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Case Study

AYURVEDIC MANAGEMENT OF DEEP VEIN THROMBOSIS (*RAKTAVRITA VATA / SIRAGATA VATA*): A CLINICAL CASE STUDY

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ABSTRACT

Background & Aim: Deep Vein Thrombosis (DVT) is a major peripheral vascular illness carrying a significant risk of severe complications like pulmonary embolism. From an Ayurvedic perspective, DVT is characterized by *Vata Prakopa*, *Rakta Dusti*, and *Srotorodha* (vascular occlusion), manifesting clinically as *Raktavṛta Vata*, *Siragata Vata*, or *Gambhīra Vatarakta*. This study evaluates the clinical efficacy of a comprehensive multi-modal Ayurvedic treatment protocol in resolving lower-limb DVT. **Case Description:** A 37-year-old male presented with severe swelling (*Shotha*), agonizing pain (*Ruga*), skin discoloration (*Vaivarṇya*), and difficulty walking in his left lower limb for 3–4 months. Venous Color Doppler ultrasonography confirmed extensive thrombosis of the left superficial femoral, popliteal, anterior tibial, and posterior tibial veins, extending into the proximal short saphenous vein. **Intervention & Outcome:** The patient underwent a 30-day intervention combining *Shodhana Chikitsa* (*Manjishthadi Kshara Basti, Guduchyadi Taila Anuvasana Basti,* and *Jalaukavacharana),* oral *Shamana* formulations *(Raktamrut Vati, Arogyavardhini Vati, Kaishore Guggulu*), *Pinda Taila* application, lower-limb *Yoga Asanas*, and dietary *Pathya-Apathya*. Post-treatment Doppler ultrasound revealed total thrombus recanalization with no evidence of residual DVT, alongside complete symptomatic recovery.

INTRODUCTION

Deep Vein Thrombosis (DVT) is a vascular disorder characterized by the formation of a blood clot (thrombus) in the deep venous system, most commonly affecting the lower limbs. In simple terms, it occurs when blood forms an abnormal clot inside a deep vein, partially or completely obstructing its normal flow towards the heart. The common clinical manifestations include unilateral limb swelling, pain, tenderness, redness, discoloration, and increased local temperature.

DVT is a major component of Venous Thromboembolism (VTE), which also includes pulmonary embolism (PE), a potentially life-threatening complication that occurs when a part of the clot travels to the lungs. The annual incidence of VTE in Western populations is approximately 1–2 cases per 1,000 individuals, while the incidence in Asian populations has traditionally been reported as lower, although recent evidence indicates a substantial disease burden. In India, the NAMS Task Force Report on Venous Thromboembolism (2024) reported an estimated DVT incidence of approximately 1.79 per 1,000 population. [1,2]

The pathogenesis of DVT is explained by Virchow's triad, which includes venous stasis (sluggish blood flow), endothelial injury (damage to the inner lining of blood vessels), and hypercoagulability (increased tendency of blood to clot). Prolonged sitting, long-distance travelling, immobilization, obesity, smoking, surgery, malignancy, and inherited clotting disorders are important contributing factors. If not appropriately managed, DVT may lead to serious complications such as pulmonary embolism, recurrent thrombosis,

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and post-thrombotic syndrome. DVT represents the third most common vascular disorder globally following ischemic heart disease and stroke.[3]

In classical Ayurvedic literature, blood vessels are described as *Sira*, which play an important role in the transportation of *Rakta Dhatu* throughout the body. Although DVT is not directly described as a separate disease entity in Ayurveda, its clinical manifestations can be understood through the concepts of *Raktavrita Vata, Siragata Vata*, and *Gambhira Vatarakta*. Aggravation of *Vata Dosha*, along with vitiation of *Rakta Dhatu* and obstruction of *Srotas* (body channels), may be considered in understanding the underlying *Samprapti*. These concepts provide a possible Ayurvedic interpretation of the clinical presentation rather than an exact equivalence to modern DVT.[4,5]

Ayurvedic management may involve individualized *Shodhana* and *Shamana Chikitsa*, considering *Dosha-Dushya* involvement and *Samprapti. Jalaukavacharana* (leech therapy), a form of *Raktamokshana*, and *Basti chikitsa* are among the classical therapeutic approaches considered in selected clinical conditions. The present case report describes the integrated Ayurvedic management of a patient diagnosed with extensive DVT of the left lower limb through *Manjishthadi Kshara Basti*,[6] *Guduchyadi Taila*[7] *Anuvasana Basti, Jalaukavacharana,* oral *Shamana* formulations, *Pinda Taila*[8] application, Yoga practices, and dietary modifications. Follow-up Doppler ultrasonography demonstrated complete thrombus recanalization with no residual evidence of DVT, accompanied by symptomatic recovery.

Patient Profile and Clinical Evaluation

A 37-year-old male private manager presented with complaints of severe pain, heaviness, redness, and swelling in his left leg and thigh for 3–4 months, resulting in significant immobility.

History of Present Illness: The patient experienced onset of calf ache after long-distance vehicle travel. Over weeks, the pain worsened into severe throbbing, accompanied by visible oedema and erythema extending to the thigh, making walking painful.

Personal & Lifestyle History: Mixed diet with high intake of spicy/oily food; alcohol consumption 2–3 times per week; active history of tobacco smoking and gutkha chewing. Desk job involving prolonged sitting, with frequent long-distance travel.

Ashtavidha Pariksha

1. *Nadi*- 76/min
2. *Mala- Asamyak*
3. *Mutra- Samyak*
4. *Jivha- Saam*
5. *Shabda- Spashta*
6. *Sparsha- Samsheetushna*
7. *Drik- Spasht*
8. *Akruti- Madhyam*

Physical & Local Examination: BP: 110/70 mmHg, Pulse: 74/min, RR: 20/min. Local examination of the left lower limb revealed pitting edema over calf and thigh, local warmth (*Uṣhṇata*), severe tenderness *(Sparshasahatva),* and reddish discoloration (*Raga*).

Table 1: Laboratory Investigations (02/01/2026)

Investigation Parameter	Observed Value
Hemoglobin (Hb)	17.1 gm%
Total Leukocyte Count (TLC)	7,900 /µL
Neutrophils / Lymphocytes / Eosinophils	65.8% / 20.9% / 7.5%
Platelet Count	2.55 lakh /µL
Random Blood Sugar (RBS)	82 mg/dL
SGOT / SGPT	22.7 U/L / 33.5 U/L
Serum Bilirubin (Total / Direct)	1.50 mg/dL / 0.41 mg/dL
Blood Urea / Serum Creatinine	12.6 mg/dL / 0.90 mg/dL
Serum Uric Acid	7.0 mg/dL
Bleeding Time (BT) / Clotting Time (CT)	4 min 55 sec / 6 min 35 sec
Prothrombin Time (PT)	12.5 sec

Doppler Ultrasound Findings (29/12/2025): Color doppler of left lower limb veins demonstrated extensive thrombosis involving the superficial femoral, popliteal, anterior tibial, and posterior tibial veins, extending into the proximal short saphenous vein, along with diffuse subcutaneous ankle edema.

Ayurvedic Pathophysiology *(Samprapti)*

The etiology *(Nidana)* in this patient involved prolonged long-distance travel (causing *Vata Prakopa* due to continuous physical strain and posture), combined with alcohol and tobacco consumption alongside spicy diet (inducing *Pitta* and *Rakta Dushti)*. The detailed *Samprapti* components are detailed below:

Table 2: Ayurvedic *Samprapti Ghataka*

Ayurvedic Component	Clinical Correlation in Present Case
Dosha	*Vata* predominance *(Vyana Vata & Prana Vata Prakopa)* with *Pitta* Association
Dushya	*Rakta & Mamsa*
Srotas	*Raktavaha Srotas & Sira* (venous vascular network)
Srotodushti Type	*Srotorodha* (vascular occlusion) & *Sira Sankocha* (venous spasm/constriction)
Vyadhi Marga	*Madhyama & Gambhira Marga* (deep vascular channels)
Udbhava & Vyakti Sthana	*Udbhava: Amashaya/Pakvashaya | Vyakti: Vama Adho Shakha* (left lower limb)
Clinical Correlation	*Raktavrita Vata, Siragata Vata, Gambhira Vatarakta*

Pathomechanism (Samprapti Krama): Nidana Sevana (lifestyle & travel factors) → Aggravation of *Vata Dosha* + Impairment of *Rakta Dhatu* → *Margavarodha* (vascular blockage) of *Vata* by vitiated blood *(Rakta)* → *Sira Sankocha* (venous constriction & thrombus formation) → Stagnation of circulation → Manifestation of severe *Shotha* (edema), *Ruja* (throbbing pain), *Gaurava* (heaviness), and *Vaivarṇya* (erythema/discoloration).

Therapeutic Interventions

The patient was managed over a total intervention duration of 30 days with a comprehensive, integrated therapeutic protocol combining *Shodhana Chikitsa* (*Panchakarma* purification), *Raktamokshana* (leech therapy), *Shamana Chikitsa* (oral herbal medicines), *Sthanik Chikitsa* (topical application), *Yoga* therapy, and strict *Pathya-Apathya* lifestyle modifications.

***Shodhana Chikitsa* (*Basti* Protocol)**

A structured 9-day *Karma/Kala Basti* regimen was administered following *Poorvakarma* (local abdominal *Snehana* with *Tila Taila* and *Swedana*). The *Basti* schedule comprised *Manjishthadi Kshara Niruha Basti* (540ml) for deep *Srotoshodhana* and *Raktaprasadana*, alternating with *Guduchyadi Taila Anuvasana Basti* (60ml) for *Vata Shamana* and vascular nourishment.

Table 3: Yog Basti Administration Schedule

Day	Basti Type	Medication Used	Volume / Dose
Day 1	*Churnodaka Basti*	*Churnodaka*	60 mL
Day 2	*Anuvasana Basti*	*Guduchyadi Taila*	60 mL
Day 3	*Anuvasana Basti*	*Guduchyadi Taila*	60 mL
Day 4	*Niruha Basti*	*Manjisthadi Kshara Basti*	540 mL
Day 5	*Anuvasana Basti*	*Guduchyadi Taila*	60 mL
Day 6	*Niruha Basti*	*Manjisthadi Kshara Basti*	540 mL
Day 7	*Anuvasana Basti*	*Guduchyadi Taila*	60 mL
Day 8	*Niruha Basti*	*Manjisthadi Kshara Basti*	540 mL
Day 9	*Anuvasana Basti*	*Guduchyadi Taila*	60 mL

***Raktamokṣaṇa* (*Jalaukavacaraṇa* / Leech Therapy)**

Jalaukavacaraṇa was performed once weekly for 4 consecutive sittings (2 non-poisonous medicinal leeches, Hirudo medicinalis, per sitting) applied directly over the most tender and engorged areas of the left lower calf and mid-thigh. Leech application promoted localized bloodletting, relieved venous congestion, and facilitated systemic absorption of bioactive salivary anticoagulants (such as hirudin and hyaluronidase).

***Shamana Chikitsa* (Oral Formulations) & Topical Care**

Oral *Shamana* drugs were administered for 30 days to resolve *Rakta Dushti*, clear vascular channels, and prevent clot reorganization:

Table 4: Oral *Shamana* Formulations and Topical Application

No.	Formulation / Therapy	Dosage & Schedule	*Anupana* / Mode
1	*Raktaamrut Vati*	2 tablets BD (after meals)	Warm water
2	*Arogyavardhini Vati*	2 tablets BD (after meals)	Warm water
3	*Kaishore Guggulu*	2 tablets BD (after meals)	Warm water
4	*Musta + Vara Siddha Jala*	Frequent intake (Muhurmuhu)	Oral medicated water
5	*Manjishthadi Siddha Ghrita*	1 spoon BD (before meals)	Warm water
6	*Pinda Taila*	Gentle local application *(Sthanik)*	Topical external application

**Note: Siddha Ghṛta ingredients: Dhamasa, Daruharidra, Vasa, Patola, Sariva, Manjistha, and Pashanabheda.*

Yoga Protocol & *Pathya-Apathya*

Yoga Protocol: Gentle lower limb movement and elevation postures were practiced daily (15–20 minutes) to promote venous return: 1. *Ardha Halasana* (single/double leg lift), 2. *Pavanmuktasana* (wind-relieving pose), 3. *Shalabhasana* (Locust pose), 4. *Naukasana* (Boat pose), and 5. *Dhanurasana* (Bow pose).

***Pathya* (Recommended Lifestyle & Diet):** Light, easily digestible foods *(Laghu Ahara), Mudga, Yava*, old rice, vegetables (Patola, Lauki karela), *Dadima* (pomegranate), *Draksha* (raisins); adequate warm hydration; gentle walking as tolerated; leg elevation while resting.

***Apathya* (Strictly Avoided):** Heavy, oily, excessively sour/salty foods; curd; alcohol, tobacco, and gutkha cessation; prolonged static sitting, crossing legs, or long-distance travel without periodic movement.

Results and Clinical Outcomes

After 30 days of continuous Ayurvedic management, complete resolution of clinical symptoms was observed. Pain score decreased from grade 3 to grade 0 on VAS. Edema, reddish discoloration, and localized skin warmth completely resolved, restoring normal gait and mobility.

Table 5: Clinical and Radiological Outcome Measures (Pre- vs Post-Treatment)

Assessment Parameter	Before Treatment (29/12/2025)	After Treatment (30 Days Post)
Calf & thigh pain (VAS)	Grade 3 (severe throbbing pain)	Grade 0 (complete relief)
Lower limb edema *(Shotha)*	Present (severe non-pitting/ pitting)	Absent (complete resolution)
Skin discoloration / erythema	Present (erythematous / purplish)	Absent (normal skin color restored)
Colour doppler ultrasonography	Thrombosis of left superficial femoral, popliteal, anterior tibial & posterior tibial veins; extension into short saphenous vein.	Complete recanalization. No evidence of deep vein thrombosis in left lower limb.

Crucially, repeat Colour Doppler Ultrasonography performed 30 days post-treatment confirmed full recanalization of the left superficial femoral, popliteal, anterior tibial, posterior tibial, and short saphenous veins, with normal phasic flow and complete absence of thrombus. No treatment-related adverse events or bleeding complications were reported during or after the therapy.

Photographic Evidence of Clinical Recovery



Fig 1. Before Treatment (Marked edema & Redness)



Fig 2. After Treatment (Complete Resolution)

DISCUSSION

The successful resolution of extensive lower limb venous thrombosis within 30 days demonstrates the strong therapeutic synergy of multimodal Ayurvedic management. In DVT, vascular occlusion (*Srotorodha*) results from aggravated *Vata* causing vessel constriction (*Sira Sankocha*) coupled with vitiated *Rakta* leading to blood stagnation.

Manjishthadi Kshara Basti plays a vital role due to its *Raktashodhaka* (blood-purifying), *Raktaprasadana*, and *Srotoshodhaka* (channel-clearing) properties. The alkaline (*Kshara*) nature of the formulation aids in scraping and breaking down vascular sludge and thrombus (*Lekhana* action). *Guduchyadi Taila Anuvasana* Basti provides potent *Vata-hara* action, pacifying local endothelial inflammation and nourishing the vessel walls.

Jalaukavacharana (leech therapy) exerts immediate local hypocoagulatory and anti-inflammatory effects. Saliva of *Hirudo medicinalis* contains hirudin (a potent direct thrombin inhibitor), calin (platelet aggregation inhibitor), hyaluronidase (tissue spreading factor), and histamine-like vasodilators. These bioactive compounds degrade local micro-clots, decrease venous pressure, and restore microvascular perfusion.

Oral Shamana formulations further complement this effect: *Arogyavardhini Vati* improves hepatic metabolism and lipid/coagulation cascades; *Kaishore Guggulu* acts as a specific remedy for *Vatarakta*, reducing vascular oxidative stress and inflammation; *Raktaamrut Vati* clears systemic *Rakta Dushti*; and the polyherbal *Siddha Ghrita* delivers deep tissue bioavailability of *Pitta-Rakta*-pacifying herbs.

CONCLUSION

This case demonstrates that an integrated Ayurvedic approach comprising *Manjishthadi Kshara Basti, Guduchyadi Taila Anuvasana Basti, Jalaukavacharana, Shamana* herbs, *Pinda Taila* application, and lower-limb elevation through Yoga are highly effective in managing extensive Deep Vein Thrombosis. The intervention achieved complete symptomatic relief and 100% radiological venous recanalization on colour doppler within 30 days, without any adverse effects. Further clinical trials with larger sample sizes are warranted to establish standardized Ayurvedic protocols for DVT.

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