

Difference Between Deep Vein Thrombosis and Varicose Veins

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Key Difference - Deep Vein Thrombosis vs Varicose Veins

Deep vein thrombosis and varicose veins are two extremely common vascular [pathologies](#) that predominantly affect elderly females. **The vein is occluded only in the deep vein thrombosis and not in the varicose veins.** This can be considered as the **key difference** between the two conditions. In a medical perspective, deep vein thrombosis can be defined as the occlusion of a deep vein by a thrombus. On the other hand, varicose veins can be defined as the presence abnormally elongated, dilated and tortuous superficial veins.

What is Deep Vein Thrombosis?

Occlusion of a deep vein by a thrombus is called the deep vein thrombosis. DVT of the legs is the commonest form of DVT, and it has an alarmingly high rate of mortality.

Risk Factors

1. Patient factors
 - Increasing age
 - [Obesity](#)
 - Varicose veins
 - [Pregnancy](#)
 - Use of oral contraceptive pills
 - Family history
2. Surgical conditions

Any surgery lasting for more than thirty minutes

3. Medical conditions
 - [Myocardial infarction](#)
 - Inflammatory bowel disease
 - Malignancy
 - [Nephrotic syndrome](#)
 - [Pneumonia](#)
 - Hematological diseases

Clinical Features

Usually, the lower limb DVT starts in the distal veins and should be suspected when a patient complains of,

- Pain
- Swelling of the lower limbs
- Increased temperature in the lower limbs
- Dilatation of the superficial veins

Although these symptoms frequently appear unilaterally it is possible to have them bilaterally also. But bilateral [DVT](#) is almost always associated with comorbidities such as malignancies and abnormalities in the IVC.

Whenever a patient presents with the aforementioned symptoms always the risk factors for DVT should be taken into consideration. During the examination, special attention should be given to identifying any malignant conditions. Since it is possible to have pulmonary embolism together with DVT, symptoms, and signs of pulmonary embolism should be checked.

A set of clinical criteria called the Wells score is used in ranking the patients according to their likelihood of having DVT.

Investigations

The choice of investigations depends on the Wells score of the patient.

- In patients with a low probability of DVT

D dimer test is done, and if the results are normal, there is no need of doing more investigations to exclude DVT.

- In patients with a moderate to high probability and in patients belonging to the above category whose D dimer test results are high.

Compression ultrasound scan should be done. At the same time, it is very important to carry out investigations to exclude any underlying pathology such as pelvic malignancies.

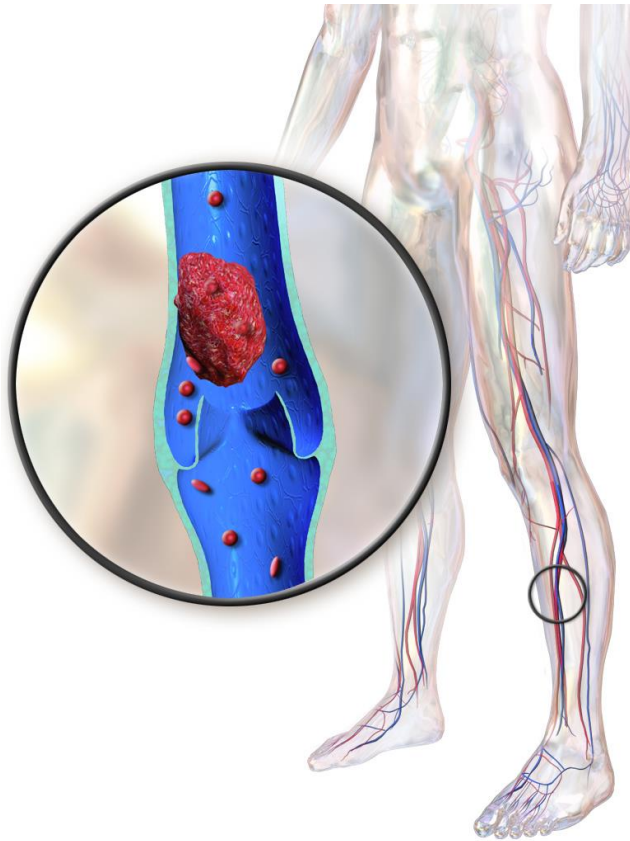


Figure 01: Deep Vein Thrombosis

Management

- This includes anticoagulation therapy as the mainstay together with elevation and [analgesia](#). Thrombolysis should be considered as an option only if the patient is in a life-threatening In the anticoagulation therapy initially, LMWH is administered, and it is followed by a coumarin [anticoagulant](#) such as warfarin.

What is Varicose Veins?

Varicose veins are a frequently seen disease condition having a high rate of incidence among the females. In a morphological perspective, it can be defined as the presence abnormally elongated, dilated and tortuous superficial veins. Although the primary cause of the disease is not yet completely understood, the most widely accepted hypothesis suggests varicosity is a result of prolonged erect posture and structural or functional abnormalities in the vessel wall. Pregnancy, uterine fibroids, and pelvic cancers are the major causes of secondary varicose veins. It should be kept in mind that, if proper treatments are not taken, varicose veins can result in severe complications and even untimely causing death.

Varicose veins have been classified into two categories depending on the nature of the underlying cause as idiopathic varicose veins and secondary varicose veins. As the name

implies, idiopathic varicose veins are due to unknown or unidentified causes. Pathological studies, done on the patients with idiopathic varicose veins strongly support genetic influence on the vascular defects that predispose idiopathic varicosity. Owing to various anatomical and physiological characteristics, women are more commonly affected than men. Symptoms worsen during pregnancy due to the indirect effect of the increased intra abdominal pressure on the veins of the lower limbs. This condition is aggravated by the influence of shooting [hormone](#) levels.

Proximal venous obstruction, destruction of the venous valves by a [blood clot](#) or an increased blood flow through the vein can result in secondary varicose veins. As these conditions are curable, it is important to seek medical attention as soon as possible to prevent further complications.

In this condition, your leg veins become prominent and unsightly. As this mostly affects women, they seek medical advice due to the unpleasant appearance. It is possible to have minor but not related symptoms such as tiredness, aching or pounding in the legs and swelling of the ankle, mostly after a prolonged period of standing. Special care should be taken, if you have a previous history of deep vein thrombosis because the presence of occluded deep veins together with venous varicosity can severely compromise the blood supply to the lower extremities.

Examination of the varicose veins is carried out while the patient is standing. This procedure includes inspection of the leg for signs of any deep venous insufficiency, auscultation over the affected area and tests for any valvular defects. Duplex scanning is the most reliable test for the diagnosis of this condition. The failure to treat the condition properly can give rise to complications such as phlebitis and hemorrhages.

The mode of management of varicose veins varies according to the degree of severity. On treating the varicosities, your doctor may prescribe you with graded compression stockings which are indicated for minor varicosities and the pregnant, for the elderly and the unfit. For small- or moderate-sized varices below the knee, sclerotherapy (injection of small amount of sclerosant) is the recommended mode of treatment. Elective surgery is performed if complications such as [hemorrhage](#), skin changes, and grossly dilated varicosities appear.

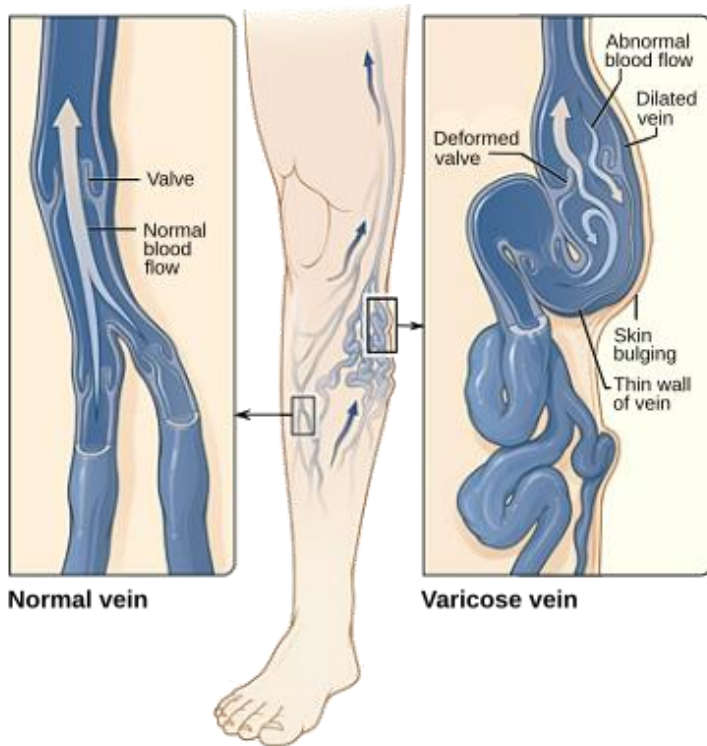


Figure 02: Varicose Veins

Although varicose veins are not completely preventable, few basic lifestyle modifications can decrease the risk of getting them. Eating a healthy diet with an abundance of fibers and low salt is important. Not wearing high heels and tight clothing can decrease the exertion of undue pressure on the muscles of the lower limbs thus facilitating the [circulation](#). Changing the position of your legs regularly prevents the inactivity of the muscle bulk of the calves.

What is the Similarity Between Deep Vein Thrombosis and Varicose Veins?

- Both conditions are pathological phenomena taking place in the veins.

What is the Difference Between Deep Vein Thrombosis and Varicose Veins?

Deep Vein Thrombosis vs Varicose Veins	
Occlusion of a deep vein by a thrombus is called the deep vein thrombosis.	Varicose veins can be defined as the presence abnormally elongated, dilated and tortuous superficial veins.

Nature of the Vein	
Vein is always occluded.	The vein is not occluded.
Causes and Risk Factors	
<p>Patient factors</p> <ul style="list-style-type: none"> · Increasing age · Obesity · Varicose veins · Pregnancy · Use of oral contraceptive pills · Family history <p>Surgical conditions</p> <p>Any surgery lasting for more than thirty minutes</p> <p>Medical conditions</p> <ul style="list-style-type: none"> · Myocardial infarction · Inflammatory bowel disease · Malignancy · Nephrotic syndrome · Pneumonia · Hematological diseases 	<ul style="list-style-type: none"> · prolong erect posture · Structural or functional abnormalities in the vessel wall. · Pregnancy · uterine fibroids · pelvic cancers
Clinical Features	
Usually, the lower limb DVT starts in the distal veins and should be suspected when a patient complains of,	<p>Clinical features of varicose veins are,</p> <ul style="list-style-type: none"> · Dilated and unsightly veins

- Pain
- Swelling of the lower limbs
- Increased temperature in the lower limbs
- Dilatation of the superficial veins

- tiredness,
- aching or pounding in the legs
- Swelling of the ankle, mostly after a prolonged period of standing.

Diagnosis

The choice of investigations depends on the Wells score of the patient.

- In patients with a low probability of DVT

D dimer test is done, and if the results are normal there is no need of doing more investigations to exclude DVT.

- In patients with a moderate to high probability and in patients belonging to the above category whose D dimer test results are high.

Compression ultrasound scan should be done. At the same time, it is very important to carry out investigations to exclude any underlying pathology such as pelvic malignancies.

Duplex scanning is the most reliable test for the diagnosis of this condition.

Management

The management of DVT includes anticoagulation therapy as the mainstay together with elevation and analgesia. Thrombolysis should be considered as an option only if the patient is in a life-threatening condition. In the anticoagulation therapy initially, LMWH is administered, and it is followed by a coumarin anticoagulant such as warfarin.

The mode of management of varicose veins varies according to the degree of severity. On treating the varicosities, your doctor may prescribe you with graded compression stockings which are indicated for minor varicosities and the pregnant, for the elderly and the unfit. For small- or moderate-sized varices below the knee, sclerotherapy (injection of small amount of sclerosant) is the recommended mode of treatment.

Elective surgery is performed if complications such as hemorrhage, skin changes, and grossly dilated varicosities appear.

Summary - Deep Vein Thrombosis vs Varicose Veins

Occlusion of a deep vein by a thrombus is known as the deep vein thrombosis whereas the varicose veins can be defined as the presence abnormally elongated, dilated and tortuous superficial veins. An occlusion of the vessel happens only in DVT and not in varicose veins. This is the main difference between deep vein thrombosis and varicose veins.

Reference:

1.Kumar, Parveen J., and Michael L. Clark. Kumar & Clark clinical medicine. Edinburgh: W.B. Saunders, 2009.

Image Courtesy:

- 1.Blausen 0290 DeepVeinThrombosis' By Blausen.com staff (2014). "Medical gallery of Blausen Medical 2014". WikiJournal of Medicine 1 (2). DOI:10.15347/wjm/2014.010. ISSN 2002-4436. - Own work, (CC BY 3.0) via [Commons Wikimedia](#)
- 2.'Varicose veins-en' By Jmarchn - Own work, (CC BY-SA 3.0) via [Commons Wikimedia](#)

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