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AYURVEDIC MANAGEMENT OF CHRONIC CELLULITIS OF THE LEFT LOWER LIMB USING JALAUKAVACHARANA AND ORAL INTERVENTION: A CASE REPORT

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ABSTRACT

Cellulitis is an acute-on-chronic spreading bacterial infection of the deep dermis and subcutaneous tissues, clinically mirroring the non-suppurative Ama Avastha of Vrana Shopha in Ayurveda. It involves a pathological swelling of skin and muscle tissue driven by Pitta-Kaphaja Dosha vitiation and localized Rakta Dushti (blood vitiation). Globally, cellulitis is a highly prevalent condition, accounting for approximately 1% to 3% of all emergency department visits and urgent medical admissions annually, with a significantly higher recurrence and chronic rate among individuals subjected to prolonged occupational standing and heat exposure. A 35-year-old male businessman, operating a commercial food canteen, presented with a two-month history of dull aching pain, progressive swelling, and distinct blackish hyperpigmentation of the left lower limb. Clinical evaluation revealed a diffuse, non-pitting swelling with an initial lower leg circumference of 49 cm. The patient was admitted to the inpatient department (IPD) from May 14, 2026, to June 2, 2026, and was successfully managed with an integrative Ayurvedic protocol consisting of internal Samana (palliative) medicines (Aampachak Vati, Triphala Guggulu, Punarnava Guggulu, Dashmoola Kashaya, and Laghumalini Vasant Rasa), and 4 sequential sittings of Jalaukavacharana (Leech Therapy) to drain the Dustha Rakta (vitiated blood) and prevent tissue suppuration.

KEYWORDS: Cellulitis, Vrana Shopha, Jalaukavacharana, Leech Therapy, Rakta Dushti, Prevalence.

INTRODUCTION

Vrana Shopha is considered as the premonitory stage of Vrana (wound). It is an unnatural elevation in a part of the body. If left untreated, leads to the manifestation of Vrana (wound). Shopha as a clinical entity was very well known from the period of Samhita. Aachaarya Sushruta enhanced the topic by explaining the surgical aspects of Shopha (an inflammatory condition/ localized swelling) and Vrana (wound). He defined Shopha as localized swelling involving the skin and the underlying flesh which may be even or uneven.[1] Whereas inflammation, it is a part of the complex biological response of body tissue to harmful stimuli, such as pathogens, damaged cells or irritants and is a protective response involving immune cells, blood vessels and molecular mediators.[2]

The function of inflammation is to eliminate the initial cause of cell injury, clear out the necrotic cells and tissue damage from the original insult and the inflammatory process and to initiate tissue repair. Vrana Shopha is been classified into 3 progressive stages.

These are[3]
1. Amawastha (just early stage of inflammatory process),
2. Pachyamanawasth (true inflammatory stage) and
3. Pakwawastha (suppurative stage) respectively.

Based on the vitiation of Dosha, Sushruta has described Vrana Shopha into 6 types[4]: Vatika, Paittika, Kaphaja, Shonita, Sannipattaja and Agantuja. Acharya has differentiated them based on their Laxanas (symptoms),

such as colour, pain etc. while considering the concept of Shatkriyakalai (six main stages of disease manifestation), it was explained for the first time in this context by Aachaarya Sushruta. Sixty procedures for management of Vrana Shopha and Vrana (wound) were told by Sushruta. Out of these Apatarpana (fasting or low diet) to Virechana (purgation) were mentioned for Vrana Shopha[5] and rest for Vrana. Avasechana is one amongst them which is been considered as Rakta mokshana (bloodletting) which eliminates the vitiated doshas and leads to early reduction in the disease, Jalaukavacharana (Leech Application) is considered as the best methods for the removal of Pitta Dosha vitiated blood.[6]

MATERIALS AND METHODS

PATIENT INFORMATION

A 35-year-old male patient, a businessman operating a busy commercial canteen, presented to the out patient department (OPD) on May 14, 2026. He presented with an acute flare-up of the left lower leg characterized by localized, spreading swelling (Shopha), intense fiery redness (Raga), and a mild, throbbing localized discomfort (Shoola). The patient initially received oral Augmentin 625 mg and Aceclofenac-based analgesics from a local practitioner with minimal symptomatic relief.. He was admitted under shalyatantra IPD.

His occupational history revealed prolonged daily standing hours (greater than 8 hours/day) combined with close proximity to large industrial stoves and heat sources in his canteen, creating a classic environment for Pitta and Rakta aggravation. He denied any prior chronic histories of Diabetes Mellitus, Hypertension, or peripheral vascular disease.

CLINICAL EXAMINATION

General condition was stable. Pulse, blood pressure and temperature were within normal limits. Weight- 114kg
Local examination revealed.

- Diffuse swelling of left lower limb
- Hyperpigmentation and blackish discoloration
- Tenderness- Present
- Mild rise of temperature
- No ulceration or discharge
- Pitting edema- Absent

INVESTIGATIONS

Hemoglobin: 10.5 g/dL
RBC Count: 4.17 million/µL
Hematocrit: 32.9%
MCV: 78.9 fL
MCH: 25.18 pg
MCHC: 31.91 g/dL
WBC Count: 5700/cumm
Neutrophils: 42%
Lymphocytes: 47%
Eosinophils: 5%
Monocytes: 6%
Platelets: 280000/cumm

Interpretation: Mild anemia with normal leukocyte and platelet counts.

AYURVEDIC PERSPECTIVE AND SAMPRAPTI

The condition was assessed as Pitta-Kaphaja Shopha associated with Rakta Dushti. Vitiated Rakta contributes to discoloration, while Kapha is responsible for swelling and heaviness. Pitta contributes to inflammatory changes. Agnimandya and Ama formation may further aggravate the pathology.

Samprapti Ghataka.
Dosha – Pitta, Kapha
Dushya – Rakta, Mamsa
Srotas – Raktavaha, Rasavaha
Srotodushti – Sanga
Adhisthana – Left lower limb

TREATMENT PROTOCOL

Internal Medicines

Sr. No.	Oral medication	Dosage	*Anupana*
1.	Aampachak Vati	500mg 2BD	*Ushnodaka*
2.	Triphala Guggulu	500mg 2BD	*Ushnodaka*
3.	Punarnava Guggulu	500mg1BD	*Ushnodaka*
4.	Dashmoola Kashaya	20ml BD	*Ushnodaka*
5.	Laghumalini Vasant	250 mg BD	*Ushnodaka*
6.	Vidang+Musta+ Khadir +Triphala + Shankhjeerak	5gm BD	*Ushnodaka*

Patient was advised to have normal diet and regimen.

External Treatment.

- Jalaukavacharana: Two to Five leeches per sitting.

Total sittings: 4.

	0 th day	7th day	14th day	21st day
Number of Jalauka (leech) used	2	4	5	4

Procedure was carried out in following 3 steps.
Purva Karma (Pre-Procedure Preparation).
Material used for the procedures were; surgical gloves, kidney tray, bowls, Haridra Churna, gauze piece, bandage, disposable needle were kept ready. Jalauka (Leech) were placed in the water mixed with Haridra Churna (turmeric powder) for two to three minutes for activation of leeches. The affected region was cleaned

then dried up and rubbed with dry gauze piece. Jalauka (leech) was held nearer to the anterior sucker with the help of gauze piece.

Pradhan Karma (Procedure of leech application).
Leech was applied at the site of Vrana Shopha. Leech bite the affected area spontaneously and sucked the blood. Once leech started to suck the blood, its neck part looks elevated that indicates that sucking was well and in progress. During suckling wavy movement was visible throughout its body. The body part was covered with a wet swab except his mouth to create a natural atmosphere and it was maintained throughout the process by pouring of some water on it.

Paschat Karma (post procedure)
Immediately after removal of leech Haridra churna (turmeric powder) was applied and was bandaged tightly. When Jalauka give up automatically, then it was kept in a kidney tray and Haridra churna was sprinkled on to its mouth. Jalauka (leech) automatically vomit the ingested blood. Leech was squeezed smoothly to remove all the remnant part of ingested blood. It is very important to remove all ingested blood otherwise leech will suffer from Indramadha and die. Jalauka (leech) were kept in container having clean water separately.

CRITERIA FOR THE ASSESSMENT OF RESULT

Subjective parameters· Pain

Sr. No.	Assessment Criteria	Grade
1	The absence of pain is considered as nil	0
2	The pain which was tolerable, negligible considered as mild	1
3	Constant, tolerable pain and subject can wait even for some days in seeking medical help was considered as moderate	2
4	The pain which was intolerable, constant and makes to seek medical help as early possible was considered as severe	3

Objective Parameters
Oedema: Oedema will be assessed on the basis of circumference measured at foot, ankle and mid calf region of leg respectively and taking measurement of Right lower limb (healthy) of same patient as standard.

OBSERVATIONS AND RESULTS

Clinical response was assessed using symptom relief and circumference measurement.

Sign and Symptoms	0th day		7th day		14th day		21st day		%
Pain	2		1		1		0		
Oedema (cm)	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.	Lt.(%)
	24	29.2	24	28	24	27.5	24	25.5	87.3
	29	36	29	34.5	29	33	29	31	86.1
	37	40	37	39.2	37	38	37	37.5	93.8

Additional Findings.
- Reduction in swelling
- Improvement in skin appearance
- Reduction in discomfort
- Improved daily activity performance

Figure 1A: Unilateral left lower limb edema with hyperpigmentation and chronic skin changes at the time of admission (anterior view).

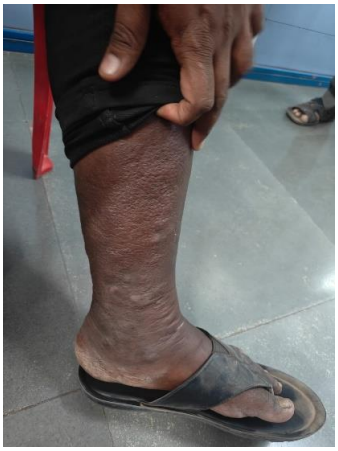

Figure 1B: Lateral view of the left lower limb showing marked edema, hyperpigmentation, and skin thickening at the time of admission.

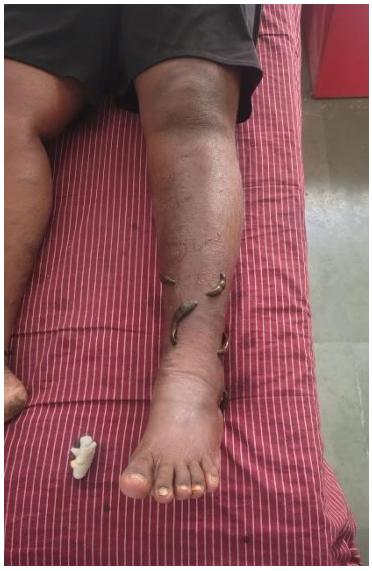

Figure 2: Jalaukavacharana (leech therapy) being performed on the affected leftlower limb during treatment.

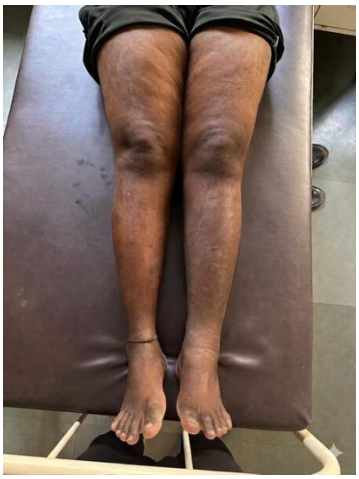

Figure 3: Follow up day 21.

DISCUSSION

Jalaukavacharana is among the most important para-surgical procedures in Ayurveda. Sushruta considered leech therapy particularly useful in disorders where vitiated Rakta plays a major role. The present case demonstrated significant reduction in edema and pain following four sittings of Jalaukavacharana. Similar observations have been reported in studies evaluating leech therapy in inflammatory and vascular disorders. The anti-inflammatory, anticoagulant and microcirculatory effects of hirudin, calin and bdellins may contribute to improved tissue perfusion and reduction of local congestion.

Probable Mode of Action of Jalaukavacharana (Leech Therapy)

The jaws of the leech pierce the skin so that the potent biologically active substances can penetrate into the deeper tissues. Leech saliva having many therapeutic contents like hirudin, bdellins, Hyaluronidase, etc; among them, Eglins and Bdellins have anti-inflammatory properties. Release of histamines and acetylcholine act as vasodilators and anaesthetic substance anaesthetises the site and leads to more blood supply and reduces inflammation Hyaluronidase (spreading factor), an enzyme in leech saliva, further facilitates the penetration and diffusion of these pharmacologically active substances into the tissues. Tissue permeability, restored with the help of hyaluronidase, promotes the elimination of tissue and circulatory-hypoxia as well as local swelling. The persistent bleeding largely potentiates tissue decongestion and also relieve capillary network which decrease venous congestion. positive changes of local hemodynamic and improvement of hemorheology will increase oxygen supply, improve the tissue metabolism, and eliminates the tissue ischemia.

Triphala Guggulu is traditionally indicated in inflammatory disorders and possesses Shothahara properties. Punarnava Guggulu is known for reducing edema and promoting fluid balance. Dashmoola Kashaya helps in controlling inflammation and Vata imbalance. Laghumalini Vasant acts as a Rasayana and supportive immunomodulator. Aampachak Vati helps reduce Ama and improves metabolic function.

The integrated approach may have contributed to reduction in edema, pain and tissue congestion. Clinical improvement was observed rapidly, supporting the relevance of Ayurvedic management in selected chronic inflammatory conditions.

CONCLUSION

The present case demonstrates that Jalaukavacharana combined with Ayurvedic internal medication may be beneficial in chronic cellulitis of the lower limb. Improvement was observed in pain, swelling and overall patient comfort. Larger controlled studies are necessary to further evaluate efficacy.

PATIENT CONSENT

Written informed consent was obtained from the patient for treatment and publication of clinical information and photographs.

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