

**A REVIEW ON VARICOSE VEINS AND ITS TREATMENTS****Kajal U. Kamble\* and Dr. Sachin A. Nitave**

Dr. J. J. Magdum Trust's, Anil Alias Pintu Magdum Memorial Pharmacy College,  
Dharangutti, Shirol, Kolhapur, Maharashtra, India.

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**\*Corresponding Author****Kajal U. Kamble**

Dr. J. J. Magdum Trust's,  
Anil Alias Pintu Magdum  
Memorial Pharmacy  
College, Dharangutti, Shirol,  
Kolhapur, Maharashtra,  
India.

**ABSTRACT**

According to all India ethno-biological survey conducted by the Ministry of republic Natural Environment and Forest, 8000 plant species were preferred by the Government of India by the humans of India. Herbal Preparations are reached widely distributed and approved as therapeutic agents such as anti-diabetic anti-aging, anti-microbial, anti-depressant, anti-inflammatory, anti-HIV, migraine, asthma, Alzheimers disease, treatment of cirrhosis. Plants are not only essential in health care today, but they are also the best hope for a source of safe future medicines. Traditional plant medicines still have a significant position in the modern drug industry because of the minor side effects.

**KEYWORD:** Varicose veins, natural treatments.**INTRODUCTION**

Universal practice has been the goal of pharmaceutical plants to treat diseases. Its acceptance is still maintained for cultural and historical reasons.<sup>[1]</sup>

According to all India ethno-biological survey conducted by the Ministry of republic Natural Environment and Forest, 8000 plant species were preferred by the Government of India by the humans of India.

Herbal Preparations are reached widely distributed and approved as therapeutic agents such as anti-diabetic anti-aging, anti-microbial, anti-depressant, anti-inflammatory, anti-HIV, migraine, asthma, Alzheimers disease, treatment of cirrhosis.<sup>[2]</sup>

Human beings have dependent on wildlife to their simple necessities as being the sources for medicines, foods, shelters, fragrances, flavours, fertilizers, clothing etc. The medicinal plants

continue to appear the dominant part in the health care organization, and it used basically for developing countries where the herbal medicines set the continuous history of extensive use. In India, China, Japan, Pakistan, Shri-Lanka, and Thailand the outdated medication preparation is widespread. The China alone accounts for about out of 40% overall medicinal intake of traditional tribal medicines. The contribution of plants such as chemicals, pharmaceuticals, and drugs etc, is remarkable in expanded sectors. Therapeutic plants play a dynamic role in developing the exploration of new drugs.

Plants are not only essential in health care today, but they are also the best hope for a source of safe future medicines. Traditional plant medicines still have a significant position in the modern drug industry because of the minor side effects.

There are about half million plants around the world which is having auspicious future. Among the variability of modern medicines many of them prepared indirectly from medicinal plants. The World Health Organization recognized the status of traditional medicine. It has also formed some guidelines and standards for botanical medicines.<sup>[3]</sup>

### **Varicose Veins**

The word 'varicose' comes from the Latin word 'Varix', which means 'twisted'. According to WHO the varicose vein may be defined as, "vein with a saccular development tortuous" The term "Varicosity" is generally employed to elongated, tortuous, pouched, thickened, friable vessels, inelastic which have constantly lost its valvular efficiency through analogous changes may also occur in veins.<sup>[4]</sup>

Chronic Venous Insufficiency of the lower limb is the ailment which involves some indications and symptoms take place because of venous hypertension.

The symptoms which shows in patients such as.

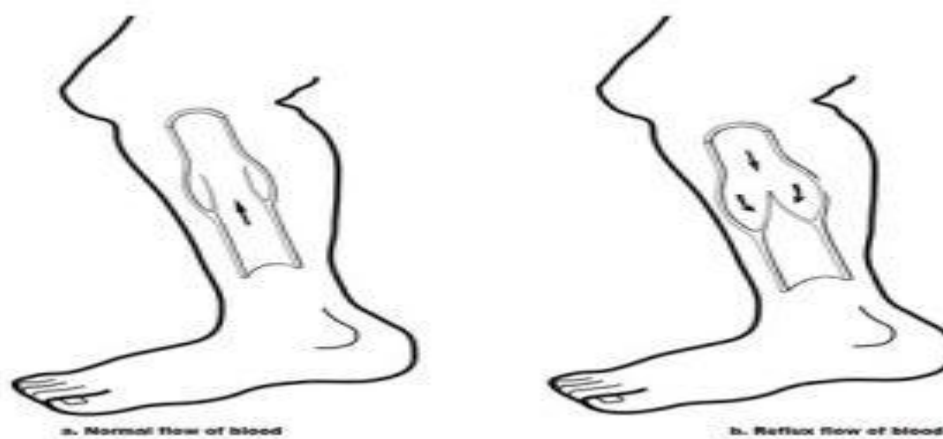
- Prominent leg veins
- Muscle cramps
- Discoloration
- Pain
- Itching
- Heaviness
- Venous Ulceration

- Venous stasis
- Swelling.<sup>[2]</sup>

In Western Europe and United States, the varicose veins are accepted disease which affects one third population of which prevalence is observed. The study which impact that from the affected population, there is approximately 1-73% of females exhibited to this disease and on average 2-56% of males.

### Pathogenesis Of Varicose Veins

- The blood flow which is normal takes place from the superficial veins to the deep veins and through the legs upto the heart.
- The superficial veins to deep veins and from legs to heart this both blood flow pathway both contains a single way venous valve.
- The incapability of the systems occurs complications in the blood flow and hence it causes the pathway of blood flow backward, put together blood in and it turns into the venous hypertension.
- Venous hypertension occurs expansion and exaggeration of the veins and this condition of veins produces venous insufficiency results in Varicose Veins.



**Fig.No.1: Diagrammatic Representation of Normal Veins and Varicose Veins.**

The diagnosis of this disease is complete when there is use of duplex scan technique of investigation.<sup>[5]</sup>

### Treatments of Varicose Veins

The conventional treatments for varicose veins involve compression therapies- employment of particular type of surgeries like cryosurgery, vein stripping, ambulatory phlebectomy.

But now presently there are more effective techniques are available and that are Non-surgical techniques which aid to healing varicose veins better than surgical treatments.

The Non-surgical treatments mainly involve sclerotherapy and endothermal ablation.

For varicose veins there are natural treatments are also applicable which involves horse chestnut seed extract, Centella asiatica, apple cider vinegar, butcher's broom, garlic, amla, grape seed extract, citrus fruits etc.<sup>[6]</sup>

## **Treatments of Varicose Veins**

### **1. Physical Therapy**

To increase the muscle strength and activate the blood flow as well as to enlarge the circulation of blood the Exercise and Yogasans are the best options. This relieves the pain and other complexity and hence promotes the healthy veins. Some yogasans are the effective and important to decrease the difficulties from varicose veins and protect the healthy veins they are Sarvangasana, Halsana, Pawan Muktasana.<sup>[6]</sup>

### **2. Compression Therapy**

By producing the force on surface of calves the particular type of compression stockings which compress the dilated veins this are used in this treatment. Due to this there is decrease in passage of veins which turn to shows the higher rate of movement of blood to the heart.<sup>[6]</sup>

### **3. Surgical Treatments**

#### **a. Vein Stripping**

In this surgical treatment the concerned veins are treated by inclusion of special wires made of any suitable material by supposing a tear on the saphenous vein so to strip veins. The leg is maintained by giving general anaesthesia and called as bilateral surgery. The side effects are produced by this therapy that are bleeding, infections, bruising.<sup>[5]</sup>

#### **b. Ambulatory Phlebectomy**

In this technique by achieving laceration in the skin the superficial veins are removed.

This process is carried out on patients by gemologist. The confining socks are continued after the surgery for some specific time period.

After this treatment the temporary inflammation and swelling may be observed.<sup>[5]</sup>

#### **4. Non-Surgical Treatments**

The Non-surgical treatments mainly include Sclerotherapy, Ultrasound guided foam sclerotherapy and Endothermal Ablation.

##### **A. Sclerotherapy**

By using this therapy, the spider veins or angioectasis are treated. For this treatment some sclerosing agents are used like as sodium salicylate, chromated glycerine they are administered by using small needles.

This treatment attends with compression stockings after the sclerotherapy to constrict the treated vessels. The sclerotherapy also shows some side effects such as scars at the site of injection, neovascularization, small ulcers and swelling.<sup>[6]</sup>

##### **B. Ultrasound guided foam sclerotherapy**

This treatment includes the injuries of endothelial layer of vein so as to create blockage and scar formation in the dilated veins. There are some sclerosing agents are used which is in the form of foam and on the wall of veins it contributes larger surface area.

This therapy is also having some side effects such as bubble embolism and thrombophlebitis.<sup>[6]</sup>

##### **C. Endothermal Ablation**

To tighten the veins this therapy involves to utilize of energy from radiofrequency and lasers. This treatment also includes 2 types.

##### **I. Radiofrequency ablation of the varicose veins**

By application of the bipolar generator and inducing radiofrequency catheter along with sheath able electrodes the damaged veins are heated.

At the temperature of  $85\pm 3$  this method is occurred.

##### **II. Endovenous Ablation**

The endovenous ablation includes the closure of vein by taking place the catheter from the saphenous vein at the saphenofemoral conjugation and passing the laser fibre from it.

Comparing with other methods this method is 98% successful to cure the venous insufficiency. The side effects are observed from this method is stiffness in the limb and pain.<sup>[6]</sup>

## 5. Natural Treatment

Natural treatments are also more effective in chronic venous insufficiency. Everyone on this earth is suffering from the imperilment of modern life style. Day by day the health problems are increased. The peoples who have unhealthy body grows the negative attitude, loose the desire to do somewhat in their life. The natural treatments for any diseases the method that supports a person to balance the body, mind and emotion by pleasing proper food and rest. According to World Health Organization (WHO), vast population of the whole world is observing for the herbal medication for the health impairment. The natural treatment are alternatives for varicose veins that intended at strengthening the muscles in and about these veins and avoiding their laxity.

- **Horse chestnut seed extract**



For the varicose veins care the planet Ayurveda delivers the best combination of effective herbal medications. The qualities of planet Ayurveda described as it is 100% pure, vegetarian and natural. These herbal medications of planet Ayurveda are free from chemicals, preservative and additives. These preparations are also free from side effects and safe to utilization.

For the treatment of varicose veins, The Europe and Germany have been the users of horse chestnut seed extracts. Raw seeds are not utilizing because it may to demonstrate that it is noxious to health. The contents which are present in horse chestnut seed are escin, tannins, flavonoids, sterols, fatty acids, quinines, scopolin and coumarins.<sup>[7]</sup>

- **Centella asiatica**



Centella asiatica is also known as Gotu kola. The main use of this centella asiatica is related to skin diseases and promote healthy veins. In the Indian Pharmacopeia it has been listed in 19<sup>th</sup> century for it has potentiality to cure skin disorders like leprosy, psoriasis, ulcers, eczema, varicose veins. The main constituent of the centella asiatica is asiaticoside which contains the triglyceride component associated with the aglycone Asiatic acid.<sup>[8]</sup>

- **Apple cider Vinegar**



The apple cider vinegar improves the blood flow and blood circulation. The gathered toxins of body are cleaned by apple cider vinegar. In the varicose veins condition the undiluted apple cider vinegar is applied on that body part and massage into the skin twice a day. Apple cider vinegar has antioxidant properties which can fight with free radicals to damaging the molecules which mainly affect the body cells.

The apple cider vinegar contains mainly acetic acid. Pectin, polyphenols and carotenoids are the other components of the apple cider vinegar.<sup>[11]</sup>

- **Butcher's broom**



The scientific name of butcher's broom is *Rescues aculeatus*.

The active constituents which are present in butchers' broom are: neurosporene, steroidal saponins. The other chemical elements are also present in that they are: sapogenins, sterols, coumarins, steroidal saponins, triterpenes, flavonoids, tyramine, glycolic acid, spartiene, triterpenes. The butcher's broom is a Eurasian shrub which consists spine-tipped leaves. It

having the small greenish flowers which displays in spring and the seeds are bird-spread. The red coloured berries are attached right to the leaves by short stem.

The vaso constrictive- effect of the plant and its capability to decrease the vascular permeability is shown by performing animal and in-vitro studies.<sup>[12]</sup>

- **Garlic**



The scientific name of garlic is *Allium sativum*. Garlic has been utilized as a traditional drug for diagnosing various disorders due to its various medicinal applications and health advantages. Allicin, allin, ajoene, S-allylcysteine, dially polysulfides, vitamins, minerals, amino acids these are the main active constituents of garlic. The allicin which is the content of garlic helps to avoid blood vessels from the inflammation. The toxins which are present in body the also removed by garlic and it also improves the overall health conditions.

The garlic is useful due to its anti-oxidant properties which helps to lower the blood pressure. Garlic plays a vital role to cure the varicose veins.<sup>[6]</sup>

- **Amla**



Amla is scientifically known as *Emblica officianalis* or Indian Gooseberry. It is most important one medicinal plant in Ayurveda which is having high health related advantages.

The percentage of Vitamin C, iron and calcium is more in the amla. It has also having antioxidant and free radical stalk activity that promotes the protection to skin. It is having capability to control the high blood pressures and to treat the related problems.

The emblicanin A and B, pungigluconin, pedunculagin are the chemical constituents of amla. It is also having the anti-inflammatory activity due to ascorbic acid. By the administration of amla with regular diet the varicose veins and its symptoms are treated.<sup>[13]</sup>



- **Tomato:**



The tomatoes having antioxidant property. Lycopene and  $\beta$  carotene are the main constituents of the tomato. The tomatoes are helps in vasodilation of the constricted blood vessels which is produced by high blood pressure and other reason. The flavonoids are beneficial for the development and strengthening the walls of blood vessels.<sup>[6]</sup>

- **Grape seed extract**



The main active component of grape seed extract is polyphenolic compound which is known as proanthocyanidines. The anti-inflammatory, anti-oxidant and vaso dilating actions are present in grape seed extract. Grape seed extract is available in the form of dietary complements in a liquid form or tablet or capsules. The therapeutic effects shown by grape seed extract are as follows.

1. **Healing Wounds**

The grape seed extract has the latent to increase the speed that heals wound. Proanthocyanidines gives best results towards wound healing.

2. **Improving bone strength:**

The grape seed extract and the diet which contains calcium has improves the bone formation it gives beneficial effects.

3. **Preventing Skin Cancer**

The proanthocyanidines is the main active constituent of grape seed extract might prevent the expansion of cancer.

The proanthocyanidin is helps to dilate the constricted blood vessels, capillary permeability and decreases the blood pressure. It has also helpful to reduce the swelling produced by varicose veins.<sup>[10]</sup>

- **Citrus fruits**



In citrus fruits category the oranges, sweet lime and lemon are mainly involved. The main active constituents of citrus fruits are Vitamin C, fibres, flavonoids, folic acid and these components are helps to treat varicose veins. They Shows the same antioxidant property of amla and tomatoes.

These prevents the narrowing blood vessels and regulates the normal blood flow from vessels.

A flavonoid which is achieved from orange peels that is Hesperidin in combination with Diosmin may be attractive treatment due to its anti-inflammatory, antioxidant activity which helps in decrease in swelling, bleeding, ulcers, cramps and therefore it helps in diagnosis of varicose veins.<sup>[11]</sup>

- **Rubia cardifolia**



The Rubia cardifolia is also known as Manjistha or Indian Maddar which is in the form of dry powder obtained from its roots and stems. It soothes the toxic effects of varicose veins and gives its action of anti-inflammatory and antioxidants.<sup>[14]</sup>

## CONCLUSION

Medicinal plants have been widely used by pharmaceutical industries as therapeutic agents. In this present review the herbal plant extracts were described with their uses namely Aesculus hippocastanum or Horse chestnut extract, Grape seed extract, Centella asiatica

extract which having anti-inflammatory, Venotonic and anti-oedema activity. These three extracts are among the top 10 herbal supplements used to treat varicose veins.

Reviewing all the benefits of this herbal actives and safety of this herbal actives, the herbal medicines in a topical form for the management of chronic venous insufficiency would be beneficial.

## REFERENCES

1. Zead Helmi Mahmoud Abudayeh , Khaldun Mohammad AI Azzam, Ahmad Nadaf , Uliana Vladi irovna Karpiuk , Viktoria Sergeevna Kislichenko : Determination Of Four Major Saponins in Skin and Endoderm of Seeds of Horse chestnut Using High Performance Liquid Chromatography with Positive Confirmation by Thin Layer Chromatography, 2015.
2. Biradar Sanjivkumar , Dhumansure Rajkumar ,Patil Mallikarjun , Biradar Karankumar , K Sreenivasa Rao; Development And Method Validation of Aesculus Hippocastanum Extract; International Research Journal Of Pharmacy, 2012.
3. Refaz Ahmad Dar, Mohd Shahnawaz, Parvaiz Hassan Qazi The Journal Of Phytopharmacology, 2017; 349-351.
4. Pavan Prasad B.K and Prem Kumar A; Clinical Study of Varicose Veins and their management; International Journal Of Biomedical and Advance Research, 2015; 6(08): 564-568.
5. Soumil Singhal, Mangerira Chinnappa Uthappa; Endovascular Management of Varicose Veins : A Review Of Literature, 2019; 1-5.
6. Deepali Mor and Payal Dande Varicose Veins: An Overview Of Current And Herbal Treatments International Journal Of Pharmaceutical Sciences And Research, 2017; 8(5): 1959-1966.
7. Esra Eroglu Ozkan, Burcu Mesut, Abdulselam Polat , Nur Tan: In Vitro Skin Permeation of escin in the new gel formulation of Aesculus Hippocastanum(Horse chestnut), 2016; 79-88.
8. Ved Prakash, Nishita Jaiswal, Mrinal Srivastava: A Review On Medicinal Properties of Centella asiatica: Asian Journal of Pharmaceutical and Clinical Research, 2017; 10.
9. Dr. Arora, M. Kumar, S. D. Dubey: Centella asiatica – A Review of its medicinal uses and pharmacological effects, Journal of natural remedies, 2002; vol2/2, 143-149.

10. Phytochemical constituents, Health Benefits, Industrial Applications of Grape seeds: A Mini- Review, September 2017.
11. Sameer Ahmad Mulla, Srinivas Pai; Varicose Veins: A Clinical Study, 2017; 529-533.
12. Soumil Singhal, Mangerira Chinnappa Uthappa; Endovascular Management of Varicose Vein: A Review Literature, July 2019.
13. Rafi Akhtar Sultan, Zafar Alam Mahmmod, Iqbal Azhar, Muhammad Mohtasheem UI Hasan, Salman Ahmed; Pharmacognostic and Phytochemical Investigation of Aerial Parts of *Centella asiatica* Linn, 2012; 125-133.
14. S. Aruna, Ruta Masteikova; In Vitro Permeation Studies of phenolics from horse chestnut seed gels prepared with different polyacrylic acid polymer derivatives, 2015; 181-189.
15. Kshitij Arun Manerikar, Chandradip Patil, Simran Bhatia, Gurjit Singh, Harshad Gawade; A Study of Etiology of Secondary Varicose Veins, 2017.