



Review on effect of long term standing posture on varicose veins and its management

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ABSTRACT

The life style changes, obesity, occupational pattern of prolonged standing and pregnancy are considered to be significantly contributing to this situation known as **Varicose veins** wherein veins become enlarged and twisted. Incidence of varicose vein is more in people belonging to the occupation that involved prolonged standing. Varicose vein can be co-related to *Sirajgranthi* as described in Ayurvedic texts. Ayurved formulations are said to be effective in the management of *Sirajgranthi* (Varicose veins) *Sirajgranthi*, treated at an early stage or allows proper maintenance of signs and symptoms reduces the complications and support a better quality of life. In this article we have tried to analyse the anatomical and physiological changes due to long term standing.

Keywords: long term standing posture, varicose veins and management.

INTRODUCTION:

In the present era, life style and the working pattern of the person is showering varieties of diseases. Among which Varicose Veins are troubling the person a

lot. Varicose vein is a very common condition in surgical practice. It occurs in people who are habituated for standing for a long time. Abnormal dilated, elongated and tortuous alteration in the saphenous veins and their tributaries is called as varicose veins. Varicose veins are dilated, tortuous, elongated superficial veins that are usually seen in the legs. It can occur in any age group. It is a progressive disease. It is more common in females than males. Varicose vein can be very much correlated to *Siraj granthi*. Being a kind of *Raktadushti Vikara* (Blood involved pathology), *Raktamokshan* and *Rakta prasadana* (blood purifying) internal medicines were given along with *Vatanulomaka aushadhas* (those which promote regular movement of Vata). Immense attention is to be given in the primary stage itself to prevent further complications. So this article is intended to analyze the anatomical and physiological changes due to long term standing on *Siraj Granthi*/varicose vein critically for prevention and cure of *Siraj Granthi*.

AIM:

Review on effect of long standing posture on varicose veins and its management.



OBJECTIVES:

- to study the patho-anatomy in varicose veins.
- To find effective management according to the severity of varicose veins.

REVIEW OF LITERATURE**LONG TERM STANDING MAJOR CAUSE OF VARICOSE VEINS**

दोषः प्रदुष्टो रुधिरं सिरास्तु सम्पीड्य सङ्कोच्य
गतस्त्वपाकम् ॥१५॥
साम्नावमुन्नहति मांसपिण्डं मांसाङ्कुरैराचितमा
शुवृद्धिम् ।
स्रवत्यजस्रं रुधिरं प्रदुष्टमसाध्यमेतद्गुधिरात्मकं
स्यात् ॥१६॥ SU.NI.11/15-16

Mostly people working as watchmen, traffic police, beauticians, surgeons, teachers, bus conductors, roadside vendors face this problem.

When standing, gravity pulls the blood downwards to the lower part of the body. Body mechanisms, such as vasoconstriction and valves of the veins, assist in pumping blood upwards. As blood is pumped through the body, the valves within the veins prevent the blood from flowing backwards. After extensive, prolonged standing, these valves can become weak and eventually fail. When this happens, blood is no longer being prevented from flowing backward. Gravity will pull the blood back into an individual's legs, ankles and feet. This forces the veins to expand or "balloon" to accommodate this extra blood.

The valves of the veins work best in concert with accompanying muscle contractions that force the blood to

continue moving up the leg. Standing with some muscles constantly strained weakens these muscles and therefore the strength of the contractions. Varicose veins have also been associated with chronic heart and circulatory disorders and hypertension as well as complications related to pregnancy.

Prolonged standing increases the risk for hospitalization from varicose veins. Among the working age population one out of five hospitalizations from varicose veins are as a result of prolonged standing. Prolonged standing leads to impeded blood flow and stasis in the veins in the lower limbs, which can cause varicose veins.

PATHOANATOMY

The veins have one-way valves to prevent them from backward flow. The correct functioning of the venous system depends on a complex series of valves. It has been known that varicose veins in the legs are caused by weakening of the veins and valves in the great saphenous veins and/or small saphenous veins. Due to the malfunction in the valves, blood begins to collect in the legs resulting in the build up of pressure. The veins become enlarged and knotted and are visible near the surface of the skin as a varicose vein. Major valves which dysfunctions in the caution of varicose vein are saphenofemoral junction (SFJ) and saphenopopliteal junction (SPJ). The termination point of the GSV into the common

Femoral vein, located proximally at the groin, is called the Sapheno-femoral junction. The terminal valve of the GSV is located within the junction itself. In most cases, at least one additional sub terminal valve is present within the first few



centimeters of the GSV. Most patient's have a single sub terminal valve that can be readily identified approximately 1 cm distal to the junctional valve.

PATHOPHYSIOLOGY

The path physiology behind their formation is complicated and involves the concept of ambulatory venous hypertension. In healthy veins, the flow of venous blood is through the superficial system into the deep system and up to the leg and toward the heart. One-way venous valves are found in both systems and the perforating veins. Incompetence in any of these valves can lead to a disruption in the unidirectional flow of blood toward the heart and result in ambulatory venous hypertension (AVH).

Incompetence in the superficial venous system alone usually results from failure at valves located at the SFJ and SPJ. The gravitational weight of the column of blood along the length of the vein creates hydrostatic pressure, which is worse at the more distal aspect of the length of vein.

Reflux at or near the SFJ does not always come through the terminal valve of the GSV, nor does it always involve the entire trunk of the GSV. Reflux can enter the GSV below the sub terminal valve or even immediately below the junction, passing through a failed sub terminal valve to mimic true SFJ incompetence. Reflux can also pass directly into any of the other veins that join the GSV at that level, or it may pass a few centimeters along the GSV and then abandon the GSV for another branch vessel.

Incompetence of the perforating veins leads to hydrodynamic pressure. The calf pump mechanism helps to empty the deep venous system, but if perforating vein

valves fail, then the pressure generated in the deep venous system by the calf pump mechanism are transmitted into the superficial system via the incompetent perforating veins. Once venous hypertension is present, the venous dysfunction continues to worsen through a vicious circle. Pooled blood and venous hypertension leads to venous dilatation, which then causes greater valvular insufficiency.

Over time, with more local dilatation, other adjacent valves sequentially fail, and after a series of valves has failed, the entire superficial venous system is incompetent. This can then cause subsequent perforator and deep venous valvular dysfunction.

The clinical findings of varicose veins, reticular veins, and *telangiectasias* are due to the hypertension in the superficial venous system that spreads to collateral veins and tributary veins, causing dilated tortuous structures.

Muscle fatigue: Muscles kept in a constant stress position quickly become exhausted and can result in pain and swelling in the lower back, legs, ankles and feet.

Treatment modalities are geared towards correcting the superficial venous hypertension. In contrast to the superficial veins, the deep veins do not become excessively distended. They can withstand the increased pressure because of their construction and the confining fascia.

THE CLASSIFICATION OF VENOUS DISEASE

Venous disease of the legs can be classified according to the severity, cause,



site and specific abnormality using the CEAP classification.

The elements of the **CEAP** classification are: C-Clinical; E-Etiology; A-Anatomy; P-Pathophysiology

C-Clinical:

C ₀	no clinical signs
C ₁	Small varicose veins
C ₂	Large varicose veins
C ₃	Edema
C ₄	Skin changes without ulceration
C ₅	Skin changes with healed ulceration
C ₆	Skin changes with active ulceration

E-Etiology

- E_C-Congenital
- E_P-Primary
- E_S-Secondary

A-Anatomy

- A_S-Superficial
- A_D-Deep
- A_P-Perforating veins

P-Pathophysiology

- P_R-Reflux
- P_O-Obstruction

MANAGEMENT

Varicose veins (*Siraj Granthi*) have several treatments, but the best treatment is always prevention.

Nidan parivarjan: Some of the factors that may predispose to the development are Occupational hazards .People working as traffic police, clothes vendor, teachers, bus conductors, surgeon, athletes has habit of prolonged standing .there is no real prevention for standing, but there are ways to mitigate time spent standing in the workplace. Experts suggest to move

around and change positions throughout the day. It is best not to sit in one position for more than 20 minutes, or to stand in one position for more than 8 minutes.

Shodhan karma: Being a kind of Raktadushti *Vikara* (Blood involved pathology), *rakta*(blood) is considered as one among the major *adhista* of vitiation. *Raktamokshan* through *Siraved* is very essential. *Siraved* is considered as half of entire treatment or complete treatment in *Shalya tantra*. Also repeated sittings of jalaukavchraha helps to reduce the local congestion.

Shaman Chikitsa:

Rakta prasadana (blood purifying) internal medicines were given along with *Vatanulomaka aushadhas* (those which promote regular movement of *Vata*. *Kaishor guggul, Kanchanar guggul, Triphala guggul* are effective formulations.



DISCUSSION

- Due to *jalaukavacharana*(leech application) the accumulation of rakta and vitiation of *vata in sira* leads to *sira-akunchana* and *vakrikarana* (tourtoicity) of veins which cause local congestion of veins. Repeated bloodletting by *jalauka* brings down the *shotha* and *shoola* by relieving local congestion.
- *Raktamokshana* by *Siravyadha* method which is comparatively safe, has extended systemic action quoted to be *Ardha Chikitsa* and can be employed in patients with *Siraja Granthi* / varicose veins. *Siraved*(vein section) along

with internal medication resulted the reduction of signs and symptoms of *Sirajgranthi* (varicose veins) specially the symptoms like *Shoola* (pain), *Daha* (burning sensation) and *Vaivarnya* (discolouration).

CONCLUSION

Varicose veins are veins that have become enlarged and twisted, especially within the legs, ankles and feet of an affected individual. Ayurvedic management has multiple time tested modalities of treatment .Para surgical procedure such as *Raktamokshana* for the management of *Siraj Granthi.Raktamokhsan* along with *Raktaprasadan* drugs will be a choice of treatment.

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