

INTERVENTIONAL RADIOLOGY

Non-Surgical Treatment of Varicosis



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Cause of Varicosis on Legs

Vein failure develops as a result of deterioration of the valve system, and the escape of blood back to the toes is called reflux. Blood that escapes as a result of vein failure or reflux accumulates under the skin in capillaries or small veins, leading to their dilation. These enlarged veins are called varicosis

Varicose veins are defined depending on their size;

- Large varicosis
- Medium-size varicosis, and
- Small capillary varicose veins.

Diagnosis of Varicosis on Legs

Although most varicose veins are visible to the eye, it is not possible to determine the main cause of varicose veins with the naked eye. The main cause that leads to varicose veins during the treatment planning phase before treatment involves the evaluation of superficial veins, the prevalence of varicose veins and the elimination of other causes that can lead to varicose veins. Today, techniques such as

- Color Doppler Ultrasonography
- Venography
- Computed tomography, (CT) venography
- Magnetic resonance (MRI) venography are used.

How to Perform Doppler Ultrasonography?

Color Doppler Ultrasonography is the most common and reliable method for evaluating the prevalence of leakage (reflux) and accompanying varicose veins in superficial veins that lead to varicose veins. Veins that cause varicose veins and have valve failure are reliably evaluated by Doppler Ultrasonography.



The distribution of varicose veins and the veins with valve failure get mapped out. Doppler Ultrasonography examination, which is the most important stage determining the success of treatment, must be performed by experienced physicians, preferably radiologists.

Leg Varicose Vein Treatment

The aim of the treatment is not only to treat the visible varicose veins, but also the underlying insufficiency or reflux vessel that causes it.

For this purpose, treating the cause that leads to varicose veins together with varicose veins will provide a permanent and effective solution.

Current treatments for varicose veins are:

1. Surgical Treatment of Varicose Veins
 - a. Ligation (Binding)
 - b. Stripping (Peeling and removing)
 - c. Phlebectomy (cutting and removing varicose veins)

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2. Endovenous Thermal Ablation
 - a. Laser ablation (closing by burning with laser)
 - b. Radiofrequency ablation (closing by burning with radiofrequency)
3. Endovenous Non-Thermal Ablation
 - a. Foam sclerotherapy (Closing the vessel using foam drugs)
 - b. Cyanoacrylate embolization (closure using adhesive drugs)
 - c. Mechanochemical (Mechanical + foam treatment)

Varicose veins have been treated surgically for many years. Surgically, the method of tying or tying and removing the veins is applied. These methods have decreased in recent times due to the fact that they require general anesthesia, create surgical scars, require hospitalization and are likely to repeat with the risks associated with the procedure. Postoperative recurrence rates in long-term follow-ups are close to 35-40%. Varicose veins are a slow-moving disease. When neglected, it can lead to life-threatening risks that impair the quality of life. In the early stages of the disease, it manifests itself by swelling of the feet and feeling like the shoes are too small. In some patients, varicose veins also become visible to the naked eye. As the disease progresses, some patients may experience night cramps, itching in the feet, a feeling of pins and needles. Over time, as varicose veins progress and treatment is neglected, color changes, wounds and ulcers may develop in the lower part of the leg. As the size of the varicose veins in the legs increases, clotting (thrombus) and infection (thrombophlebitis) may occur in them due to the stagnation of the blood. As a result of the thrombosis reaching the deep veins, it can send clots into the lungs. Massive embolism of the lungs can be life-threatening.



Risks Faced in Ablation Treatment of Varicose Veins

After endovenous laser ablation, some undesirable situations may occur that develop less than 10% of the time.

- Burns that may develop on the skin due to insufficient anesthesia
- The clot in the vein that develops after the laser extends to the deep veins
- Bleeding under the skin
- Development of infection
- Numbnesses called parasthesia that occur post-treatment due to injections
- Low foot syndrome development due to nerve damage, which is rare, especially in under-knee treatments
- Complication rates are lower in ablation treatment than in open surgical methods.
- To prevent the development of infection, it is necessary to comply with sterile conditions.
- The laser dose should be lowered to prevent nerve damage under the knee.

Superiority of laser treatment of varicose veins to surgical treatment;

- No general anesthesia required
- Having a more painless procedure than surgery
- The patient leaves the hospital on foot immediately after the procedure
- No scars on the skin like in surgery
- Much lower risk of recurrence

After the superficial veins, which are the main cause of laser varicose vein treatment are closed, the treatment of visible varicose veins is applied in the same session.

Foam Treatment

Foam treatment or sclerotherapy is the closure of the vessel by injecting drugs into the vein in the treatment of varicose veins. Capillary-telengectatic is one of the most common treatment options for medium-sized reticular or some oversized varicose veins.

Non-Thermal Ablation Treatments

Non-thermal ablation treatments are mechanochemical endovenous ablation (MOCA) and cyanoacrylate vein ablation (CAVA) treatments. The potential advantages of these treatments are that they don't require the tumescent anesthesia applied in thermal ablation, the procedure time is shorter and there is no risk of nerve damage.

The MOCA technique is used to damage the superficial veins with insufficiency using a rotating wire and then the veins are closed by injecting liquid sclerosant. MOCA technique is a reliable treatment method that has just entered into use and is rapidly gaining popularity.

HOW TO PREVENT VARICOSE VEINS

Ground Rules for Varicosis Protection

Varicose veins, which can appear in both men and women, can cause pain in the legs, burning, swelling of the ankles, itching and fatigue when standing on foot for a long time. If



there are such symptoms, patients should see a interventional radiologist for Doppler USG. High-risk individuals; ARE women had multiple pregnancies, occupations that require standing on foot for prolonged times (surgeons, hairdressers, waiters, cleaning staff, drivers) and people that have a history of varicose veins in their family.

Even when these symptoms are not present, people at high professional and family risk should take the following precautions.

10 Basic Rules;

1. Wash your legs with cold water at the end of the shower every morning.
2. Do not stay in the sun for long, avoid tanning.
3. Avoid tight clothes.
4. Avoid high heels.
5. Eat a vegetable-rich diet when possible.
6. Avoid smoking and alcohol.
7. Drink plenty of water.
8. Do not remain still for a long time, walk every half hour for several steps.
9. Keep your feet up while you sleep
10. Exercise regularly.



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