

Holistic Approach in the Management of Venous Ulcer: A Case Study

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Abstract:

Introduction: Venous ulcers (stasis ulcers, varicose ulcers) are wounds occurring due to inappropriate functioning of venous valves, usually of the legs. It is one of the most serious chronic venous insufficiency complications. When a venous valve gets damaged, it prevents the backflow of blood, which causes pressure in the veins that leads to hypertension and, in turn, venous ulcers.

Incidence: Between 1.5 and 3.0/1000 people have active leg ulcers. Prevalence increases with age to about 20/1000 people aged over 80 years.

Material and Methods: Varicose veins were defined as dilated, tortuous, subcutaneous veins usually seen in an upright posture. An unbiased consultant surgeon assessed any suspected chronic venous insufficiency on clinical examination. The severity of varicose vein was assessed by clinical grading from CEAP (Clinical-Etiological-Anatomical-Pathophysiological) system in which there are six classes.

Discussion: Due to the *lekahana* effect of *kshara* it does *srotoshodhana* and hence increases the peripheral circulation and helps in woundbed healing by increasing the blood flow to the wound bed to improve the vitality and metabolites supply to aid healing. The patient was given *manjistha* which by virtue of its *rakta sodhaka* and *praasdana* property will increase the metabolites in the blood and helps in providing sufficient substrates in the wound bed for its healing.

Conclusion: Chronic venous ulcers that did not heal after a few months of multiple courses of antibiotics & anti-inflammatory treatment healed within 20 days after Ayurveda treatment. This indicates that Ayurveda therapy is effective in healing chronic venous wounds. Non-reoccurrence of ulcer after a 3-month break from medicines indicates a complete reversal of venous level pathology. However, a more in-depth study with a larger sample size will help to develop treatment protocols in such cases.

Keywords: Venous Ulcer, Wound, Dushta vrana.

Introduction

The lower limb is the most common site of venous disorders. Venous leg ulcers (VLUs) are defined as open lesions between the knee and ankle joint that occur in the presence of venous disease. More than 5% of the population have varicose veins and 1% have, or have had venous ulceration. Venous ulcers (stasis ulcers, varicose ulcers) are wounds occurring due to improper functioning of venous valves, usually of the legs.

Damaged venous valves prevent the backflow of blood and cause pressure in the veins. Hence arterial pressure reduces significantly than venous and therefore, blood is not pumped as effectively into the area. A venous ulcer will not usually heal without expert advice and treatment. Without cleaning and regular dressings, the ulcers usually spread quickly. Venous ulcers can be very painful and may limit mobility and quality of life. The longer the duration of the venous ulcer, the more is the damage to skin and greater the difficulty in healing. The annual prevalence of venous leg ulcer among the elderly is 1.69%. The overall incidence rate is 0.76% in men and 1.42% in women.

In Ayurveda Varicose vein can be correlated to sira granthi. Over a period it may lead to dushtavrana(chronic ulcer). According to Susruta Acharya, dusthavrana lakshanas: Atisamvruta – too Narrow mouthed, Ativivrita-too Wide-mouthed, Ati Kathina-too Hard, Ati Mridu-too Soft, Utsanna-Elevated, Avasanna Depressed, Vedonavan- Severe pain, Ushna-Hot, Daha-Burning sensation at the site, Paka – Suppuration, Raga- Redness, Puyasravya -Discharging pus, Dusta Shonitasravi-discharging vitiated blood, Manojnadarshana With ugly sight, Kandu-Itching, Shopha- Swelling, Pidaka -With boils, Mrudu- Soft, Bhairava- Frightful, Putimamsasirasnayu-Full of pus, muscles, vessels, ligament. In all raktajavikara raktamokshana is a para-surgical procedure to expel out the vitiated blood. As per Ayurveda, rakthamokshana is indicated in all diseases which are caused due to rakthadusti. So it is considered as a shodhana procedure in raktajavikara. Sushruta samhita explains all the procedures of rakthamokshana in detail. It is an age old method practiced by the Mesopotamians, the Egyptians, the greek, the Mayans and the Aztecs. Jalaukavacharana (leech therapy) is considered to be the best due to its high efficacy and its safety. Use of jalouka for rakthamokshana is not only explained by the samhitas but references of the same are available in the koushika sutra of atharvaveda. Leech Therapy is considered most unique and effective method of raktamoksha. It is indicated in females, children, old and patients having poor threshold to pain. It drains impure blood useful in Pitta dushita Rakta diseases, various skin disorders and all types of inflammatory conditions

Case Report

Personal History:

A 48 years old male patient working as a manager in a brick manufacturing factory with history of diabetes with no any habits admitted on 4/4/2023.

Chief Complaints:

- Patient complaints of non-healing ulcers on bilateral legs.
- Patient developed varicose vein on bilateral legs below the knee area followed by hyperpigmentation
- Brown edema in both legs.
- Pain around the ulcer
- Scanty, seropurulent, non-foul-smelling discharge from the ulcer
- Drag pain in the right lower leg, which worsens with erect posture and is relieved with the lying down position.
- The patient had also itching without any muscle cramps either during activities or at night.
- There was a history of chronic cough, weight loss, and pain abdomen but fever and constipation were present.

History of Present Illness

According to patient he was apparently well before 2 months. But gradually he has felt some inconvenience during walking due to discomfort in bilateral foot. He has consulted his family physician and with his treatment patient was symptoms free for next few days. Then again he started ill feeling in the same region but in these episodes of symptoms where a serous discharge, and discoloration of the skin with blister was. Then patient came to Parul Ayurveda hospital Shalya Tantra OPD no.106

Past History:

There was a history of chronic cough, weight loss, and pain abdomen but fever and constipation were present. His bladder habits were regular but his bowel habits are irregular. His medical history reveals that he is a known case of diabetes but there is no other relevant medical history of hypertension and thyroid disease, patient is also having history of laser ablation for varicose vein in the past.

General Examination

- G.C. – Fair
- CVS- S1 S2 HEARD
- CNS- conscious oriented
- RS – Air entry bilateral clear
- BP – 120/70 MM & HG
- Pulse- 82/min
- Temperature – Afebrile
- Bowel habit – Irregular
- Uro- genital system – NAD

Local Examination

Inspection-

- No varicosity seen, ankle flare absents,
- Calf and thigh – Pigmentation Present, Half Calf involved
- Edema present in bilateral foot / sign of inverted champagne bottle was present
- Relation to saphenous vein – stray varicosity absents, blow out- absent, saphena varix- bilateral absent, collapse of varicosity – absent
- Morriss test – negative
- Ulcer – site – bilateral calf region
 - Extend – subcutaneous
 - Edges – irregular, sloping
 - Base – not fixed to any structure

Palpation

- Signs of Thrombophlebitis – Warmth Absent, Tenderness absent
- Fegans method – Negative
- Shwartz Test – Negative
- Brodie–Trendelenburg Test– Negative
- Perthes Test – Negative
- Moses Test – Negative
- Homans Test. – Negative

General Examination

- Vericocele - absent
- Abdominal lump – absent
- Lymph nodes – normal

Management:

1. Manjistadi kshara Basti on yoga Basticriteria
2. Nimbadi Guggulu 2-0-2 after meal with warm water
3. Manjishtadi Kshaya 20ml with equal amount of warm water twice a day after meal
4. Eladi gulika 2-0-2 after meal with warm water

Other treatment involved;

1. *Vrana prakshalana* (wound cleaning) with *panchavalkal kashaya*-twice daily.
2. *Vrana lepa* (nimba patra+bakuchi+karveer) with *Vrana ropaka churna*-twice daily.

Mode of Action of Siravyadhana –

Probable mode of action of Siravyadhana Siravyadhana is one of the type of Raktamokshana . In Siraja Granthi, Vata and Pitta are mainly vitiated Dosha and Sira is Dushya which is Upadhatu of Rakta. Soby Siravyadhana, vitiated Dosha is removed from Sira, which relieves the pressure in Srotas, reduces toxins, increase of supply of the pure blood to circulation. More over fresh blood cells grownup after bloodletting take active part in protecting. The body by means of nutrition and increase of energy, by normalizing the Pitta osha maintenance of Agni, Pachana, Deepana etc. If we look over the pathogenesis of Siraja Granthi and think of mode of action of Siravyadhana in the same disease, we come to know that we let the Raktadhatu from the Sira of affected site, which contains the Vitiated Vata and Pitta Dosha , so there by remove the cause of disease.This vitiated Vata is responsible for Shoola and Rukshata which is responsible for Sira Sankocha , while the vitiated Pitta is responsible for Daha and Vranashotha. Thus, by removing directly the causative Doshas we get rid of the signs and symptoms of the disease.

Constituents of Leech Saliva and Probable Mode of Action of Jalaukavacharana

Jalauka lives in cold places and is of Madhur rasa. So it is useful in vitiated Pittaj and Raktaj disorders. The use of Leech for medicinal purposes is due to the chemical contents present in Leech saliva. The saliva of Leech contains chemicals which act as anesthetic, which makes the bite of Leech painless to the host, anti-inflammatory, anti-coagulant and vasodilators which increase the blood flow to the feeding areas by increasing the diameter of blood vessels and enhance wound healing, promotes circulation and have chemical substance which cause increase absorption of fluids in body. Jalauka sucks impure blood from capillaries of affected site and prevents inflammation, and edema promotes circulation and helps in healing. Saliva of Leech contains the following bioactive substances

- 1) Hirudin: It has anti-thrombotic activity and inhibits blood coagulation. This improves blood flow to compromised tissue areas and prevents blockage in blood vessels. So Leech Therapy is useful in the prevention and treatment of thromboembolic diseases like angina pectoris, and atherosclerosis.
- 2) Calin: It inhibits blood coagulation by blocking the binding of von Willebrand factor to collagen. It inhibits collagen-mediated platelet aggregation and is responsible for the slow cleansing of wounds by maintaining secondary bleeding for some hours.
- 3) Hyaluronidase: It is a protein enzyme. It is called the “spreading factor”. It facilitates the degradation of connective tissues around the bite site and acts to clear the path for active and healing substances to penetrate.
- 4) Destabilise: Monomerizing activity. It dissolves fibrin and has a thrombolytic effect. It completely blocks the spontaneous aggregation of human platelets.
- 5) Bdelins: Anti-inflammatory and inhibits trypsin, plasmin, and acrosin.
- 6) Tryptase inhibitor: Inhibits proteolytic enzymes of host mast cells.
- 7) Eglins: Anti-inflammatory. Inhibits the activity of alpha-chymotrypsin, chymase, and elastase.
- 8) Carboxypeptidase A inhibitors: Increase the blood flow at the bite site.
- 9) Acetylcholine: It acts as vasodilator.

Method of Preparation of Manjishtadi Kshara Basti and Probable Mode of Action

To prepare Manjishtadi Kshara Basti, the contents were mixed in the following ratio first 80 ml of Madhu and 5 gm of Sandhava Lavana were mixed homogenously in Khalva Yantra and then 60 ml of Moorchitha Tila Taila was taken and mixed to form uniform mixture, 40 gms of Kalka out of Manjishta, Triphala, Guduchi, Vacha, Devadaru, Kutuki, Nimba and Satahwa were added to the above mixture. It was then mixed with 100 ml of Kwatha prepared with Kwatha Choorna of Manjishta, Triphala, Guduchi Vacha, Devadaru, and Katuki Nimba. Then 100 ml of Kanji and 100 ml of Gomutra were added and mixed to form a homogenous mixture before being tested for Suyojita Nirooha Lakshana's. The entire Basti Dravya was now filtered & administered after

being made lukewarm by indirect heating. The specific pattern of mixing the Basti Dravya is followed so that all the contents were mixed properly & a uniform mixture was obtained. The total amount of Basti Dravyas was maintained around 480ml. Manjistadi Kshara Basti is a Tikshna Niruha Basthi with special indication for Vata and Rakta imbalances. Manjishtadi gana is indicated in Vataja and Rakthaja vitiated condition. Kshara Basthi possesses Shoolagna property and Srothoshodana property. Manjishta is endowed with Varnya, Raktadoshahara, Kushtahara, and Shothahara properties.

Nimba is endowed with Kandugna, Vedanasthapak, and Raktadoshahara. Guduchi is having Rakta Doshahara Vedanasthapaka. Amalaki is Balya and Rasayana helps increase vascular tone of the vessels. Gomutra acts as Sroto Shodhaka due to having Ushna Virya, Laghu, Ruksha and Tikshnaguna, Katu rasa, and Katu Vipaka.

Brihat Saindhavadi Taila was used for Anuvasana Basthi. Eranda Taila and most of its contents have basically Ushna, Vata Kapha Shamaka, Shothahara, Vedana Sthapana and Deepana properties, tikshna guna and act as having Lekhana property as well as Vyadhihara for the disease Siraja Granthi (varicose veins).

Manjishtadi kshara basthi has antagonistic qualities towards Kapha due to Gomutra and Pitta as well as Rakta as it contains Manjishtadi Kwatha, and acts as Rakta prasadaka and Tridoshahara.

Modern view of Action of Basti:

In Chikithsa of Vata, Basti is explained as superior & Ardachikithsa. However, Modern Science may not accept it completely.

Probable mode of action of Basti:

- Mechanism of absorption
- Neural stimulation
- Chemical action
- Mechanical action

Despite the fact that the rectum is not a typical site for nutrient absorption, drugs introduced by the rectum may be absorbed here. As a result, drugs introduced through this route have systemic effects as well as local effects. The water-soluble content easily gets absorbed as it has the ability to move in both directions across the mucus membranes of the small and large intestines. Short-chain fatty acids are also absorbed in the colon mucosa under the influence of medication, which can also be used to absorb unusual substances.

Diet and regimen: Diet and regimen play a very important role to abet the effect of treatments. Here, the patient was advised to follow a diet and regimen that would help to balance *Pitta, Rakta and Vata doshas*. The patient was asked to avoid spicy, sour, oily, fermented, and refrigerated food items. She was advised to avoid sun exposure, sleeping in the day, and staying late at night.

1. Discussion

Due to the *lekahana* effect of *kshara* it does *srothoshodhana* and hence increases the peripheral circulation and helps in woundbed healing by increasing the blood flow to the wound bed to improve the vitality and metabolites supply to aid healing the patient was given manjista which by virtue of its rakta sodhaka and praasdana property will increase the metabolites in the blood and helps in providing sufficient substrates in the wound bed for its healing.

Karmukta (pharmacokinetics) of nimabadi guggulu

no	Name of drugs	Botanical name	Mode of Action
1.	Nimba	<i>Azadiracta indica</i>	Kaphapittahara, krimighna, vishghna, deepana, grahi
2.	Haritaki	<i>Terminalia chebula</i>	Tridoshahara, kushtagna, jwargna, rsayana

3.	Amalaki	<i>Emblica officinalis</i>	Tridoshagara, stambhana, rasayana
4.	Bibhitaki	<i>Terminalia bellarica</i>	Tridoshahara, krimighna, jwargna, chakshushya
5.	Vasa	<i>Adathoda vasica</i>	Kaphapittahara, kushtaghna, Kasahara
6.	Patola	<i>Tricosanthes dioica</i>	Kushtaghna, kandughna, vama
7.	Guggulu	<i>Commiphora mukhul</i>	Tridoshhara, kushtagna, rasayana

The patient had consulted two surgeons and had taken many courses of antibiotics and anti-inflammatory drugs for the past few months; however, the ulcer did not heal. This made her mentally weak and annihilated. This was a major limitation in the case. The patient being diabetic, and strictly adhered to all the diet regimen and timely medicine intake as instructed. Incompetence of the valves of the superficial and deep veins of the leg result in venous hypertension. Fibrin gets excessively deposited around the capillary beds leading to elevated intravascular pressure. This fibrin decreases the oxygen permeability by 20-fold leading to tissue hypoxia causing impaired wound healing. Various inflammatory cells get trapped in the fibrin and promote severe uncontrolled inflammation, preventing proper regeneration of the wound. *Samprapti* (pathophysiology)- From the Ayurvedic point of view, this was a case of *Pitta pradhana Sarakta Tridoshaja Dushta vrana*. The patient was habitual to food like fermented cuisines, sour soups, Masha (black gram), chinchilla fish (prawns), curd, chicken, and food made of the refined floor. Her daily regime comprised a 3-hour sleep after lunch, a lack of exercise, and a sedentary lifestyle. All these wrongful ways of living resulted in the vitiation of *Pitta & Kapha doshas* and because of their long association, it eventually caused *Rakta* bed. Due to the *lekahana* effect of *kshara* it does *srotoshodhana* and hence increases the peripheral circulation and helps in wound healing by increasing the blood flow to the wound bed to improve the vitality and metabolites supply to aid healing. The patient was given *manjistha* which by virtue of its *rakta sodhaka* and *praasdana* property will increase the metabolites in the blood and helps in providing sufficient substrates in the wound bed for its healing. *dushti* (vitiation of the *Rakta*) as well. Chronicity paved the way for the vitiation of *Vata dosa* (*vata humuor*) resulting in extreme pain. All the features of *Dushta vrana* as mentioned by Acharya Sushruta, were clear in this case. So, a *Tridoshahara* (alleviates all the *doshas* of the body) and *Rakta prasadaka* (purifies the *Rakta*) line of treatment was planned.

2. Conclusion

Chronic venous ulcers that did not heal after a few months of multiple courses of antibiotics & anti-inflammatory treatment healed within 20 days after Ayurveda treatment. This indicates that Ayurveda therapy is effective in healing chronic venous wounds. Non-reoccurrence of ulcer after a 3-month break from medicines indicates a complete reversal of venous level pathology. However, a more in-depth study with a larger sample size will help to develop treatment protocols in such cases.

Patient's Perspective

I had pain in both my legs since 2 months. Since I have been doing a job standing for a long time, I thought it was because of that. Gradually, I developed blisters and itching on my left leg which later became a wound. Initially, I neglected it but, when it did not heal, consulted a surgeon. He prescribed a few medicines, but the wound remained the same. The condition worsened and I was unable to sleep or walk. Then I decided to try out Ayurvedic treatment. The doctor prescribed me *Kashayas*, *Churna*, Tablets, a *Kashaya* to wash the wound and a *lepa* to be applied. He gave me a diet regimen to be followed. In the first 15 days, the pain and discharge from the wound reduced and it increased my confidence. I continued to follow all the instructions from the doctor and the wound gradually healed. I am thankful to god and to the doctor”.

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