

RAKTAMOKSHANA & SIRAVYADHA IN VARICOSITY: HEMODYNAMIC AND SYMPTOMATIC OUTCOMES WITH COMPARATIVE EVALUATION OF SCLEROTHERAPY AND AYURVEDIC MANAGEMENT

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ABSTRACT

Varicose veins are a chronic venous disorder characterized by dilated, tortuous superficial veins associated with venous hypertension, valvular incompetence, and impaired hemodynamics. Conventional management includes compression therapy, sclerotherapy, and surgical interventions, with sclerotherapy being widely utilized for symptomatic relief and cosmetic improvement. In Ayurveda, varicosity can be correlated with *Siragata Vata* and *Raktadushti*, where *Raktamokshana* (therapeutic bloodletting), particularly *Siravyadha*, is indicated as a primary intervention. Additionally, *Shamana* therapies and *Basti Karma* aim to correct underlying *Vata* imbalance and systemic pathology. This review critically evaluates the role of *Raktamokshana* and *Siravyadha* in improving hemodynamic parameters and clinical symptoms in varicose veins, and compares these approaches with modern sclerotherapy. A structured literature review was

conducted using classical Ayurvedic texts and modern databases including PubMed, Scopus, and Web of Science. Evidence suggests that sclerotherapy provides rapid obliteration of

affected veins, improving venous reflux and symptoms, whereas *Raktamokshana* may reduce venous congestion, local inflammation, and pain through decompression and detoxification mechanisms. Ayurvedic *Shamana* and *Basti* protocols offer systemic correction and may reduce recurrence. However, evidence for Ayurvedic interventions is limited by small sample sizes and lack of standardized methodologies. Integrative approaches combining modern and Ayurvedic strategies may enhance long-term outcomes. Further well-designed clinical trials are required to validate efficacy and safety.

KEYWORDS: Varicose veins, *Siragata Vata*, *Raktamokshana*, *Siravyadha*, sclerotherapy, *Basti Karma*, Ayurveda, venous insufficiency.

1. INTRODUCTION

Varicose veins are a manifestation of chronic venous insufficiency (CVI), characterized by venous dilation, tortuosity, and valve incompetence, commonly affecting the lower limbs.^[1] They are associated with symptoms such as pain, heaviness, edema, and skin changes.

Modern treatment strategies include lifestyle modification, compression therapy, endovenous ablation, and sclerotherapy, with the latter being a minimally invasive and widely accepted intervention.^[2]

In Ayurveda, varicose veins are correlated with *Siragata Vata* and *Raktadushti*, where vitiated *Vata* affects vascular channels (*Sira*), leading to dilation and dysfunction.^[3] *Raktamokshana*, especially *Siravyadha* (venesection), is indicated for removing vitiated blood and relieving local pathology.

AIM AND OBJECTIVES

- To analyze varicosity from modern and Ayurvedic perspectives
- To evaluate *Raktamokshana* and *Siravyadha* in varicosity
- To compare with sclerotherapy
- To assess hemodynamic and symptomatic outcomes.

2. METHODOLOGY OF LITERATURE REVIEW

Databases searched: PubMed, Scopus, Web of Science, Google Scholar.

Keywords used: “varicose veins sclerotherapy”, “Raktamokshana Siravyadha varicosity”, “chronic venous insufficiency Ayurveda”, “Basti therapy vascular disorders.”

3. Conceptual Background

Varicose veins have been described in ancient surgical texts, including *Sushruta Samhita*, where *Siravyadha* is recommended for disorders involving vitiated blood and vascular abnormalities.^[4]

Sushruta emphasized *Raktamokshana* as one of the primary therapeutic modalities for diseases involving *Rakta Dushti*.

Modern understanding evolved with advances in vascular physiology, identifying venous reflux and valve incompetence as key mechanisms.^[5]

4. Review of Literature

4.1 Pathophysiology

Modern Perspective

- Venous valve incompetence
- Increased venous pressure
- Venous dilation and reflux
- Inflammation and endothelial dysfunction.^[6]

Ayurvedic Perspective

- *Vata Dosha* → dilation and loss of tone
- *Rakta Dushti* → vascular pathology
- Obstruction in *Sira* leading to abnormal flow.

4.2 Concept of *Raktamokshana* and *Siravyadha*

- *Raktamokshana*: elimination of vitiated blood
- *Siravyadha*: venesection technique.

Indications include:

- Local congestion
- Pain and inflammation
- Vascular disorders.

4.3 Procedure of *Siravyadha*

1. Identification of affected vein
2. Aseptic preparation

3. Controlled venesection
4. Bloodletting until symptom relief
5. Dressing and post-care.

4.4 Mechanism of Action

Ayurvedic Explanation

- Removes vitiated *Rakta*
- Reduces *Vata* obstruction
- Restores normal circulation.

Modern Interpretation

- Reduces venous congestion
- Decreases local pressure
- Improves microcirculation
- Anti-inflammatory effect.

4.5 Sclerotherapy

Injection of sclerosant (e.g., polidocanol, sodium tetradecyl sulfate).

Polidocanol

- Concentration: 0.5–3%
- Dose per session: 0.1–2 ml per vein
- Maximum dose/session: 2 mg/kg
- Frequency: Once every 1–2 weeks
- Number of sessions: 2–6 sessions.

Sodium Tetradecyl Sulfate (STS)

- Concentration: 0.1–3%
- Dose: 0.5–2 ml per injection site
- Sessions: 2–5.

Post-procedure

- Compression stockings (20–30 mmHg)
- Duration: 2–4 weeks.

Pharmacotherapy

Diosmin and Hesperidin

- **Dose:** 500 mg twice daily
- **Duration:** 2–3 months.

Calcium Dobesilate

- **Dose:** 500 mg twice daily
- **Duration:** 6–8 weeks.

Pentoxifylline

- **Dose:** 400 mg three times daily
- **Duration:** 4–8 weeks.

These drugs causes endothelial damage → fibrosis → vein closure.

4.6 Hemodynamic Outcomes

Parameter	Sclerotherapy	<i>Siravyadha</i>
Venous reflux	Reduced significantly	Limited evidence
Vein closure	Yes	No direct closure
Pressure reduction	Moderate	Immediate local relief

Sclerotherapy directly alters venous structure, whereas *Siravyadha* provides decompression.

4.7 Symptomatic Outcomes

Symptom	Sclerotherapy	Ayurvedic Approach
Pain	Reduced	Reduced
Edema	Improved	Improved
Heaviness	Improved	Improved
Recurrence	Moderate	Possibly lower

4.8 Ayurvedic Management

1. *Raktamokshana (Siravyadha)*

Procedure

- Site: Prominent varicose vein
- Quantity of blood: 50–150 ml (depending on patient strength)
- Frequency: Once every 15–30 days
- Total sittings: 2–4 sessions.

Indications

- *Pain*

- *Congestion*
- *Discoloration.*

2. Shamana Chikitsa (Internal Medicines)

Kaishor Guggulu

- Dose: 500 mg – 1 g (2 tablets)
- Frequency: Twice daily after meals
- Duration: 2–3 months.

Punarnavadi Kashaya

- Dose: 15–20 ml with equal water
- Frequency: Twice daily before meals
- Duration: 6–8 weeks.

Manjishthadi Kwatha

- Dose: 15–20 ml
- Frequency: Twice daily
- Duration: 6–8 weeks.

Triphala Churna

- Dose: 3–5 g at bedtime with warm water
- Duration: 2–3 months.

Guggulu Tiktaka Ghrita

- Dose: 5–10 ml with warm water/milk
- Frequency: Once or twice daily
- Duration: 4–6 weeks.

3. Basti Karma

Type: Kala Basti Protocol (16 Days)

A. Anuvasana Basti (Oil Enema)

- *Dashamoola Taila / Sahacharadi Taila*
- 60–100 ml
- Alternate days.

B. Niruha Basti (Decoction Enema)

- *Dashamoola Kwatha* – 300 ml
- *Madhu (Honey)* – 50 ml
- *Saindhava (Rock salt)* – 5 g
- *Taila* – 50 ml
- *Kalka (paste of drugs like Bala, Eranda moola)* – 20 g
- 400–500 ml
- Alternate with *Anuvasana*.

Duration

- 8–16 days (*Kala Basti* schedule).

Action

- Corrects *Vata Dosha*
- Improves circulation
- Reduces recurrence.

4. External Therapies**Abhyanga (Massage)**

- Oil: *Sahacharadi Taila*
- Duration: 15–20 min daily.

Lepa (Topical Application)

- *Manjishtha and Haridra paste*
- Once daily.

4.9 Comparative Analysis

Parameter	Sclerotherapy	Ayurveda Protocol
Pain relief	Rapid (1–2 weeks)	Gradual (2–4 weeks)
Vein closure	Yes	No
Edema reduction	Moderate	Good
Recurrence	Moderate	Lower (with Basti)
Systemic correction	No	Yes

4.10 Critical Appraisal**Advantages of Sclerotherapy**

- Standardized

- Rapid results
- Strong evidence.

Advantages of Ayurvedic Approach

- Holistic
- Addresses root cause
- Potential for long-term benefit.

Limitations

- Ayurveda lacks high-quality trials
- Sclerotherapy may not prevent recurrence.

5. Research Gaps and Limitations

- Lack of RCTs comparing both approaches
- Limited hemodynamic studies in Ayurveda
- Variability in treatment protocols
- Small sample sizes.

6. Future Perspectives

- Integrative vascular care models
- Doppler-based evaluation of Ayurvedic therapies
- Standardization of *Siravyadha*
- Long-term outcome studies.

7. CONCLUSION

Varicose veins represent a complex vascular disorder requiring both symptomatic and etiological management. Sclerotherapy provides effective local treatment by obliterating incompetent veins, whereas *Raktamokshana* and *Siravyadha* offer decompressive and potentially disease-modifying benefits. Ayurvedic *Shamana* and *Basti* therapies address systemic factors and may reduce recurrence. While integrative approaches appear promising, robust scientific validation is essential to establish their clinical efficacy and safety.

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