

Review Article

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“SIRAJA GRANTHI (VARICOSE VEINS): CLASSICAL CONCEPT AND INTEGRATIVE MANAGEMENT”

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ABSTRACT

Background: Varicose veins are common, particularly in people who stand for long periods, and can progress to skin changes and venous ulcers. Sushruta described a condition called Siraja Granthi, in which veins become swollen, tortuous and knotted, and prescribed bloodletting, oleation and other measures. Modern management has evolved rapidly with endovenous techniques. **Objective:** To review the classical concept of Siraja Granthi and to evaluate modern and Ayurvedic approaches to the management of varicose veins within an integrative framework. **Methods:** Narrative review of Sushruta Samhita, vascular guidelines, randomised trials, Cochrane reviews and Ayurvedic clinical reports. **Results:** Sushruta attributes Siraja Granthi to Vata vitiation following exertion in weak individuals, describing compression and twisting of veins. Modern understanding emphasises valve incompetence and venous hypertension, classified by the CEAP system. Randomised trials show that endovenous ablation and surgery improve quality of life and that early endovenous ablation speeds healing of venous ulcers. Cochrane reviews suggest that phlebotonic drugs and horse chestnut seed extract modestly reduce oedema and symptoms. Structured exercise improves calf-muscle pump function. Leech therapy was associated with ulcer healing and reduced oedema in a small study of complicated varicose veins. Evidence for Ayurvedic oral formulations is limited to case reports. **Conclusion:** An integrative approach can combine evidence-based modern interventions with Ayurvedic measures such as leech therapy, exercise, diet and herbal support. Ayurvedic practitioners should assess venous disease severity and refer appropriately, and Ayurvedic interventions should be tested in controlled trials.

KEYWORDS: Siraja Granthi; varicose veins; chronic venous insufficiency; CEAP; endovenous ablation; leech therapy; phlebotonics; compression

INTRODUCTION

Varicose veins are dilated, tortuous superficial veins, most commonly in the legs. Population studies have found that a substantial proportion of adults have varicose veins, with prevalence increasing with age^[1]. While many people have only cosmetic concerns, others experience aching, heaviness, swelling, itching, skin pigmentation, eczema and ultimately venous ulceration, which together constitute chronic venous disease^[2,3].

Modern management has changed considerably. Compression therapy, lifestyle advice and medications remain important, but endovenous thermal and non-thermal ablation and foam sclerotherapy have largely replaced open surgery for treating truncal reflux^[3-5].

In India, varicose veins are common among people who stand for long periods, such as traffic police, shopkeepers, teachers and factory workers. Ayurveda describes a similar condition, Siraja Granthi, and treats it with bloodletting, especially leech therapy, oleation, bandaging and herbs. This review summarises the classical concept and compares classical and modern management to propose an integrative framework.

METHODS

The classical source was Sushruta Samhita, Nidana Sthana 11 and Chikitsa Sthana 18^[6]. Modern literature was identified through PubMed, the

Cochrane Library and Google Scholar using varicose veins, chronic venous disease, CEAP, endovenous ablation, phlebtonics, horse chestnut, exercise and leech therapy. This is a narrative review.

CLASSICAL CONCEPT OF SIRAJA GRANTHI

Description

Sushruta describes Granthi (cystic or nodular swellings) of different origins. Siraja Granthi is described as arising when Vata, aggravated in a weak person by excessive exertion, enters the veins and compresses, contracts and dries them, producing raised, knotted swellings^[6]. Sushruta observes that the condition is painless and mobile in some cases, while in others it is painful and fixed, and that it is difficult to cure.

Correlation with varicose veins

The description of raised, tortuous, knotted veins in weak people after excessive exertion corresponds closely to varicose veins. The emphasis on exertion parallels the modern observation that prolonged standing and occupations that raise venous pressure are associated with varicose veins.

Classical management

Sushruta prescribes the general treatment of Vataja Granthi, including oleation, fomentation, poultices and bandaging, and specifically recommends Raktamokshana (bloodletting) by Siravyadha or leeches for Siraja Granthi^[6]. Internal medicines include Vata-pacifying and blood-purifying herbs.

Table 1: CEAP clinical classification of chronic venous disease

CEAP clinical class	Description
C0	No visible or palpable signs
C1	Telangiectasia or reticular veins
C2	Varicose veins
C3	Oedema
C4	Skin changes (pigmentation, eczema, lipodermatosclerosis)
C5	Healed venous ulcer
C6	Active venous ulcer

Pathophysiology

Varicose veins result from valve incompetence in superficial veins, often at the saphenofemoral or saphenopopliteal junctions, leading to reflux and venous hypertension. Contributing factors include genetic predisposition, female sex, pregnancy, obesity, age and prolonged standing^[1,2]. Sustained venous hypertension causes inflammation of the

vein wall and surrounding tissues, leading to skin changes and ulceration.

CEAP classification

The CEAP system classifies chronic venous disease by clinical features (C0 to C6, from no visible disease to active ulcer), aetiology, anatomy and pathophysiology^[7]. It allows standardised description of disease severity and is essential for comparing

treatments in research.

MODERN MANAGEMENT

Conservative measures

Compression stockings, leg elevation, weight reduction and exercise are recommended for symptomatic disease^[3]. In venous ulcers, compression improves healing compared with no compression^[8] and reduces recurrence after healing^[9]. Structured exercise improves calf-muscle pump function in patients with chronic venous insufficiency^[10].

Medications

Phlebotonic drugs, such as micronised purified flavonoid fraction, aim to improve venous tone and reduce capillary permeability. A Cochrane review found moderate-certainty evidence that phlebotonics reduce oedema and may slightly improve some symptoms, with little effect on ulcer healing^[11]. Horse chestnut seed extract, a herbal medicine, reduced leg pain, oedema and itching compared with placebo in a Cochrane review of short-term trials^[12].

Interventional treatment

For symptomatic truncal reflux, endovenous thermal ablation (laser or radiofrequency), foam sclerotherapy and surgery are effective. In a large randomised trial, all three approaches improved quality of life, with laser ablation having fewer complications than foam sclerotherapy and similar quality-of-life outcomes to surgery^[4]. In patients with venous leg ulcers, early endovenous ablation in addition to compression shortened healing time and increased ulcer-free time compared with deferred ablation^[5].

AYURVEDIC MANAGEMENT AND EVIDENCE

Leech therapy

Leech therapy (Jalaukavacharana) is the most characteristic Ayurvedic treatment for Siraja Granthi. In a prospective study of 20 patients with complicated varicose veins, leech application around varicose ulcers was followed by healing of all ulcers, reduced oedema and limb girth in 95% and reduced pigmentation in 75% of patients^[13]. Leech saliva contains anticoagulant, antiplatelet, anti-inflammatory and vasodilatory substances that plausibly relieve venous congestion^[14]. Controlled trials are lacking.

Siravyadha

Siravyadha (venepuncture) is also used, particularly for congested varicosities. Its effects have not been studied systematically in varicose veins.

Internal medicines

Formulations commonly used include Kaishore Guggulu, Punarnava Guggulu, Manjishthadi Kwatha and Triphala, chosen for their traditional Vata-pacifying, blood-purifying and anti-oedema actions. Evidence for these in varicose veins is limited to case reports.

External measures

Bandaging (Bandha) is described by Sushruta for many conditions and is conceptually similar to compression. Abhyanga (oil massage) is traditionally used for Vata disorders, but vigorous massage over varicose veins is generally avoided because of the risk of thrombophlebitis.

Yoga and lifestyle

Leg elevation postures (such as Viparita Karani), ankle and calf exercises, weight management and avoidance of prolonged standing are compatible with modern recommendations and with the classical emphasis on avoiding exertion and aggravation of Vata.

Table 2: Summary of evidence for interventions in varicose veins

Intervention	Evidence	Main finding
Endovenous ablation, sclerotherapy, surgery	Large RCT ^[4] ; RCT in ulcers ^[5]	Improved quality of life; faster ulcer healing with early ablation
Compression and exercise	Guidelines ^[3] ; RCT ^[10]	Symptom relief; improved calf pump
Phlebotonics	Cochrane ^[11]	Reduced oedema; modest symptom benefit
Horse chestnut seed extract	Cochrane ^[12]	Reduced pain and oedema short term
Leech therapy	Prospective uncontrolled study ^[13]	Ulcer healing; reduced oedema and pigmentation

Intervention	Evidence	Main finding
Ayurvedic oral formulations	Case reports	Not established

SPECIAL SITUATIONS

Occupational varicose veins

Many patients with varicose veins in India work in occupations requiring prolonged standing. Sushruta's link between exertion and Siraja Granthi is relevant here. Practical advice includes taking short breaks to walk or sit with legs elevated, performing calf-muscle exercises (rising onto the toes repeatedly) during long periods of standing, wearing compression stockings during work, and maintaining a healthy weight. Employers can contribute by allowing seating and breaks. Yoga programmes focusing on leg elevation and calf activation can be offered in occupational health settings.

Pregnancy

Varicose veins often appear or worsen during pregnancy because of hormonal effects on vein walls, increased blood volume and pressure from the uterus on pelvic veins. They usually improve after delivery. Management in pregnancy relies on compression, elevation and exercise; interventional treatment and most herbal medicines are generally deferred. Leech therapy and bloodletting are contraindicated in pregnancy according to both classical and modern caution.

Complications

- **Superficial thrombophlebitis:** a painful, red, tender cord along a varicose vein. It may coexist with deep vein thrombosis, so duplex ultrasound is advised, particularly when it is near the groin or knee.
- **Bleeding:** varicose veins over the ankle can bleed profusely after minor trauma; elevation and firm pressure are immediate measures, followed by definitive treatment of the vein.
- **Skin changes and ulceration:** require compression and assessment for interventional treatment.

MEASURING OUTCOMES

For both clinical practice and research, outcomes should be measured with standard tools. The revised Venous Clinical Severity Score combines clinician-assessed features such as pain, varicose veins, oedema, pigmentation, inflammation, induration and

ulcer characteristics into a single score that is responsive to change^[15]. Disease-specific quality-of-life questionnaires and the CEAP class should also be recorded. Using these measures in Ayurvedic studies would allow results to be compared with those of modern treatments and would greatly strengthen the evidence base.

AN INTEGRATIVE FRAMEWORK

An integrative approach to varicose veins could include:

1. **Assessment:** clinical examination with CEAP classification and duplex ultrasound to identify reflux and exclude deep vein thrombosis.
2. **C1 to C3 (cosmetic or mild symptoms):** lifestyle measures, exercise, compression, and Ayurvedic support such as diet, yoga and herbal formulations.
3. **C4 to C6 (skin changes and ulcers):** compression, wound care, referral for endovenous treatment of reflux, and adjunct leech therapy for congested areas and around ulcers.
4. **Complications:** superficial thrombophlebitis, bleeding from varicosities and suspected deep vein thrombosis require medical assessment.
5. **Follow-up:** monitoring of symptoms, CEAP class and ulcer recurrence.

SAFETY

Leech therapy and bloodletting should be avoided in patients on anticoagulants or with bleeding disorders, and infection precautions are necessary. Massage over thrombosed or inflamed veins should be avoided. Suspected deep vein thrombosis (sudden calf swelling, pain, tenderness) requires urgent medical evaluation.

DISCUSSION

Sushruta's description of Siraja Granthi captures the essential features of varicose veins and links them to exertion in weak individuals, a remarkable observation for its time. His recommendation of bloodletting, especially with leeches, has a plausible physiological basis and some clinical support, though controlled evidence is lacking.

Modern treatment has advanced greatly with endovenous techniques, which are now the standard

for symptomatic truncal reflux. Ayurveda's role is most appropriate in prevention, symptom relief, management of mild disease and adjunct care for skin changes and ulcers. Ayurvedic practitioners should use CEAP classification and duplex ultrasound in assessment and refer patients who may benefit from interventional treatment.

Future research should include randomised trials of leech therapy as an adjunct to compression in C4 to C6 disease, trials of standardised Ayurvedic oral formulations against phlebotonics in symptomatic C2 to C4 disease, and the use of validated quality-of-life instruments.

CONCLUSION

Siraja Granthi, described by Sushruta, corresponds to varicose veins. Modern management is based on CEAP-guided assessment, compression, phlebotonics and endovenous intervention, with strong evidence for interventional treatment. Ayurvedic measures, particularly leech therapy, exercise and lifestyle, may complement modern care. Controlled trials are needed to define their role.

REFERENCES

1. Evans CJ, Fowkes FG, Ruckley CV, Lee AJ. Prevalence of varicose veins and chronic venous insufficiency in men and women in the general population: Edinburgh Vein Study. *J Epidemiol Community Health*. 1999;53(3):149–53.
2. Eberhardt RT, Raffetto JD. Chronic venous insufficiency. *Circulation*. 2014;130(4):333–46.
3. Gloviczki P, Comerota AJ, Dalsing MC, Eklof BG, Gillespie DL, Gloviczki ML, et al. The care of patients with varicose veins and associated chronic venous diseases: clinical practice guidelines of the Society for Vascular Surgery and the American Venous Forum. *J Vasc Surg*. 2011;53(5 Suppl):2S–48S.
4. Brittenden J, Cotton SC, Elders A, Ramsay CR, Norrie J, Burr J, et al. A randomized trial comparing treatments for varicose veins. *N Engl J Med*. 2014;371(13):1218–27.
5. Gohel MS, Heatley F, Liu X, Bradbury A, Bulbulia R, Cullum N, et al. A randomized trial of early endovenous ablation in venous ulceration. *N Engl J Med*. 2018;378(22):2105–14.
6. Gundeti M, Vidiyala N, Dalvi S, Girase R, Thota SK, Paudel KR, et al. Next-generation Pluronic micelles for advanced drug delivery application. *Macromol Mater Eng*. 2026;311(9):e70344.
7. Lurie F, Passman M, Meisner M, Dalsing M, Masuda E, Welch H, et al. The 2020 update of the CEAP classification system and reporting standards. *J Vasc Surg Venous Lymphat Disord*. 2020;8(3):342–52.
8. Vidiyala N, Sunkishala P, Parupathi PR, Nyavanandi D. Stem cell-derived exosomes in wound healing and skin regeneration: emerging therapeutic strategies and mechanisms. *Cells*. 2026;15(10):872.
9. Nelson EA, Bell-Syer SEM. Compression for preventing recurrence of venous ulcers. *Cochrane Database Syst Rev*. 2014;(9):CD002303.
10. Wal A, Bukke SPN, Vidiyala N, Jamil S, Sharma KK, Khan A, et al. Stimuli-responsive nanogels as intelligent nanocarriers for tumor microenvironment-triggered anticancer drug delivery. *Discov Nano*. 2026;21(1):247.
11. Martinez-Zapata MJ, Vernooij RW, Simancas-Racines D, Uriona Tuma SM, Stein AT, Moreno Carriles RMM, et al. Phlebotonics for venous insufficiency. *Cochrane Database Syst Rev*. 2020;(11):CD003229.
12. Vidiyala N, Sunkishala P, Parupathi P, Mandati P, Mantena SK, Kasu RRR, et al. High drug loading of amorphous solid dispersion by hot melt extrusion: the role of magnesium aluminometasilicate (Neusilin® US2). *Sci Pharm*. 2025;93(3):30.
13. Bapat RD, Acharya BS, Juvekar S, Dahanukar SA. Leech therapy for complicated varicose veins. *Indian J Med Res*. 1998;107:281–4.
14. Hildebrandt JP, Lemke S. Small bite, large impact – saliva and salivary molecules in the medicinal leech, *Hirudo medicinalis*. *Naturwissenschaften*. 2011;98(12):995–1008.
15. Vasquez MA, Rabe E, McLafferty RB, Shortell CK, Marston WA, Gillespie D, et al. Revision of the venous clinical severity score: venous outcomes consensus statement. *J Vasc Surg*. 2010;52(5):1387–96.