing of wound and decreased in size of the wound.

Table 3: wound examination day 10 (20/11/22)

Features	Over medial side of right leg	Over lateral side of right leg
Site	Anterior Medial aspect	Over posterior lateral aspect
Size	3x2x 0.2cm	2x2x0.2cm
Shape	Oval	Oval
Edge	Almost smooth	Smooth
Floor	Pinkish with healthy tissue	Pinkish with healthy tissue
Discharge	Absent	Absent
Smell	Absent	Absent
Discoloration	Light blackish	Progressing to normal colour
Tenderness	Absent	Absent
Margin	Irregular	Smooth
Pain	Absent	Absent
Swelling	Absent	Absent
Itching	Absent	Absent



FIG 5: Wound examination Day 30 (12.12.22)

Probable mechanism of action of leech therapy

Leech application corrects venous hypertension, reduces vascular congestion due to presence of Carboxypeptidase A inhibitors, Histamine like substances and

Acetylcholine,¹⁰This prevents leakage of proteins and isolation of extra cellular matrix molecule and growth factors, thus helps to heal the wound. Leech application has peripheral vasodilator effect due to presence of vasodilator constituent in the saliva which

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improves blood circulation and corrects "ischemia" around the wound, thus promotes wound healing.¹¹ Due to presence of substance like Bdelins and Eglins in the Leech Saliva, its applications has Anti-inflammatory

action on nerves which prevents leukocyte accumulation in the surrounding vessels, thus inhibits release of inflammatory factors which causes chronic wound formation.

Table 4: Pharmacological interventions

Dates	Medicines	Dose	Frequency
11.11.22-20.11.22	Nimba Tila kalka as external application over ulcers	1cm thick lepa according to size of ulcers	Twice a day for 20-30mints
11.11.22- 12.12.22	Kaisore guggulu	Two tables	Twice a day after food
11.11.22- 12.12.22	Maha manjisthadi kashaya	15ml with 30ml luke warm water	Twice a day before food

DISCUSSION

Discussion Varicose ulcers and its complications are a common recurring problem. Reducing the venous congestion, enhancing tissue perfusion and promoting tissue healing are the principal goals in its management. Conservative management consists of compression stockings and elevation of foot. In Ayurveda, varicose veins are considered as *Sira granthi* as per *Sushruta*. So varicose ulcers can be considered as *Siragranthijanya vran*¹².

Nimba (Azadirachta indica) has *kushtagna*, *krimighna*, *pitta kaphahara karma*. Chemical constituent Nimbidin having antifungal, antimicrobial, antiviral, antidiabetic and antihelminthic action. Tila (Sesamum indicum) has *vatahara*, *tvacya*, *balya karma*. Lepa of

both of this helps in wound healing and formation of healthy granulation tissue.

'*Sira*' and '*Snayu*' are the bi product (*updhatu*) of *Rakta* and '*Mahamanjisthadi kashaya*' has '*Raktasodhaka*' and '*Sophahara*' character. Hence, it facilitates formation of Healthy Newer tissues and also strengthens the blood vessels, thus corrects venous valvular dysfunction As per Ayurvedic texts, '*Manjistha*' purifies the Raktadhatu due to its '*Raktasodhaka*' character. Further, once *Rakta* is purified, its bi product (*updhatu*) i.e. „*Sira*“ (veins) and its kinematics also gets pacified, thus may corrects venous valvular dysfunction when used internally along with adjuvant therapy. *Kaishora guggulu* is used to support healthy joints, muscle, and connective tissues.

It is *Pittahar, krimighn, Rakta shodhak* and *ojovardhak* in nature¹³.

CONCLUSION: the presented integrated approach of *Nimba Tila kalka lepa* with “Leech Therapy” and adjuvant Ayurvedic treatment, the non healing varicose ulcers completely healed within 30 days with complete symptomatic relief in 10day. This treatment is less complicated and cost effective. The possibilities of this cheap highly effective integrated approach need to be utilized widely by Ayurvedic physicians globally. A multi centric comparative clinical trial along with valvular study is needed to establish this unique treatment protocol.

Patient perspective: Patient was very much satisfied as his ulcers got healed completely. Before treatment, the condition had affected his daily routine and profession.

Informed Consent: Patient provided informed consent for the publication of this case report.

Ethics: The study was conducted adhering to all ethical principles in clinical

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