

## COMPREHENSIVE AYURVEDIC MANAGEMENT OF VENOUS ULCER – A CASE STUDY

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### **ABSTRACT**

The venous ulcer is known as sirajanya dushta vrana in Ayurveda. Venous ulcer is a chronic disease, which is characterized by periods of exacerbation and remission. It takes a long time to heal, which results in physical and psychological discomfort and negatively affects a patient's functional status. In this ulcer jalaukavcharana i.e. leech application has been proved very effective. Leech application has peripheral vasodilator effect due to the presence of vasodilator constituent in the saliva which improves blood circulation at capillary level and corrects "ischemia" around the wound, thus promotes wound healing. Leech application has an anti-inflammatory action on nerves due to the presence of substances like bdellins and egelins in the saliva

which prevents leukocyte accumulation in the surrounding vessels, thus inhibits the release of inflammatory factors which causes chronic wound formation. Most of the venous ulcers have surrounding lipo-dermato-sclerosis. Lipo-dermato-sclerosis is chronic inflammation, fibrosis, thickening, induration of skin and subcutaneous tissue of the lower leg (calf) and ankle with hyper-pigmentation and a tight contracted woody leg often with Achilles tendon contracture known as severe chronic venous disease.

**KEYWORDS:** Venous ulcer, Jalaukavacharan, Nimbapatra Kwath Dhawan, Jatyadi taila, Punarnawadi Kwath, Triphala guggulu.

## INTRODUCTION

In ayurvedic treatment for “siragata vatajanya vrana” Acharya Sushruta has exclusively mentioned the treatment regime for ‘*siragata*’ which includes local oleation and fomentation along with leech therapy. *Sushruta* has advocated 60 procedures (*shashthi upakramas*) for wound management which can be practiced as per the stage of wound and necessity. Sushruta’s comprehensive approach also emphasize on the general condition of the patient, and advocates some systemic measures of purification of the whole body by means of Vaman (emesis), virechan (purgesis) or Basti (medicated enema) as well as bloodletting as per the vitiation of *Doshas*. He has given the most importance to bloodletting therapy and considered leech as the most unique, effective method of bloodletting even in infected wounds and in abscess management. *Sushruta* has also specified that the wounds over the lower limb delays in healing. The wound caused by *vata* has dark and blackish discolouration, thin, cold and non-viscous secretion, the dry, crackling sound having throbbing, stretching, pricking, and cutting pain devoid of muscle. The wound does not extend much and characterized by destruction of tissue.<sup>[5]</sup>

The ulcer is a break in the continuity of the covering epithelium, either skin or mucous membrane due to molecular death of the cells. It is common around the ankle (gaiter's zone) due to ambulatory chronic venous hypertension.<sup>[1]</sup>

Post-phlebotic limb consists of veins that have been partially recanalized following deep venous thrombosis which causes increased venous pressure around ankle through perforators. Venous circulation of the lower extremities progresses from the superficial to perforating to deep veins, with valves in each system to ensure unidirectional blood flow. As the calf muscles contract, the pumping action causes the blood to flow from the deep veins into the inferior vena cava. The disease of these pathways results in venous insufficiency. Venous insufficiency is the most common cause of lower leg ulcers. In venous disease, ulcers are usually located in the gaiter area between the ankle and the calf, often on the medial aspect of the leg. Venous ulcers arise from venous valve incompetence. Valvular incompetence in the deep veins causes the vessels to become distended and stretch to accommodate the additional blood flow. The valves are not able to effectively close, which results in retrograde blood flow and venous hypertension. Venous hypertension, leads to leakage of fluid out of the

stretched veins into the tissues, causing deposition of a brownish/red pigment in the gaiter area of the leg. Veins can be damaged by surgery, trauma, or DVT, which causes a backflow of blood in the venous system at the point of damage. Other causative factors include multiple pregnancies, obesity, congenital vein abnormalities, and varicose veins.

50% venous ulcer are due to varicose veins. Whereas remaining 50% are caused by post-phlebitis limb. Pain, discomfort, pigmentation, dermatitis, lipodermatosclerosis, ulceration, periostitis, ankylosis, tailpes equinovarus deformity and Marjolin's ulcer are the problems of varicose veins and later of venous ulcer.<sup>[2]</sup> Ulcer often attains very large size which is a non-healing, indolent and callous. Unstable scar of long duration may lead to squamous cell carcinoma (Marjolin's ulcer). Hypertension is the prime cause of venous ulcer formation. It may be gravitational which due to hydrostatic pressure by the weight of blood column from the right atrium (hydrostatic reflux) which is maximum at foot and ankle.<sup>[6]</sup> Muscular contraction across the incompetent perforator with a high pressure up to 200 mm hg (hydrostatic reflux) there is a peculiar recycling of blood from deep veins to femoral vein. But spillage of blood across incompetent saphano-femoral junction into lesser saphanous vein / greater saphanous vein results in passage of same blood across perforators into the deep veins to reach femoral vein, again to enter the lsv as spillage.<sup>[3]</sup> This regional recycling of the blood does not allow fresh oxygenated blood to enter the superficial veins and the blood remains stagnant causing varicosity. Basic cause of venous ulcer is abnormal venous hypertension in the lower – third of the leg, ankle and dorsum of the foot.<sup>[4]</sup>

## CASE REPORT

### History

A 38 year male patient presented in Shalya OPD complaining of bilateral swelling of lower legs and chronic ulcers over both the legs for 1 year, difficulty in walking for 15 days, pain, discomfort, discoloration of the skin with discharge from an ulcer. His occupation was pana shop. He used to stand for long time in the shop (from morning to late night till 11 to 12 pm) his weight was 92 kg.

**Local examination (Fig no 1)**

Local examination	Left leg	Right leg
Inspection	Located medial side.	Located above the right ankle joint anteriorly.
Duration	1 year.	1 year.
Pain	Burning pain occasionally present	Burning pain occasionally present
Size and shape	Vertically oval	Transversally oval.
Numbar	1	1
Edge	Sloping, partially fibrosed.	Sloping
Floor	Floor covered with slough, pale and without granulation tissue.	Floor covered with slough pale and without granulation tissue.
Discharge	No	No
Surrounding areas	Blackish discoloration	Blackish discoloration.
Palpation –	Thickened skin Mild tenderness	Thickened skin Mild tenderness
Base	Indurated.	Induration present.
Depth	1 cm	1 cm

**Treatment plan: (total duration of 3 months)**

**Oral medication:** Following all t/t for 3 weeks, after that Guggulu 2 bid for next 3 weeks.<sup>[7]</sup>

Nimbapatra kashaya dhavan	Daily.
Jatyadi tail	Dressing daily
Punarnavadi kashaya	4 tsf tid
Tab. Panchtiktaghrita guggulu	2 tid
Tab. Kaishor guggulu	2 tid
Tab.Triphala guggulu	2 tid

**Leech application**

Leech application was done weekly (4 leeches for each leg) for consecutive 4 weeks after that it was done after every 15 days. **(Fig no 2)**

**Mechanism of action of leech therapy and overall treatment**

Now it is a well established fact that leeches improve micro-circulation of the body part where they are applied by exerting a tremendous negative pressure while sucking. It particularly removes the exudates from the interstitial spaces by improving the capillary circulation to a great extent thereby improving the healing process at cellular level.

Leech application corrects venous hypertension, reduces vascular congestion due to presence of various ingredients present in saliva such as carboxypeptidase inhibitors, histamine like

substances and acetylcholine, thus it improves venous valve dysfunction and reduces extra vascular fluid perfusion. This prevents leakage of proteins and isolation of extra-cellular matrix molecule and growth factors, thus helps to heal the wound.

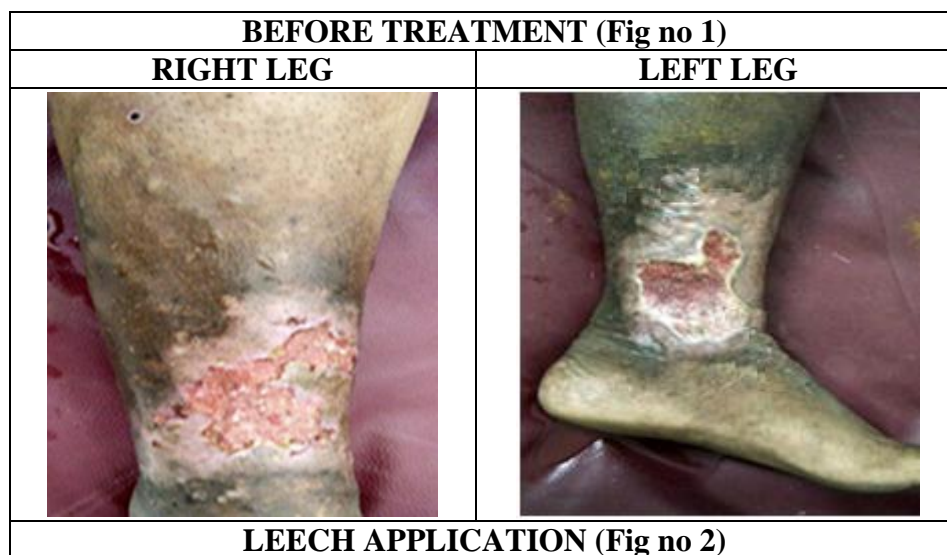
Leech application has peripheral vasodilator effect due to the presence of vasodilator constituent in the saliva which improves blood circulation and corrects “ischemia” around the wound, thus promotes wound healing. **(Fig no 3)**

## CONCLUSION

The majority of chronic leg ulcers are caused by venous insufficiency followed by venous hypertension.

A comprehensive assessment of the patient, limb, and ulcer is required to determine etiology and to formulate an appropriate management plan.

Management of patients include detail history, physical examination, investigations, basic and newer treatment modalities, and educating patients on issues of correct foot care and the importance of seeking early medical advice.





## DISCUSSION

The concept of 'Vrana' was given prime importance in ancient Samhitas, which is well understood when we go through the surgical compendium – *Sushruta Samhita* where a good number of chapters deal with the different types, laxana and chikitsa under the heading. Acharyas have mentioned various treatments for Vrana.

Leech application was the best method for sirajanya dushtavrana. Leech application has anti-inflammatory action on nerves due to presence of substance like bdellins and eglins in the saliva which prevents leukocyte accumulation in the surrounding vessels, thus inhibits release of inflammatory factors which causes chronicity in the wound.

Kaishore guggulu is a good purifier, anti-biotic, anti-inflammatory and has anti-microbial properties which helps in wound healing. Also reduces the infection, swelling and pus discharge.

Panchatikta ghrita guggulu is anti-inflammatory, antitoxin, and antipruritic.



Neem used in skin disorders as a blood purifier. It is also helps to purify and heal the wounds quickly.

Punarnavadi kashayam mainly has anti – edema and anti-inflammatory properties. It reduces swelling and water retention. Pacifies and reduces Kaphadosha, increases appetite and balances vata dosha.

Triphala guggulu reduces inflammation, infectious skin diseases and swelling of a wound.

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