

# An Ayurvedic as well as Modern Review and Treatment Modalities for the Study of Varicosity : A Review Study

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## ABSTRACT

A varicose vein, also known as a 'Spider vein', is a dilated, tortuous vein in the subcutaneous tissue of the legs that appears blue or dark purple in colour. These veins are visible and can be easily diagnosed clinically. When valves in the vein do not work properly, the blood does not flow effectively. The expansion of varicose vein is often caused by a weakening of walls and valves. Varicose veins are usually found asymptomatic however it may result in heaviness in the limb, local pain, change in the color, dryness, itching and may develop ankle swelling including cramps. Conditions that increase pressure on leg veins such as sedentary life style, obesity, lack of activity or exercise, menopause, hormonal fluctuations during pregnancy, smoking, heavy weight lifting may lead to varicose veins. Varicose vein can be co-related to *Siraja Granthi* as described in *Ayurvedic* scriptures. In *Ayurvedic Samhitas*, many single drugs, formulations and *Panchkarma* therapies are beneficial in managing varicosity without side any effects. *Raktamokshanais* the main line of treatment of *Siraja Granthi*. *Shringa, Jalauka, Alabu, Pracchana, Siravedha, Ghati Yantra* are types of *Raktamokshana*.<sup>1</sup>*Siravedha* isa *Ardhachikitsa* in *Shalyatantra*.<sup>2</sup>*Raktamokshana* through *Jalaukavacharana* is the preferred option on account of its simplicity, supreme therapy (*Paramsukumarupay*) in *Siraja Granthi*.<sup>3</sup>

Although it is not a severe problem, having a but continuous pain causes disturbance in daily life style.

**Keywords:** Varicosity, Siraja Granthi, Panchkarma, Raktamokshana

## INTRODUCTION-

Varicosity is a very common condition in surgical practice. Most Common sites of varicosity are a superficial venous system of the lower limbs affecting either the long saphenous or the short saphenous vein or both<sup>4</sup>. It is a hampers the beauty of the legs because of the spider veins and skin discolouration along with aching pain and ankle swelling during evening time<sup>5</sup> and commonly occurring health problem in our society. Incompetent valves, Prolonged standing, obesity, old age, pregnancy and athlete are

responsible for Varicosity. *Raktamokshanais* the main line of treatment for *Siraja Granthi*. The incidence of varicose vein is 5% in general population among which 25% of women and 15% of men but physiologically varicose vein is found in females especially in case of pregnancy.

### **Aim and Objectives -**

1. To study the concept of varicosity.
2. To study the methods of *Ayurvedic* and Modern treatment of varicosity.

### **Materials and Method-**

As this article is a review article, different *Ayurvedic* texts books, published review articles, research papers, and from the internet have been reviewed for this article. All the materials from *Brihatrayi*, *Laghutrayi*, and their commentaries have been reviewed. Modern textbooks and various websites to collect information have been reviewed for this article.

### **Nidan (causative factors)-**

• ***Vyayamjataeirbalsya***<sup>6</sup> - a weak person, who exercises excessively, then the vitiated *Vata* compresses (*sampeedy*), squeezes (*sankochya*) and dries (*vishoshya*) up the vascular bundles, and within a short period of time a raised and round gland called *Siraja Granthi* is formed.

• ***Padatestu sahasaambhoavagahanat***<sup>7</sup> - who suddenly immerses or wash the lower limb in cold water after walking a long distance or exercise. Due to the sudden change of the temperature in the leg due to the above said cause, the *Sira* becomes engorged and thus may not be able to pump the blood properly. This causes the local retention, thus resulting in tortuous nature of the veins, oedema, discolouration etc.

• Factors affecting the *Vyana Vayu* will affect the *Sira* because *Vyana Vayu* circulates *Rasa*, eliminates *Sweda* and helps flow of blood, performs the five kind of action *Utkshepana*, *Avkshepana*, *Aakunchana*, *Prasarana* and *Gati*. The etiological factors can be congenital or acquired, valvular or obstructive or both or none of these.

• Some of the other factors that may predispose to the development of varicose veins are:

1. Occupation - Prolonged standing
2. Obesity
3. Bowel habits
4. Heredity
5. Old age
6. Pregnancy
7. Athlets
8. Wearing tight clothes.

### **Lakshana(Clinical Features)-**

*Acharya Sushruta* describes two types of *Siragranthi*- one which is painful & movable and another which is painless, immovable, and greatly enlarged and can occur in *Marmasthans* also.<sup>8</sup> In *Siragranthi* *Lakshanas* like *Sampeedy*, *Nisphuran*, and *Nirujam* can be correlated to dull aching pain in varicose veins. Signs like *Sankochya*, *Vrutta*, *Unnata*, *Shopham* can be correlated to dilated, elongated, and tortuous veins.

Clinical Features:• The most common symptom is a tired and aching sensation in the affected lower limb particularly in the calf, at the end of the day.

- Appearance of spider veins (Taurangiectasia) in the affected leg.
- Sharp shooting pain may have complained.
- Patients may present with no other symptom except dilated and tortuous veins of the legs.
- Ankle swelling, especially in evening.
- The skin over the varicosities may itch. It may be pigmented.
- Redness, dryness, and itchiness of areas of skin.

#### **Precaution-**

- To avoid the prolonged standing.
- To avoid the heavy exercise.
- Maintain the body weight as per medical recommendation.
- Try to check and regulate the hormonal levels.
- Post-menopausal care.
- Management of life style during pregnancy.
- Avoid sedentary life style.
- Avoid heavy weight lifting.
- Precaution and prophylactic care for genetically predisposed family.
- Elevating the leg.

#### **Clinical Test-**

Clinical tests that may be used include

##### **1) Trendelenburg Test or Brodie-Trendelenburg test**

This is a test done as part of a physical exam to determine the sufficiency of valves in the superficial and deep veins of the legs in patients with varicose veins.<sup>9</sup>

##### **2) Trendelenburg test 1<sup>10</sup>**

In this test, the vein is emptied by elevating the limb and a tourniquet is tied just below the saphenous-femoral junction. The patient is asked to stand up quickly. When the tourniquet or thumb is released, rapid filling from above indicates saphenofemoral incompetence.

##### **3) Trendelenburg test 2**

In this test the tourniquet is not released after the standing position. Rapid filling of blood from bottom to top can be seen within 30-50 seconds. It signifies perforator incompetence.

##### **4) Perthe's test**

In this test, the affected lower limb is wrapped with an elastic bandage and the patient is asked to move around and do exercises. The development of severe cramp-like calf pain may indicate DVT.

##### **5) Three tourniquet test**

To find out the site of incompetent perforator, three tourniquets are tied after emptying the vein.

- i. At saphenofemoral junction
- ii. Above knee level
- iii. Another below knee level.

Patient is asked to stand and looked for filling of veins and site of filling. Then tourniquets are released from below upwards, again to see for incompetent perforators.

##### **6) Schwartz's test**

This test has long been a diagnostic test used to confirm the diagnosis of varicose veins.<sup>11</sup> The clinician exposes the lower limb. A tap is made on the lower part of the leg on the long saphenous varicose vein with one hand. If an impulse can be felt at the saphenous opening with the other hand, Schwartz's test is positive.<sup>12</sup> The impulse is felt at the saphenous opening because of the incompetence of the valves in the superficial venous system.<sup>13</sup>

## Chikitsa(Treatment)-

### As per ayurveda

#### 1. Parasurgical procedures

A. *Sira vyadha*<sup>14</sup>(bloodletting through venesection) reduces local engorgement of the pressure blood circulation, and preserves valve competency and elasticity of the vein walls.

B. *Jalaukavacharna* (leech therapy) - Leech therapy can be carried out near the lesion. *Sushruta* and *Vagbhata* mention *Jalaukavacharna* in the treatment of all venous diseases. Leech therapy comes under the *Raktmokshanatreatment* which is one of the *Ayurveda Panchkarma*. It is safe, painless and highly effective. *Raktmokshanais* the refinement of blood so helpful in treating many skin and vascular disease.<sup>15</sup>

2. *Bastikarm*<sup>14</sup>(Enema treatment) is found to be effective in its management.

#### 3. Oral medicines<sup>16</sup>

A. *Kaishora guggul*-It acts as-natural blood cleanser, ageing skin health promoter, joint health, , useful as supportive dietary herbal supplement in many health conditions such as diabetes, skin diseases etc.

B. *Sarivadyasava*- used in treatment of gout, diabetes and related skin complications. It is a natural blood detox product.

C. *Chirabilvadi Kashaya*- It is used in haemorrhoids, fistula, reduce burning sensation, it relieves bloating, improves digestion power.

D. *Erandamuladikashaya*

E. *Rasnerandaikashaya* - It is used in treatment of gout, aches and pain related back, lumbar spondylosis etc.

F. *Mahamanjishtadikashaya* - Used in treatment of skin diseases.

G. *Guduchyadikashaya* -Used in treatment of fever with burning sensation, vomiting etc.

H. *Phalatrikadikashaya* - It is used in the treatment of fever, vomiting and gastritis.

I. *Punarnavashtakkwath* -Used in treatment of inflammatory conditions like myxoedema, ascites.

J. *Sahchartail paan*.<sup>14</sup>

#### 4. External treatments<sup>17</sup>

A. *Abhyanga*(gentle massage or Daily application of medicated tails around the affected part helps to reduce pain, swelling and it improves blood circulation like *Pindatail*. *Sahchartail* is most effective.

B. *Swedana*(giving steam to body) *Patrapindasweda* make blood flow upward direction.

C. *Avagahan karma* (dipping the legs) in *Erandtaila* and *Dashmoolkwath*

D. *Udvartan karma* with the help *Ghrita* mixed cotton seeds.

E. Local application of powdered form of black cumin and *Kampillak* mixed with *Ghrita*.

F. *Veshtana*<sup>16</sup>(wrapping of cloth or crepe bandaging) It is a *Vata* dominant diseased condition *Veshtana* gives symptomatic relief in aching pain, heaviness, numbness etc.

G. There are some *Ayurvedictail* available for local application to seek temporary relief. These are *Prasarinitail* and *Chandanabalatail*. *Mahanarayantail* (whose main plant ingredient is *Shatavari*) is aid

to be particularly useful, as is both *Brahmi tail* and Carrot Seed essential tail (mixed usually with some carrier tail).

H. *Upnaah karm*<sup>14</sup>

### 5. Ekal aushdhi (Single drugs)<sup>16</sup>

- *Erandamool* (*Ricinus communis*) castor root-relieves pain and inflammation.
- *Chirabilva* (*Holoptailia integrifolia*)- extensively used in vein related disorders such as piles.
- *Mandookparni*
- *Manjistha* (*Rubia cordifolia*)-Used in high *Pitta* conditions and blood vitiation due to *Pitta*.
- *Guduchi* (*Tinospora cordifolia*)-useful in relieving infection and inflammation.
- *Punarnava* (*Boehirradiadiffusa*) -Reduces swelling.
- *Sariva* (*Hemidesmus indica*)-Like *Manjishtha*, it is also extensively used in high *Pitta* conditions.

### 7. Lifestyle advices<sup>16</sup>

- Rest to the lower limbs - If your job makes you to stand for long hours, make sure to sit for a while, in between.
- Elevated legs - While sleeping, keep a pillow beneath your feet. This will keep the feet elevated and ensures that the blood flow is good in the legs.
- Moderate exercise - Not only makes your leg muscle strong, it also keeps the blood vessels in good shape.
- Wearing Varicose Veins Socks, available in medical stores, is a good way of preventing and treating varicosity of feet and legs.

**8. Yoga-** Also certain yoga postures such as *Shirasasana*, *Sarvangaasana* and *Pawanmuktaasanahelpful* in restoring normal drainage of blood from the legs.

## As Per Modern

### 1. Physical Therapy<sup>18</sup>

Exercise and *Yogasanas* increase the muscle strength, stimulate the flow of blood and enhance the circulation. This relieves pain and other complications and thus promotes healthy veins. *Sarvangasana*, *Shirasasana*, *Halasana*, *Pawanmuktasana* are some the vitalizing and effective *yogasanas* for reducing the complications resulting from Varicose veins. In addition to this, the simple everyday activities such as walking, running, swimming, cycling etc. help toning the muscles. The elevation of the legs using pillows or any other props overnight or for a few hours in the day time is recommended as it helps in better flow of blood. Massage therapy in which the tension is applied onto the muscles in the upward direction of the legs using oils such as citrus oils, mustard oil, olive oil, castor oil etc. also results in good circulation and proper drainage of blood.

### 2. Compression therapy<sup>18</sup>

This therapy uses a special type of compression stocking that constricts the dilated veins by applying pressure on the surface of the calves. Therefore, there is a narrowing of the passage of the veins resulting in increased movement of blood towards the heart.

### 3. Non-Surgical Treatment<sup>19</sup>

#### A) Laser treatments

Dermatologists use lasers to treat spider veins and small varicosity. During laser treatment, dermatologist directs the laser light at the vein. Small spider veins may disappear immediately after laser

treatment. Larger spider veins and varicose veins will darken, and patient will likely see them for 1 to 3 months before they disappear. To get complete clearing, patient may need 3 or more treatments. Most patients can return to work and many of their normal activities the next day. After each treatment, some patients need to wear compression stockings for a short time. Every patient will need to protect the treated area from the sun for 3 to 4 weeks. This helps prevent dark spots from developing.

#### **C) Ultrasound guided foam sclerotherapy**

The method involves the damaging of the endothelial layer of the vein so as to create a blockage and scars formation in the dilated veins. The sclerosing agent here is in the form of foam as it provides larger surface area on the walls of the veins. The side effects to this treatment were bubble embolism and thrombophlebitis.

#### **D) Sclerotherapy**

Spider veins or angioectasis is treated using this technique. The technique involves use of sclerosing agents such as sodium polidocanol, salicylate, chromated glycine which is injected using small needles. The treatment is accompanied with compression stockings to be worn after the sclerotherapy so as to constrict the treated vessels.

#### **E) Endothelial Ablation**

The treatment involves use of energy from radio-frequency and lasers to fasten the affected veins. These treatments ensure a rapid recovery. It includes two of the following methods:

- a. Radiofrequency ablation of the Varicose Veins The affected veins are heated by using the bipolar generators and inducing radiofrequency catheter into it along with sheath able electrodes. This method is carried out at the temperature of  $85 \pm 3^\circ\text{C}$ .
- b. Endovenous Ablation: The method involves the closure of the vein by placing the catheter through the saphenous vein at the saphenofemoral junction and passing the laser fibre through it. This method is 98% successful method to cure the venous insufficiency. Complications observed were stiffness in the limb, pain and bruising.

### **4. Surgical Treatment**

#### **A) Vein Stripping<sup>19</sup>**

This is a surgical technique in which the affected vein are treated by insertion of special wires made of any suitable material by providing a tear onto the saphenous vein so as to “strip” the veins. The leg is operated by giving general anaesthesia and known as bilateral surgery. Bruising, bleeding, infections may be observed as side effects.

#### **B) Ambulatory Phlebectomy<sup>19</sup>**

The method in which the superficial veins are removed by performing incisions in the skin. The procedure is performed on the out patient by the dermatologist. The compression socks are continued to be worn after the surgery for some period of time. Temporary inflammation and swelling may be observed.

#### **C) Saphenopopliteal junction ligation<sup>20</sup>**

Preoperative ultrasound localisation of junction should ideally be carried out. A transverse skin incision is made in popliteal fossa just below the termination of the vein. The deep fascia is divided vertically. The vein is found and traced to saphenopopliteal junction before it is divided. Tributaries may enter the short saphenous vein near its termination. After the vein has been divided, a stripper is passed upwards from the ankle, carefully dissecting of sural nerve to ensure that the whole of the lesser saphenous vein



is removed. This obliterates the junction with the mid-calf perforating vein, which is responsible for many recurrences.

## CONCLUSION

Varicosity is a commonest manifestation due to change in life style and work culture. By proper understanding of causative factors, is important to prevent the occurrence of *Siraj granthi*. If it is treated in the early stages and by proper maintenance of signs and symptoms of varicose veins reduces complications such as ulcers, thrombosis and supports a better life. The combined effect of *Panchakarma* treatment, internal medication, *yoga* and physiotherapy is said to be effective in the management of *Siraja granthi* (varicosity).

*Jalaukavacharna* (Hirudotherapy) proven highly efficacious in varicose veins. Leeches not only suck blood over the varicose veins but also inject the bioactive substances like Hirudin, Hyluridase, Acetylcholine, which is observed to regulate the venous flow, improves the valvular functioning and thus preventing the back flow of venous blood.

Various pharmacological therapies were used like anticoagulant, Subcutaneous LDUH and phlethysmography were later replaced by surgical intervention and superseded by venous sclerotherapy, endotheleal ablation, laser treatments and ambulatory phlebectomy.

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