Case Report

www.ijrap.net

(ISSN Online: 2229–3566, ISSN Print: 2277–4343)

MECHANISTIC PERSPECTIVE ON AYURVEDIC INTERVENTION IN PAIN MODULATION AND QUALITY OF LIFE ENHANCEMENT IN CHRONIC VENOUS INSUFFICIENCY: A CASE REPORT WITH SPECIAL REFERENCE TO VATARAKTA

Anushree K [1]*, Abdul Khader [2]

[1] PG Scholar, Department of Kayachikitsa, Sri Kalabyraveshwara Swamy Ayurvedic Medical College, Hospital and Research Centre, Bangalore, Karnataka, India

[2] Professor, Dean of PhD studies, Department of Kayachikitsa, Sri Kalabyraveshwara Swamy Ayurvedic Medical College, Hospital and Research Centre, Bangalore, Karnataka, India

Received on: 15/1/26 Accepted on: 22/3/26

***Corresponding author**
E-mail: anukgowda30@gmail.com

DOI: 10.7897/2277-4343.17246

ABSTRACT

Chronic venous insufficiency (CVI) develops secondary to venous hypertension. Varicose veins are the significant contributor. Lower limb pain, associated with leg swelling, limb heaviness, cramps, edema, numbness or tingling sensation in lower limbs, impact quality of life. If left untreated, can lead to complications like venous ulcers, Deep Venous Thrombosis (DVT). This is a case report on a 52-year-old female, obese, housekeeping staff, with a history of varicose vein for 8 years with bilateral lower limb pain, swelling over feet. Peripheral vascular system and varicose vein examinations were carried out. Measurement of edema, Venous Clinical Severity Score (VCSS) to assess severity, quality of life assessment through Chronic Venous Insufficiency Questionnaire (CIVIQ) was done before and after treatment. CEAP (Clinical severity, Etiology, Anatomic Distribution, Pathophysiology) classification is included. The present case study on CVI-Varicose vein is corelated to Vatarakta and was treated using Vatarakta treatment modalities like Abhyanga, Swedana and Virechana Karma, along with Shamana Aushadhi-Kaishora Guggulu, Nithyananda Rasa, Viscovas, Osteoflex, Guduchyadi Kashaya, Sahacharadi Kashaya. This case report discusses the management of CVI- Varicose vein through Ayurveda treatment. Comparative discussion on pathophysiology, clinical interpretation through lens of Ayurveda and Samprapti Vighatana is done. Ayurveda treatment was effective in managing CVI, preventing disease progression, relieving chronic pain, improving quality of life, as evidenced by reductions in VCSS and CIVIQ scores post treatment.

Keywords: Chronic venous insufficiency, CIVIQ, Varicose veins, Vatarakta, VCSS, Virechana Karma.

INTRODUCTION

Chronic venous insufficiency (CVI) develops secondary to venous hypertension. Risk factors include varicose veins, obesity, advanced age, prolonged standing and female gender. It presents with lower limb pain associated with leg swelling, limb heaviness, cramps, edema, numbness or tingling sensation in lower limbs, affecting quality of life. If left untreated, it can lead to complications such as venous ulcers and deep vein thrombosis (DVT)[1].

CVI presentations in the patient are Sira-ayama (dilated veins) in the lower limbs, Shotha (edema), Shula (pain), Anga-graha (cramps), Supti (numbness), Sthamba (stiffness) which are all symptoms of Vatarakta predominant of Vata and Kapha[2], and, seems to be taking Gambheeravastha (deep seated). The Rakta Marga is obstructed due to presence of Prakupita Vata in Shakha (periphery or limbs) and Sandhi (joints). Anyonyavarana of Vata (mutual occlusion between subtypes of Vata) and Rakta causes Vedana (pain)[3].

This case report discusses, the management of CVI (Varicose vein), through Abhyanga (therapeutic massage), Swedana (sudation) and Virechana Karma (purgation therapy) along with Shamana Aushadhi (pacifying medicines), effective in Vatarakta. Comparative discussion on pathophysiology, clinical interpretation through lens of Ayurveda and Samprapti Vighatana (breaking pathogenesis) has been deliberated.

Patient Information

A 52-year-old female, a housekeeping staff, from KP Agrahara, Bengaluru, known case of Hypertension (for 7 years), Hypothyroidism (for 5 years), with history of varicose vein in bilateral legs for 8 years, came to OPD on 9/11/2025, with the complaints of,

- Pain in posterior aspect of bilateral leg with swelling over foot (right>left) and leg (lower 1/3rd) in the past 6 months.
- Pain in the medial aspect of right distal thigh, right knee and pain on flexing right leg in the past 1 month.
- Disturbed sleep due to pain in the past 3 months.

2017 - Gradual onset of pain in both calves, worsened at night, on prolonged standing/walking. 6 months later noticed swelling in both feet, consulted at Victoria hospital, where medications were advised.
2017-2018- Patient was on oral medications at frequent visits and this went on for about 3 years but did not find relief. Venous doppler- revealed superficial incompetent perforators in both legs for which surgery was advised. Patient was not willing for surgery, continued oral medicines.
2018- Patient was treated at SKAMCH&RC, Bangalore. Complete pain relief lasted 3 years, except for the swelling which appeared on prolonged standing.
2020- Weight gain (around 20 kgs in 3 years), hair fall, tiredness. Diagnosed with Hypothyroidism, on medications.

2021- Pain in left leg, described as deep, dull, intermittent and more towards the evening, with swelling over calf region. Doppler at Victoria Hospital revealed superficial varicosities and incompetent perforators in both legs. Pain medications, Grade II compression stockings were advised. Pain subsided while on medications and recur after stopping medicines and on prolonged standing.
2021-2024- Frequent visits to Victoria hospital- prescribed with oral medicines.
2025 (6 months ago)- Pain in posterior aspect of both legs with swelling over dorsum of feet, ankle, legs. Pain was described as intermittent, pulling type, worsened on prolong standing/sitting, relieved on sitting/sleeping with legs extended flat on surface. Patient also experienced numbness in legs often early morning. Sleep was disturbed due to pain. Venous Doppler was repeated which revealed superficial varicosities in bilateral long and right short saphenous territory, secondary to incompetent perforators. Screening for DVT was also done. Oral medications were prescribed. Patient was taking medications irregularly, sometimes only when it would be severe to tolerate.
2025 (In the past 3 months)- Pain in both legs worsened, swelling in right ankle was severe that patient couldn't wear footwear.
2025 (In the past 1 month)- New onset of pain in medial aspect of right distal thigh and knee and on flexing right leg.

Treatment History

Treatment at SKAMCH&RC 16/08/2018-29/10/2018
Sarvanga Abhyanga with Dhanwantaram Taila + Sahacharadi Taila followed by Sarvanga Bashpa Sweda- 7 days Arohana Snehapana with Guggulu Tiktaka Ghrita + Sukumara Ghrita Vishrama Kala- Sarvanga Abhyanga with Dhanwantaram Taila + Sahacharadi Taila followed by Sarvanga Bashpa Sweda- 3 days Virechana Karma
Regular medications
Atenolol 40 mg 1-0-0 since 3 years. Earlier prescription not known to patient. Levothyroxine 50 mcg 1-0-0, since 2020.
Treatment at Victoria Hospital Bengaluru
4/10/2021 • Aceclofenac P 1-0-1 • Pan D 1-0-1 **17/12/2022** (x 1 month, prescribed same a year ago, patient was on same medication often) • Pregabalin 75 0-0-1 • Amitriptyline 25 0-0- ½ • Homin 0-1-0 • Naproxen 500 1-0-0 Medications prescribed in 2017-18, not known to patient.

Clinical Findings

General Examination	**Vitals**
Built- Obese Nourishment- Good Pallor- Absent Icterus- Absent Cyanosis-Absent Nails- Normal Lymph node- Not palpable Edema- Present in bilateral leg, ankle, dorsum of foot. Tongue- coated Thyroid gland- Not enlarged	Temperature- 98°F Pulse- 68/min Respiratory rate- 20 cycles/min Blood Pressure- 150/90 mmHg
Aatura Karya Desha Pareeksha	
A. Aatura Bhoomi Desha Pareeksha	
Jataha- Sadharana; **Samruddaha-** Sadharana; **Vyadhitaha-** Sadharana	
B. Aatura Deha Desha Pareeksha	
Prakruti- Kapha Pittaja Vikruti- • Hetu- Anyonya Avarana of Vata and Rakta • Dosha- Vata Pradhana, Kapha, Pitta • Dushya- Rasa, Rakta. Mamsa, Meda, Siras • Prakruti- Vata Pradhana Tridosha • Kala- Sarvakala • Bala- Madhyama	Sara- Madhyama Satva-Madhyama Satmya- Sarva Rasa Satmya Samhanana-Madhyama Pramana- Pravara • Dhairgya- 159cms • Bhara-95 kgs • BMI- 37.57 kg/m^2 Ahara Shakti- • Abhyavaharana Shakti- Madhyama • Jarana Shakti- Madhyama Vyayama Shakti- Madhyama Vaya- 51 years (Madhyama)

Systemic Examination
Peripheral vascular system
Inspection

- Edema- In bilateral dorsum of foot, ankle (medial and lateral aspects), legs (lower 1/3 rd and calf)
- Ulcers, scars, brownish/blackish/reddish skin discoloration- absent
- Dilated veins present in bilateral calf region, extending up to popliteal fossa; spider veins present in left thigh posterior aspect, above popliteal fossa.

- Skin, nails- Normal.

Palpation

- Warmth over dorsum of foot, ankle, lower 1/3rd of leg, bilaterally.
- Pitting edema over dorsum of foot, shin bilaterally.
- Tenderness over lower 1/3rd of leg (medial aspect), bilaterally.
- Dorsalis pedis artery pulse (Bilaterally equal)
- Posterior tibial artery pulse (Bilaterally equal)
- Anterior tibial artery pulse (Bilaterally equal)
- Palpation of dilated veins- not painful/hard, compressible.
- Tests for varicose vein- 1. Torniquet test- Filling of veins below torniquet.
- Tests for DVT- Mose's sign, Homan's sign and Neuhoff's sign- negative.
- Postural colour change in the lower limbs; Ankle flaring- Absent.
- Sensation- intact.

Measurements of edema

Site	Measured in centimeters	
	Right	Left
Forefoot	29 cm	24.5 cm
Figure of eight method	54 cm	52 cm
Mid-calf	45cm	44cm
Above knee	52cm	51.5 cm
Over knee	41 cm	41cm
Mid-thigh	58 cm	57.8 cm

Roga Pareeksha

Nidana
Aharaja Nidana- Katu Ahara, Matsya, Kulattha, Rajamasha **Viharaja Nidana-** Ati Adhva, Vishama Ashana, Ratri Jagarana, Chinta **Sthoola Kaya**
Samprapti Ghataka
Dosha- Vata Kapha Pradhana **Dushya-** Rasa, Rakta, Mamsa, Meda **Agni-** Jataragni, Dhatwagni **Ama-** Jataragni and Dhatwagni janya Ama **Srotas-** Rasavaha, Raktavaha, Mamsavaha, Medovaha, Asthivaha **Sroto Dushti Lakshana-** Rasavaha, Raktavaha, Mamsavaha, Medovaha **Udbhavasthana-** Amashaya, Pakwashaya **Sancharasthana-** Siras of Adhoshaka **Vyaktasthana-** Adhoshaka **Rogamarga-** Bahya **Vyadhi Swabhava-** Chirakari **Sadhya Asadhyata-** Yapya
Poorva Roopa
Ruja
Roopa
Sira Ayama Shotha- Ati Vriddhi Hani Ati-ruk Supti Sthambha
Upashaya
On extending legs on flat surface
Anupashaya
Prolonged standing/sitting

Investigations

Venous doppler of bilateral lower limb 12/06/2018
Few varicosities in bilateral long saphenous vein territory secondary to incompetent perforators.
Venous doppler of bilateral lower limb- 28/07/2021
Dilated left long saphenous vein and multiple superficial varicosities in left long saphenous vein territory secondary to incompetent perforators. Few superficial varicosities in right long saphenous vein territory secondary to incompetent perforators. Few superficial varicosities in bilateral short saphenous vein territories secondary to incompetent perforators.
Thyroid profile- 05/08/2025
TSH- 3.04 µIU/ml TT4-6.82 µg/dl TT3-92 ng/dl
Screening for Deep vein thrombosis 08/10/2025
No evidence of thrombosis in veins of bilateral lower limbs.
Venous doppler- 08/10/2025
Few superficial varicosities in bilateral long and short saphenous venous territories secondary to incompetent perforators.

CEAP Classification: In this case- **C3 Ep Ap Pr** [4]

CEAP classification	
Clinical classification	
C0	No visible or palpable signs of disease
C1	Telangiectasias or reticular veins
C2	Varicose veins
C3	Edema
C4a	Pigmentation or eczema
C4b	Lipodermatosclerosis or atrophic blanche
C5	Healed venous ulcer
C6	Active venous ulcer
S	Symptomatic, including ache, pain, tightness, skin irritation, heaviness, muscle cramps, and other complaints attributable to venous dysfunction
A	Asymptomatic
Etiologic classification	
Ec	Congenital
Ep	Primary
Es	Secondary (post-thrombotic)
En	No venous cause identified
Anatomic classification	
As	Superficial veins
Ap	Perforator veins
Ad	Deep veins
An	No venous location identified
Pathophysiologic	
Pr	Reflux
Po	Obstruction
Pr, o	Reflux and obstruction
Pn	No venous pathophysiology identifiable

Diagnosis: CVI (Varicose vein); Vatarakta (Vata-Kapha Adhika).

Intervention

Phase I **9/11/2025-15/11/2025**	**Phase II** **16/11/2025-22/11/2025**	**Advise on discharge** **23/11/2025**
Bahya Upakrama (x 7 days**)** Sarvanga Abhyanga with Pinda Taila +Sahacharadi Taila Followed by Sarvanga Bashpa Sweda **Orally** Kaishora Guggulu 2-0-2 (After food) Osteoflex 1-0-1 (After food) Nityananda Rasa- 2-0-2 (After food) Viscovas 1-0-1 (After food) Guduchyadi Kashaya + Sahacharadi Kashaya 3tsf each with 6tsf water, morning and evening after food.	**Arohana Snehapana** Guggulu Tiktaka Ghrita + Varunadi Ghrita Day 1-30ml Day 2-120ml Day 3-240ml **Vishrama Kala** (x 3days**)** Sarvanga Abhyanga with Pinda Taila + Sahacharadi Taila, Followed by Sarvanga Bashpa Sweda. **Virechana Karma** Trivrit Lehya (70gm) + Triphala Kashaya (100ml) 22 Adhovegas. Samsarjana Krama- 7days.	Samsarjana Krama. **Orally** Same oral medicines (Phase I) x 15 days

RESULT

Observations in each phase of treatment is recorded with edema measurement.

Observations

Phase I

Pain in legs reduced by 50-60%.
Pain in thigh and knee reduced completely.
Edema reduced. (Non-pitting) present only in foot and around malleolar region.

Site	**Measured in centimeters.**	
	Right	**Left**
Forefoot	27	24
Figure of eight method	52.5	51
Mid-calf	44.5	44
Above knee	52	51.5
Over knee	41	41
Mid-thigh	58	57.8

Numbness in legs on waking up reduced by 50%
Sleep- Sound.

Phase II

Pain in legs reduced by 70%.
Edema reduced. Persists around malleolar region, not pitting.

Site	**Measured in centimeters.**	
	Right	**Left**
Forefoot	24.5	24
Figure of eight method	50.5	50
Mid-calf	43.5	43.2
Above knee	52	51.5
Over knee	41	41
Mid-thigh	58	57.8

Weight loss- 5kgs.
Numbness in legs on waking up reduced completely.
Sleep- Sound

Assessment using Venous Clinical Severity Score (VCSS) and Chronic Venous Insufficiency Quality of Life Questionnaire (CIVIQ) was done before treatment (BT) and after treatment (AT)[5].

	BT	AT
VCSS	8	3
CIVIQ	83	27

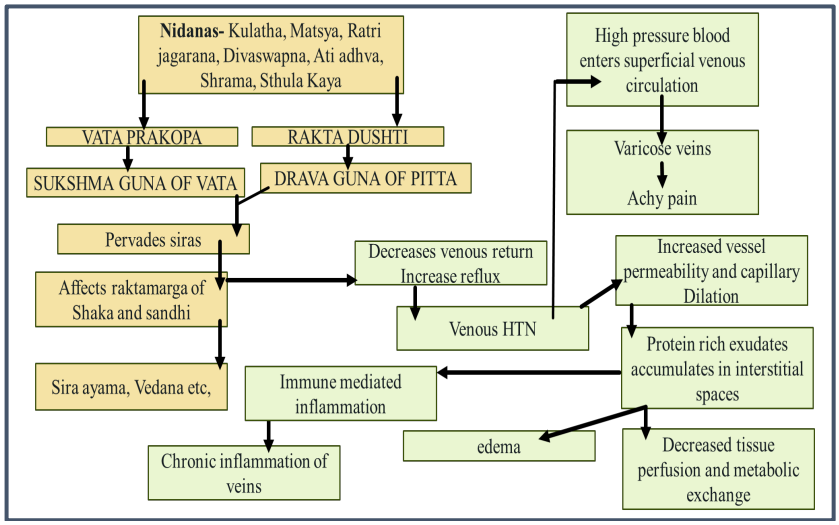
DISCUSSION

Prolonged standing, obesity, varicose veins, female sex, contributed to disease progression in this case. The primary pathology is venous reflux.

Pathophysiology of Chronic venous Disease (CVD), includes- 1. Hemodynamic and microcirculatory alterations; 2. Inflammation and endothelial dysfunction; 3. Prolonged Hypoxia. Venous hypertension and dilation reduce shear stress in Endothelial Cells (EC). ECs sense this and transduce physiological signals into altered biomolecular signalling. This is a vicious cycle in CVD inducing venous hypertension, venous remodelling, inflammation. In the course of CVD towards CVI, the microangiopathic changes involve decreased number of capillaries, increased permeability of these vessels allowing fluids, protein and blood cells extravasation. Shear stress modulating EC behaviour leads to increased permeability. Increased permeability triggers inflammation. Prolonged standing and overweight promote deficient calf muscle activity leading to venous reflux and swelling[4].

Hemodynamic alteration on shear stress can be corelated to Vata Gati (movement of Vata). Normal laminar flow of blood can be corelated to Avyahata Gati (normal unobstructed movement) and non-uniform shear stress to Tiryak Gati (deviated movement) of Vata. The Kupita Vata (aggravated Vata) due to own Nidana (causative factors) and being Rakta-avruta (occluded by Rakta) propels Pitta and Kapha, dislodging them into susceptible tissues (where there is Khavaigunya i.e., site susceptible to disease), causing various diseases[6]. Khavaigunya here, can be understood as endothelial dysfunction and, Pitta, Kapha displacement as extravasation due to increased permeability in turn activating inflammation and pronouncing oedema.

Acharya Sushrutha's explanation on pathogenesis of Siraja-Granthi (dilated vessels or knotted veins)[8] can be understood as Vata Dushti (derangement) (as venous hypertension), Mamsa (muscle tissue) Dushti (as decreased calf muscle pump), Rakta Dushti (as Stasis) along with Kapha, Meda (fat tissue) Dushti (as fibrosis of wall) leading to venous remodelling. Due to excess Vyayama (prolonged standing/ walking, heavy weight lifting etc.), the aggravated Vata causes Sira Pratana (venous dilation), does Sampeedana (venous hypertension) and, Sankocha and Vishoshana of Siras (venous wall weakening), leading to Siraja-Granthi. It is described as Vrittounnata (knotted veins), Vigrathita Shopha. Dalhana comments on 'Vigrathita' as 'Kathinata' which can be understood as loss of elasticity due to venous remodelling.



Hypoxia in CVD triggers inflammation and brings changes in venous wall. In venous stasis, blood tends to become more acidic due to CO_2 and metabolic wastes. In varicose veins, there is recirculation of venous blood within leg. Due to ineffective venous circulation, there is localized lactic acid accumulation leading to cramps, aches in legs [8]. Acidic environment due to lactic acid, CO_2, other metabolic wastes can be corelated to "Amlata" of Rakta and for Amlata, Raktamokshana is advised in Ayurveda[9].

Mode of action of treatment

Abhyanga- Abhyanga is Kapha-Vata Nirodhi (alleviates Vata and Kapha), Mrijapada (cleanses), Pushti Janano (provides strength)[10]. Mechanical pressure during Abhyanga involves compression effect over venous compartment. Abhyanga may have contributed to alter/increase shear stress and facilitate venous return.

Compression increases interstitial pressure, reduces venous pressure (Vata Nirodhi)[11]. It may have helped in reducing edema (Kapha Nirodhi), while promoting contractile activity of the calf muscles (Pushti Janano). Massage enhances circulation to local tissues, facilitates lymphatic drainage thereby reduces swelling (Mrijapada). It also strengthens the walls of veins and enhances elasticity, thereby reducing risk of further vein damage (Pushti Janano).

Swedana (Bashpa Sweda)- Swedana is Vata-Kaphahara, Sthambhahara (reduces stiffness), Shulahara (reduces pain) and removes Leena (deep seated) Dosha from Dhatus (tissues). It Brings Nirmalata of Srotas (vessels free from pathological changes) [12]. CVI which includes, varicose veins, venous stasis,

increased venous pressure, is a form of chronic congestion. Congestion leads to secondary inflammation. Congestion reduces supply of O_2 and nutrients leading to muscle fatigue and cramp. Swedana relieves venous congestion (Sthambhahara), by reducing venous hypertension (Vatahara) and stasis, thereby, increases oxygen supply to surrounding tissues, through vasodilation and flushes out metabolic wastes enhancing lymphatic drainage (removing Leena Dosha), Therefore, Swedana has helped to reduce pain (Shulahara), cramps (Sthambhahara) and edema (Kaphahara).

Virechana- Virechana is the best modality of treatment for Pitta Vikaras (Pitta related disorders) also does Vata Anulomana (allowing Vata to move in its natural course). Virechana is also mentioned in Gambheera Vatarakta Chikitsa Sutra [13]. Rakta and Pitta have "Ashraya (supportive tissue)- Ashrayi (dependent tissue) Sambandha (relation)" and Upadhatu (secondary tissue derived) of Rakta is Sira (vessels). The pathology is in Siras, and Vyadhi is taking Gambheera Avastha. Thus, Virechana is helpful in pacifying Vata and Rakta by removing Anyonyavarana thereby removing obstruction of Rakta Marga and reducing Vedana (pain). Although Raktamokshana is advised for Amlata of Rakta (due to accumulation of lactic acid, CO_2, metabolic waste), Virechana can be alternatively adopted for Dushta Shonita Chikitsa. Therefore, Amlata of Rakta is removed by Virechana.

Shamana Aushadhi- They are Tikta Rasa Pradhana, which does Drava Amsha Shoshaka (dries up excessive fluid) in Rakta and have Vatahara properties. Kaishora Guggulu is Vatashamaka, Raktaprasadaka, Shothahara. Guggulu is Vedanasthapaka and reduces pro-inflammatory cytokines. Guduchi in Kaishora Guggulu, Guduchyadi Kashaya, reduces proinflammatory cytokines. Nithyananda Rasa is indicated in Vatarakta, Vata-kaphaja Shotha, and Vata-Kapha Rogas. Sahacharadi Kashaya is Vatahara. Osteoflex contains anti-inflammatory drugs. Viscovas is anti-inflammatory, it protects endothelium and improves venous circulation.

CONCLUSION

CVI in this case was due to reflux of venous blood caused by incompetent perforators. The condition is corelated to Vatakaphaja Vatarakta and was treated by adopting Abhyanga, Swedana, Virechana Karma as mentioned in Vatarakta Chikitsa. Abhyanga, Swedana helped reduce Shotha, Shula, Sthambha, venous hypertension and stasis, and may have contributed to alter shear stress in the venous system facilitating venous return. This in turn may have reduced further endothelial damage, inflammation and venous remodelling while enhancing circulation and lymphatic drainage. Virechana contributed to reduce Shula, Shotha through its Vatahara, Pittahara, Rakta Shamana effects, also, by removing Amlata in Rakta and Anonyavarana. Shamana Aushadhi through Vatashamaka, Rakta Prasadaka, anti-inflammatory properties, reduced symptoms.

Overall treatment led to reduction in VCSS score. Quality of life improved which reflected in better CIVIQ scores post treatment. Thus, Ayurvedic treatment is effective in managing CVI, reducing chronic pain, improving overall quality of life and arresting further progression of disease.

Patient Consent- Informed consent for publication of this case study has been obtained from the patient.

REFERENCES

1. Patel SK, Surowiec SM. Venous insufficiency. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025. Available from: https://www.ncbi.nlm.nih.gov/books/NBK430975/
2. Agnivesha. Charaka Samhita. Chikitsasthana, Chapter 29, Verses 24, 28–29. In: Acharya YT, editor. Varanasi: Chaukhamba Surabharathi Prakashana; 2020. p. 629.
3. Agnivesha. Charaka Samhita. Chikitsasthana, Chapter 29, Verse 35. In: Acharya YT, editor. Varanasi: Chaukhamba Surbharati Prakashana; 2020. p. 629.
4. Ortega MA, Fraile-Martinez O, Garcia-Montero C, Asunsolo AÁ, Chaowen C, Ruiz-Grande F, *et al.* Understanding chronic venous disease: A critical overview of its pathophysiology and medical management. J Clin Med. 2021;10(16):3495.
5. Vasquez MA, Munschauer CE. Venous clinical severity score and quality-of-life assessment tools: Application to vein practice. Phlebology. 2008;23(6):259–275.
6. Agnivesha. Charaka Samhita. Chikitsasthana, Chapter 28, Verse 60. In: Acharya YT, editor. Varanasi: Chaukamba Surabharathi Prakashana; 2020. p. 619.
7. Sushruta. Sushruta Samhita. Nidanasthana, Chapter 11, Verses 3, 8. In: Acharya YT, editor. Varanasi: Chaukamba Surabharathi Prakashana; 2019. p. 311.
8. Yoshida T, Udo M, Chida M, Ichioka M, Makiguchi K, Yamaguchi T. Effect of hypoxia on arterial and venous blood levels of oxygen, carbon dioxide, hydrogen ions and lactate during incremental forearm exercise. Eur J Appl Physiol Occup Physiol. 1989;59(1–2):39–44.
9. Agnivesha. Charaka Samhita. Chikitsasthana, Chapter 5, Verses 36–37. In: Acharya YT, editor. Varanasi: Chaukhamba Surbharati Prakashana; 2020. p. 437.
10. Sushruta. Sushruta Samhita. Chikitsasthana, Chapter 24, Verse 30. In: Acharya YT, editor. Varanasi: Chaukhamba Surbharati Prakashana; 2019. p. 488.
11. Texas Pain Vein and Vascular. The importance of leg massage for spider and varicose vein management [Internet]. Available from: https://texaspainveinandvascular.com/the-importance-of-leg-massage-for-spider-and-varicose-vein-management/. Accessed 2025 May 5.
12. Sushruta. Sushruta Samhita. Chikitsasthana, Chapter 33, Verses 21–22. In: Acharya YT, editor. Varanasi: Chaukhamba Surbharati Prakashana; 2019. p. 514.
13. Agnivesha. Charaka Samhita. Chikitsasthana, Chapter 29, Verse 43. In: Acharya YT, editor. Varanasi: Chaukhamba Surbharati Prakashana; 2020. p. 630.

Cite this article as:

Anushree K and Abdul Khader. Mechanistic perspective on Ayurvedic intervention in pain modulation and quality of life enhancement in Chronic Venous Insufficiency: A case report with special reference to Vatarakta. Int. J. Res. Ayurveda Pharm. 2026;17(2):29-34 DOI: http://dx.doi.org/10.7897/2277-4343.17246

Source of support: Nil, Conflict of interest: None Declared