

VARICOSE VEINS: A MODERN-AYURVEDIC REAPPRAISAL WITH REFERENCE TO SIRAGATA VATA AND SIRAGRANTHI

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ABSTRACT

Varicose veins are swollen, dilated, and abnormally shaped veins that affect both the superficial and deep venous systems. They are most commonly found in the legs and feet. They are frequently observed in adults and can be affected by factors such as aging, heredity, pregnancy, constipation, excess weight, and lifestyle choices. Typical symptoms include a sensation of heaviness in the lower limbs, swelling, itching around the enlarged veins, and pain either throughout the leg or in the lower areas. Although the definitive aetiology of varicose veins is ambiguous, it involves aspects like increased pressure in the veins, weakened vein walls, dysfunctional valves, and genetic factors. Due to the similarities in their symptoms, varicose veins and *siragata vata* can be correlated. There should be sufficient information accessible on the disease based on its

prevalence. This will be beneficial for both the disease prevention and improved management.

KEYWORDS: Varicose veins, *Siragata vata*, *Siragranthi*, *Raktamoksana*, *Jalaukavacarana*.

INTRODUCTION

Venous reflux, venous hypertension, and venous valve incompetence are the main causes of varicose veins, a common chronic venous condition marked by dilated and twisted superficial veins of the lower limbs. The Sabiston Textbook of Surgery states that 20–25% of adults

have varicose veins, with women being more likely to develop them.^[1] Pain, heaviness, edema, skin changes, and venous ulcers are all possible outcomes of progressive venous hypertension.

The clinical presentation of varicose veins is quite similar to *Siragata Vata*. *Acharya Charak in Chikitsa Sthan* describes *siragata vata* under the subject of *vatavyadhi*.^[2] Texts describe *siragata vata* in just few lines. *Sirasankoch*, *sthula sira*, *sirapurnatwa*, *shula*, *siraspandan* are the *lakshanas* of *siragata vata* in the affected bodily portion. These are almost identical to the condition known as varicose veins, which are enlarged, swollen, and protruding veins. The most frequently affected body regions are both legs, which have dilated, palpable subcutaneous veins with reversed blood flow. Your legs, feet, and ankles may have blue or purple varicose veins. Most of the time, they are both irritating and painful. Spider veins, smaller red or purple lines that show up near the surface of your skin are called varicose veins. This illness affects individuals psychologically in addition to making daily tasks challenging. There are numerous treatments for this illness available in contemporary science due to the rapid advancement of medical technology, for instance, sclerotherapy, laser therapy, surgery, anti-inflammatory medications, blood thinners, etc. Lifestyle modifications are advised if the illness is associated with occupational or lifestyle related factors. Nevertheless, its recurrence is extremely frequent and can be avoided by understanding its cause. In this article I am trying to put forward *Ayurvedic* view of varicose veins. There is no elaborative description about this disease in our *samhitas*.

Objectives- To critically analyze the *Ayurvedic* theories concerning the pathophysiology, clinical correlation, and treatment of varicose veins.

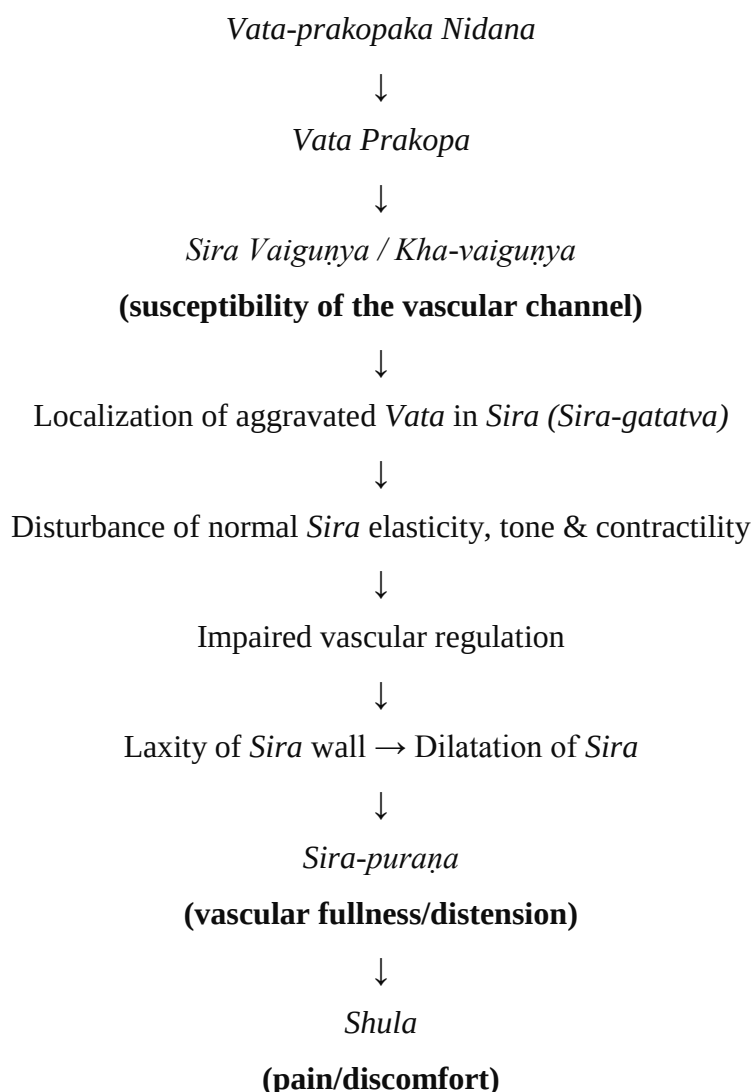
Varicose veins in Ayurveda

Varicose veins are similar to *Siragata vata*.

The clinical signs of vascular involvement can be linked to this description. Pain or discomfort along the afflicted vessels is indicated by *shula* (pain). Increased vascular tone or vasoconstriction may be conceptually associated with *sira-kuncana* (vascular constriction), which indicates contraction or narrowing of the arterial channels. The term "vascular fullness" (*sira-purana*) describes a clinical condition or feeling of vascular distension or fullness.

Nidana- Excessive exercise, fasting, excessive sexual activity, falling from a height, running, sprains, injuries, jumping, walking while jumping, swimming, staying up late, lifting weights, excessive walking on an elephant, horse or foot, consumption of bitter, astringent, pungent, dry, light, and cold substances, dry vegetables, dry meat, *Varak*, *Uddalak*, *Kordusha*, *Shyamak*, consumption of *Mung*, *Masoor*, *Harenu*, are all considered *vata-prakopaka* factors.^[3]

Pathogenesis according to *Ayurveda*



Clinical features of *Siragata Vata* & *Siragranthi*

Acharya	<i>Siragata Vata</i>	<i>Siragranthi</i>
Sushruta	(Su. Ni. Sthana 1/27) <i>Shula</i> in <i>Sira</i>, <i>Sira Akunchana</i> (constriction) and <i>Sira Purana</i> (Dilatation).^[4]	(Su. Ni.11/8-9) Due to various types of exercise, the aggravated <i>vata</i> of a weak man agitates, contracts, and dries up the <i>siras</i>, quickly creating a raised, spherical <i>granthi</i> called the <i>Siraj granthi</i>. If this <i>granthi</i> is painful and mobile, it is difficult to treat (<i>Kruchhra Sadhya</i>). However, if the same <i>granthi</i> is painless, immobile, large, and occurs on a <i>marma sthana</i>, it should be considered <i>asadhya</i>.^[5]
Charaka	(Ch.Chi. 28/36) ● <i>Manda Ruja</i>- Mild pain ● <i>Shotha</i>- Swelling ● <i>Shushyati</i>- Dryness ● <i>Spandan</i>- Pulsation and twitching ● <i>Supta Sira</i> - Absence or diminished feeling ● <i>Tanvyah Sira</i>- Veins that are thin and narrow ● <i>Mahatyah Sira</i> – Vascular dilatation.^[6]	Not specifically described.
Vagbhata	(Ash.Hri. Ni.Sth. 15/13) Distension or emptiness in <i>sira</i>.^[7]	(As. Hri. Utt. Ta. 29/11) <i>Vata</i> causes a non-pulsatile, painless, nodular swelling (<i>granthi</i>)—also known as

		<i>Siragranthi</i> —by squeezing, restricting, bending, and drying the vein. ^[8]
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Ayurvedic management of Siragata Vata & Siragranthi

Acharya	Siragata Vata	Siragranthi
Sushruta	□ (Sū. Chi. 4/7) Bloodletting /Raktamokṣaṇa should be done when the pathology affects the skin (Tvak), Mansa, blood (Asrk), and Sirā. ^[9]	No particular treatment for Siragranthi has been specified by Sushruta. Sushruta has described the Vataja, Pittaja, and Kaphaja form of Granthi based on its doshic predominance, and has recommended treatment in accordance with these types.
Charaka	Not specifically described. Only vata pacifying treatment is explained in vata vyadhi chikitsa chapter.	Not specifically described.
Vagbhata	□ (As. Hri.Chi. 21/22) Snehana, daha karma and upanaha are recommended when the ailment affects the snayu, sandhi, or sirā. Following bloodletting, apply a paste made of agara-dhuma, lavaṇa, and taila. Upanaha should be carried out when the affected portion is supta (numb) with vesta (constrictive/tight sensation). ^[10]	□ (As. U.T. 30/9) Internal administration of Sahacara Taila is recommended for acute siragranthi. Additionally recommended are Siravyadhya, Basti therapy and Upanaha with Vata-pacifying medications. ^[11]

Raktamoksana and Jalaaukavacarana

Although *Raktamokṣaṇa* has a traditional therapeutic function in *Siragata Vata*, its application shouldn't suggest that every situation is related to *Rakta Duṣṭi* or necessitates bloodletting. Instead, it might be taken into account based on *Rakta's* involvement and

clinical presentation. *Sushruta* lists *Raktamokṣaṇa* as one of the treatment for *Siragata Vata*, the particular technique is chosen based on the *Doshic* preponderance of the vitiated *Rakta*.

Regarding *Jalauka*, Acharya Sushruta states

(Su. Sutra

Therefore, *Jalaukavacarana* should not be indicated by the mere existence of varicose veins. When *Rakta Dushti* with *Pitta* predominance is evident by clinical characteristics, it may be used selectively. Consequently, even tho *Raktamoksana* might play a part in *Siragata Vata*, the selection of *Jalauka* should be patient specific based on *Dosha–Rakta* involvement rather than being applied consistently to all varicose vein situations.

Mode of action of *Jalauka*

By eliminating *Duṣṭa Rakta* locally, *Jalaauka* executes *Rakta-moksana*.

It is especially relevant in *Pitta-duṣṭa Rakta*, where it reduces local *Daha*, *Sotha*, and *Vedana* and produces *Rakta-prasadana*.

Local bloodletting is thought to improve local circulation and reduce vascular congestion.

Modern Mechanism of Action of Leech

Leech therapy acts mainly through bioactive substances present in leech saliva. **Hirudin** inhibits thrombin and produces an anticoagulant effect, while **calin** inhibits platelet aggregation, thereby improving local microcirculation and reducing venous congestion and edema.

Modern Understanding of Varicose Veins

These are subcutaneous veins that are dilated, typically tortuous, and have a diameter of at least 3 mm when measured in the standing position. Adults with noticeable varicose veins include 15% of men and 25–30% of women.

Two parallel systems are responsible for the legs venous drainage, the superficial and deep venous systems, in anatomic continuity through connecting veins called **perforating veins**.

Anatomy

Superficial Venous System- Great Saphenous Vein

- ✧ The deep plantar veins and the dorsal veins of the foot are connected by a network of superficial veins in the leg.
- ✧ Laterally, the dorsal venous arch → continues as SSV and medially as GSV.
- ✧ The dorsal venous network of the foot is where GSV starts.
- ✧ Alongside the saphenous nerve in the leg, it ascends along the medial side of the leg and thigh.
- ✧ It is located superficial to the deep fascia within the saphenous sheath.
- ✧ The point in the upper thigh, close to the fossa ovalis, where the GSV enters the common femoral vein is known as the **saphenofemoral junction (SFJ)**.
- ✧ GSV receives the external pudendal, superficial circumflex iliac, superficial epigastric, and accessory saphenous veins at the SFJ.
- ✧ After passing through the fossa ovalis, the GSV empties into the common femoral vein.
- ✧ Near the SFJ are terminal and preterminal valves that aid in preventing blood reflux.

Small Saphenous Vein

- ✧ Origin: The lateral portion of the foot's dorsal venous arch is where it starts, ascends along the posterior part of the calf after passing past the lateral malleolus.
- ✧ It typically passes through the superficial fascia and empties into the popliteal vein at the **saphenopopliteal junction (SPJ)**.
- ✧ **SPJ**: The location, typically in the popliteal fossa, where the SSV and popliteal vein converge.
- ✧ The SSV's structure varies greatly, rather than connecting the popliteal vein, it may extend into the thigh.

Deep Venous System

- ✧ The deep plantar venous arch is formed by the deep veins in the foot. These empty into the veins in the back of the tibia.
- ✧ Foot dorsum: The anterior tibial veins continue to be the dorsalis pedis veins.
- ✧ Anterior tibial + posterior tibial + peroneal veins join to form the popliteal vein.

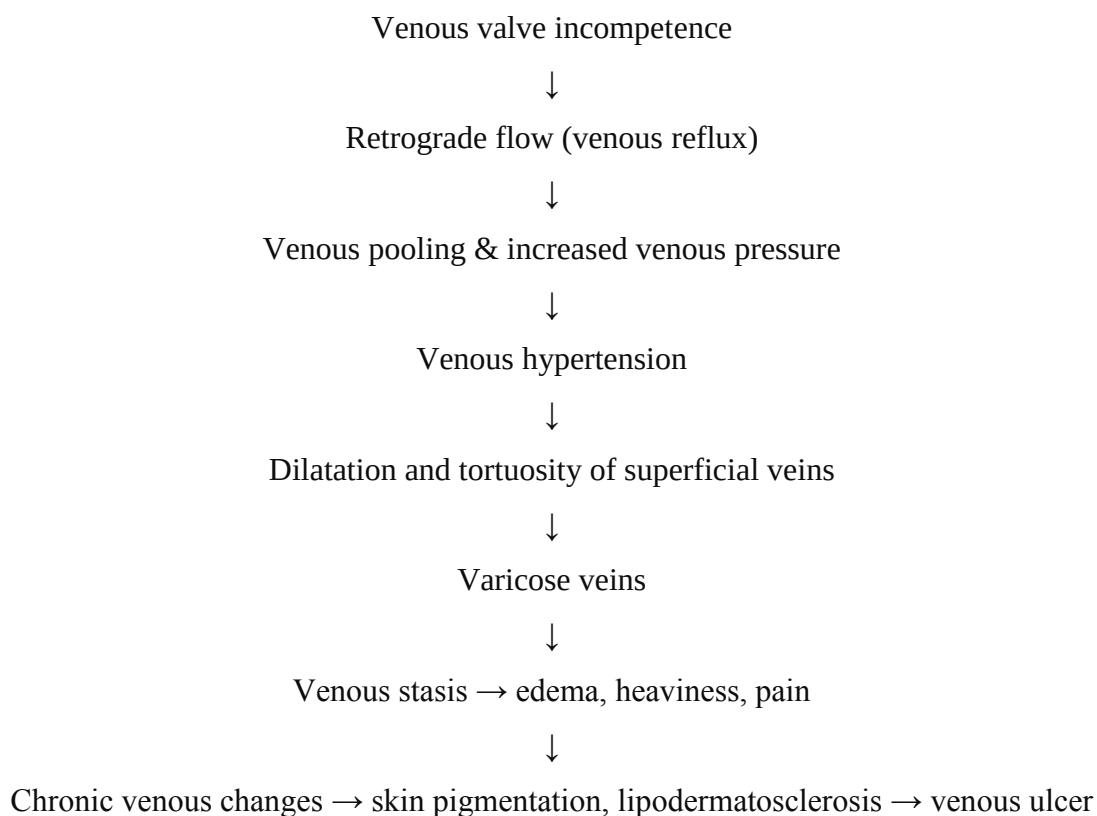
Perforator Veins- Via the deep fascia, perforator veins link the superficial and deep venous systems. They are located in the foot, calf, and thigh and run perpendicular to the major veins. Their valves stop reflux and permit blood passage from superficial to deep veins. **Cockett, Boyd, Hunterian, and Dodd perforators** are significant types of perforators.

Normal venous histology and function

The intima, media, and adventitia are the three layers that make up veins, which are high-capacitance, low-pressure channels. Compared to arteries, their walls have less elastin and smooth muscle, which enables them to handle significant variations in blood volume with comparatively minor variations in pressure.

Venous valves, which are missing in the SVC and IVC, are more prevalent in the distal lower leg and decrease proximally, preventing retrograde blood flow. Venous reflux brought on by valve incompetence results in venous insufficiency and its symptoms. The primary capacitance vessels are veins, which can hold a lot of blood with little pressure change. The calf muscle pump increases venous return and decreases venous pressure in the foot and ankle by compressing the gastrocnemius and soleal venous sinuses during exercise. Venous insufficiency can result from the high pressure (150–200 mmHg) produced in the muscle compartments being transferred to the superficial veins by inadequate perforator valves.¹³

Pathophysiology of Varicose Veins



Classification^[14]

C – Clinical	E – Etiology	A – Anatomy	P – Pathophysiology
C0 – No signs	Ec – Congenital	As – Superficial	Pr – Reflux

C1 – Telangiectasia / reticular veins	Ep – Primary	Ad – Deep	Po – Obstruction
C2 – Varicose veins	Es – Secondary	Ap – Perforator	Pr,o – Reflux + obstruction
C3 – Edema	En – No cause identified	An – No site identified	Pn – No pathophysiology
C4a – Pigmentation / eczema			
C4b – Lipodermatosclerosis / atrophie blanche			
C5 – Healed ulcer			
C6 – Active ulcer			

Clinical Features

Symptoms

- Leg tiredness, dull soreness, and heaviness get worse after extended standing.
- Swelling in the legs is typical.
- Advanced venous insufficiency may result in burning (venous neuropathy).
- Distal calf/phlebotic varicose veins frequently cause pruritus.
- Venous claudication, which is characterized by cramping pain during or after activity and is alleviated by rest and elevation, may indicate restriction of venous outflow.

Signs

- **Telangiectasia:** Also known as thread veins or spider veins, these dilated intradermal venules are less than 1 mm in diameter. mostly a cosmetic issue.
- **Reticular veins** are dilated subcutaneous veins with a diameter of one to three millimeters.
- **Saphena varix:** A varicosity-related groin swelling that normally doesn't hurt and goes away when you're lying down. Coughing may give you a rush.
- **Atrophie Blanche:** Usually found around the ankle, this condition is characterized by localized white, atrophic skin with surrounding capillary dilatation and hyperpigmentation.
- **Corona phlebectasia,** commonly known as malleolar or ankle flare, is characterized by fan-shaped dilated tiny veins surrounding the medial or lateral ankle or foot.
- **Pigmentation:** Usually observed in the gaiter area, this brown staining is caused by hemosiderin deposition and may be linked to phlebitis and ulceration.
- **Eczema:** Erythematous dermatitis that can develop into scaling, blistering, or weeping.

- **Lipodermatosclerosis:** Severe chronic venous disease characterized by persistent inflammation and fibrosis of the skin and subcutaneous tissue.
- **Ulceration:** A full-thickness epidermal defect that typically affects the gaiter region.

Clinical Investigations

Three tests with tourniquets

After the vein is emptied, three tourniquets are tied to determine the location of the incompetent perforator.

1. At the saphenofemoral junction
2. Higher than the knee
3. One more below the knee

Pathological Investigation

Handheld Doppler and duplex ultrasound have largely supplanted the Perthes and Brodie-Trendelenburg tests. Since duplex ultrasonography can reliably detect reflux in superficial, deep, and perforator veins, it is now the most effective and first-line test for lower-limb venous insufficiency. **Vein visibility, compressibility, venous flow, and augmentation** are the four main aspects that are evaluated.

Phlebography (Venography): Used seldom nowadays, primarily prior to deep vein surgery and for secondary CVI.

- **Ascending:** Identifies venous blockage and thrombus.
- **Descending:** Identifies incompetence of the deep vein valve.

A non-invasive test for the veins in the abdomen and pelvis is called **MR Venous Imaging (MRVI)**. It is used to diagnose pelvic congestion syndrome and iliac/IVC blockage.

Management

- ❖ Varicose veins that are asymptomatic typically merely need assurance. Referrals to vascular surgeons are recommended for all C3–C6 diseases as well as C2 disease with bleeding, superficial thrombophlebitis, or problematic symptoms impacting quality of life.

Compression hosiery

By applying graduated external pressure to the leg, compression hosiery enhances venous return to the deep veins. It comes in thigh-length and knee-length versions.

- **Class I:** 15–20 mmHg — mild compression
- **Class II:** 20–30 mmHg — moderate compression; commonly used for symptomatic varicose veins
- **Class III:** 30–40 mmHg — strong compression; used for more severe venous disease
- **Class IV:** >40 mmHg — very strong compression; specialist use
- ❖ **Ultrasound-guided foam sclerotherapy-** involves the injection of detergent (sodium tetradecyl sulphate) directly into the superficial veins.
- ❖ Endovenous laser ablation
- ❖ Saphenopopliteal junction ligation and lesser saphenous stripping.

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