



## Opinion

ISSN 2320-4818

JSIR 2022; 11(4): 95-96

© 2022, All rights reserved

Received: 31-10-2022

Accepted: 24-11-2022

**T.Uday Nagendra**

Dr. BRKR Government Ayurvedic Medical  
College, Hyderabad, Telangana 500018, India

## Correspondence:

**Dr. T.Uday Nagendra**

Dr. BRKR Government Ayurvedic  
Medical College, Hyderabad,  
Telangana 500018, India

Email:

udaynagendra1995@gmail.com

# Significance of elevation of foot in management of varicose veins and its sequelae

*T.Uday Nagendra*

DOI: 10.31254/jsir.2022.11407

## Abstract

Varicose veins are a severe clinical manifestation of chronic venous insufficiency<sup>[1]</sup>, prolonged standing / sitting causes blood to pool in veins of Lower limbs, there by increases the pressure in veins, then veins stretch from Increased pressure, these may weaken the walls of veins and damage the valves. CVI associated with Impaired blood flow leads to tissue congestion oedema and eventually impairment of tissue nutrition. In advanced venous insufficiency Impaired tissue nutrition can causes statis dermatitis and development of varicose ulcer. If varicose ulcer is not treated properly, then it gets Infected leads to cellulitis and gangrene, may require amputation of part of limb. The present article deals with brief introduction regarding aetiopathogenesis of varicose veins and its sequelae related symptoms. The aim of writing article is to express the significance of elevation of foot in varicose veins and its sequelae.

**Keywords:** Varicose veins, Venous insufficiency, Varicose ulcer, Foot elevation.

## INTRODUCTION

Venous system<sup>[2]</sup> is a low-pressure system that returns blood to heart valves in veins of extremities prevent retrograde flow and with the help of skeletal muscles that surrounds and intermittently compress the leg veins in milking manner blood is moved forward to the heart the pumping action is known as muscle pump<sup>[3]</sup>, the venous system in leg consists of two compartments the superficial veins and deep venous channels. varicose veins of lower extremities are common and often leads to secondary problems of venous insufficiency the common pathway that leads to chronic venous insufficiency.

Varicose ulcer<sup>[4]</sup> typically develop on lower side of legs, above ankle and below calf. They are slow to heal and frequently reoccur. They can be very painful and may limit mobility and quality of life. In Ayurveda Varicose veins can be considered as *Kutulasira*<sup>[5]</sup>. *Vata* becomes vitiated in body due to various *vata* vitiating factors, this vitiated *vata dosa* obtain *stana samshraya* causes *shotha & shola*, if left untreated causes *Kutulasira* (varicose veins) and it is kricchra sadhya in early stage and *asadhya* in later stage.

## Incidence<sup>[6]</sup>

Varicose veins prevalence all over the world varies between 10% -30%.

Annual prevalence of varicose ulcer among elderly was 1.69%, over all incidence was 0.76% for men, 1.42% for women, 3.6% of people older than 65 years.

## Pathophysiology<sup>[7]</sup>

Chronic venous insufficiency is relatively caused by sustained elevation of pressure in veins of dependant lower extremity. This high mean venous pressure results from inadequate closure of valves in veins during exercise of muscles of legs. The high venous pressure is associated with an abnormally high capillary pressure, which in turn responsible for formation of oedema in tissue of the extremity. skin overlying this oedematous area may break down either following a minor injury or without apparent cause. Subsequently these small breaks in skin tends to become large superficial ulcer.

Pathophysiology of varicose ulcer begins with venous valve malfunction resulting in venous pressure and vein stretching. As a result, blood proteins may leak into extra vascular area. It isolates extracellular matrix molecules and growth factors, preventing them from aiding in wound healing.

Similarly, Fibrinogen leakage and lack of fibrinolysis Cause fibrin to accumulate around arteries. Preventing O<sub>2</sub>, and nutrients from reaching cells. This also block Vessels resulting in Ischemia surrounding area and delay in wound healing. Furthermore, venous Insufficiency Causes leucocytes to collect in tiny capillaries, Causing Inflammatory substances to be released and chronic wound development occurs.

*Nidana parivarjana* - Excessive load (*sirasvadhmanariktate*<sup>[8]</sup>) (A.H.Ni 15/13)

*Dosa Dusya sammurcana*- Stagnation (*sira akuncana* and *purana*<sup>[9]</sup>) (M.Ni 22/20)

Sustained venous hypertension results in Oedema with in dependent lower limb, which increases the distance over metabolites must diffuse from micro circulation to tissue cells, tissue around ankle become Ischaemic during dependancy, with reperfusion on walking / elevation. This Chronic reperfusion injury results in an Inflammatory process with further oedema, tissue fibrosis and formation of cuff of extracellular matrix proteins around capillaries. These changes results in features of CVI which includes Sclerosis, Pigmentation, swelling, eczema and ultimately ulceration.

### Significance of elevation of foot

Elevation of foot above level of heart improves blood flow in limbs, reduces stress on valves and in due course it improves the functioning of valves temporarily. Pedal oedema decreases i.e transudation of fluid from blood of veins into extravascular tissue back in to circulatory channels causing tissue refreshing and increasing the tissue integrity.

### CONCLUSION

Therefore, foot elevation which empties veins and relieves from increased pressure would be more beneficial. Instead of placing pillows for foot elevation advised by doctors, as it is causing inconvenience to patients. So, they are advised bed elevation at foot end causes continuous drainage and emptying of veins and in due course it improves functioning of walls and its impact will be like 6-10 hours foot elevation depending upon patient sleep habit.

Emptying of veins by foot elevation above level of heart is beneficiary effect which is required for both varicose veins and their sequelae. Continuous elevation of foot results in emptying of veins which is the key role for treatment of varicose veins and their sequelae in this regard.

### Conflict of interest

None declared.

### Financial support

None declared.

### REFERENCES

1. Mutlak O, Aslam M, Standfield NJ. Chronic venous insufficiency: a new concept to understand pathophysiology at the microvascular level - a pilot study. *Perfusion*. 2019;34(1):84-89.
2. MacManus D, Worsley C. Venous drainage of the lower limb. Reference article, *Radiopaedia.org*. (Accessed on 30 Oct 2022).
3. Miller JD, Pegelow DF, Jacques AJ, Dempsey JA. Skeletal muscle pump versus respiratory muscle pump: modulation of venous return from the locomotor limb in humans. *The Journal of physiology*. 2005;563(3):925-43.

4. Vasudevan B. Venous leg ulcers: pathophysiology and classification. *Indian dermatology online journal*. 2014 Jul;5(3):366-70.
5. Ratha KK, Dighe D, Delhi N, Panda AK. Management of venous ulcer through Ayurveda: A case report. *Journal of Research in Ayurvedic Sciences*. 2018;2(3):202-8.
6. Patil D, Jahagirdhar SH, Toshikhane HD. An integrated approach in the treatment of varicose ulcer. *Ancient Science of Life*. 2013;32(3):161.
7. Collares F, Faintuch S. *Varicose Veins: Practical Guides in Interventional Radiology*. Thieme; 2017 Jul 11.
8. Astanga Hridaya, Nidanasthana, Dr. R.Vidhyanath, Chaukambha Surbharthi, 2020, Chapter 15, sloka:13.
9. Madhavanidana, by Vijayaraksita and Srikanthadatta, Chaukambha orientalis, chapter 22, sloka:20.