AMERICAN ACADEMIC PUBLISHER

INTERNATIONAL JOURNAL OF MEDICAL SCIENCES

ISSN NUMBER: 2692 - 5206 Volume 6. No 04. Aprel ,2026

WHAT DANGERS LIE BEHIND VARICOSE VEINS?

Turobov Jasur Sindor o'g'li

Idiboyev Muhammad Abrorovich

Hamdamov Jonibek Olimovich

(Samarkand State Medical University)

Scientific advisor: **Kubayev Asaliddin Esirgapovich**

Abstract: This article analyzes the dangerous aspects of the wrong approach to varicose veins of the lower legs. The final part of the article provides preventive recommendations for early detection of the disease and prevention of complications using modern phlebology methods.

Keywords: Varicose veins, thrombosis, venous insufficiency, thrombophlebitis, trophic ulcer, phlebology, prevention.

In the human body, the function of transporting oxygen-rich blood to the organs and tissues of the body is performed by the arteries. Initially, gas exchange occurs in the pulmonary alveoli. CO2 passes from the blood to the pulmonary alveoli, and O2 from the alveoli to the capillaries. The oxygen-saturated blood travels to the tissues and organs. After the blood reaches the tissues, gas exchange occurs there. During gas exchange, the blood transfers O2 bound to hemoglobin to the tissues and then absorbs CO2. Now, the next step is to transport the blood from the tissues to the lungs, which is performed by the veins. The veins are the final part of the circulatory system. Varicose veins occur in the veins of the legs, small pelvis, that is, in women, in the veins around the uterus and fallopian tubes, and cause chronic pain.

Methodology.

The cause of its occurrence is hormonal changes that occur due to uncontrolled intake of various medications and multiple births, low physical activity, in addition, it is observed in the internal organs, esophageal veins. The main cause of varicose veins in the esophagus can be cirrhosis of the liver. The reason is that due to cirrhosis, blood does not pass through the liver and is forced to move through the circulatory system, which increases the pressure in the surrounding blood vessels, as a result of which the blood vessels in the esophagus rupture. In this case, a person needs to be given immediate help, undergo surgery, otherwise a person may die early. Varicose veins also occur in the rectum (hemorrhoids), and in men in the testicles, which leads to infertility.

In the veins of the legs, blood moves upwards against the force of gravity, that is, from the toes to the waist. If the blood flow in this direction is blocked, blood accumulates in the veins and the blood vessel size increases, varicose veins develop. The causes of varicose veins can be divided into two groups, namely external and internal factors. External factors include working for a long time standing, wearing tight or high-heeled shoes, and wearing tight jeans. It is natural to ask how these factors can affect them. The answer is that when wearing tight pants, the veins are compressed when the knee is bent and the joints in the groin are bent. At the same time, high-heeled shoes are as harmful as tight clothing, as they tighten the leg muscles in the wrong position. Also, tightening the belts worn around the waist prevents the blood from moving

AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 6. No 04. Aprel ,2026

upward from the veins, which causes the blood vessels in the waist to be compressed. These factors cause varicose veins to form mainly through vascular constriction, which is why they differ from internal factors.

To talk about internal factors, you first need to know the anatomy of blood vessels. The blood vessel wall is made up of three layers: the innermost layer is the epithelium, the middle layer is the contractile muscle layer, and the outermost layer is the thick connective tissue. Among these are the structures that give strength to the vessels: collagen and elastin. Collagen provides strength to the blood vessels, while elastin functions to return the dilated blood vessel to its original state. If these structures are not present in a person due to genetic factors, i.e. heredity, vitamin deficiency, and especially hormonal changes in women, for example, progesterone is the main factor that relaxes the vascular wall. It puts the muscle fibers in the vascular wall into a state of "relaxation" (rest).

Estrogens Their excessive increase or decrease accelerates the breakdown of collagen fibers in the vascular wall. As a result of the pathology of these factors, the dilated blood vessel cannot return to its original state and varicose veins appear. How is this possible? As mentioned at the top of the article, the veins carry blood up to the legs, in this process, crescent-shaped valves consisting of two transverse layers in the veins do not allow blood to flow back. When the blood begins to rise, the valves open, and after the blood has passed, they close again. In the case of pathology, the valve layers cannot reach each other, because the diameter of the blood vessel is larger than normal. Because the valves are not fully closed, the blood flows back down, collects in the veins of the legs, and the pressure in the lower part of the legs, in the ankles and calves, increases by 3-5 times compared to normal, as a result of which the walls of the veins cannot withstand the pressure and expand like a swollen balloon, forming nodes. Since the pressure inside the veins is very high, the liquid part of the blood (plasma) leaks out through small holes in the vein walls into the surrounding soft tissues, i.e. under the skin, and swelling occurs. As a result, by evening, the feet no longer fit into shoes.

If necessary measures are not taken in time, some dangerous complications will begin. Initially, when the blood accumulates, it prevents the passage of fresh, oxygen-rich arterial blood. The tissues of the leg (muscles and skin) begin to "suffocate" from a lack of oxygen. The metabolism in the cells is disrupted and toxic substances accumulate. In the next stage, the skin color begins to change. The erythrocytes in the blood also leave the vessel wall into the tissues and break down there. The iron substance they contain (hemosiderin) remains under the skin. As a result, brown or bluish spots appear on the lower leg. The skin becomes hard, dry and itchy.

If the process is not stopped, the skin's nutrition completely stops. Even a small scratch or bump turns into a deep trophic wound that does not heal. Because blood circulation in this place does not have enough energy to regenerate new cells. Since blood flows slowly in the vessels, a blood clot can easily form there. If the thrombus breaks off, it can get stuck in the main blood vessels of the heart and lungs, which can lead to death. The most important thing to remember is that you should not massage the legs of a person with varicose veins, even if he asks for it, because if a thrombus has formed, moving it will not lead to good results. Special stockings for the treatment of varicose veins of the legs are prescribed by a doctor. Stockings fit snugly on the calves and create some relief for the person. The compression percentage of special socks in the upper, middle, and lower parts is different, for example, if the lower part is 100%, then upwards this indicator will be 60% and upwards 40%. The purpose of this is to prevent special socks from having the effect of tight pants. This disease, like other diseases, is divided into certain periods.

Level C0: Externally, the legs are healthy, there are no enlarged veins. However, the patient complains that "my legs swell in the evening, they feel heavy, as if they were filled with lead."

AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 6. No 04. Aprel ,2026

At this stage, the walls of the veins have begun to tighten, but have not yet lost their shape. If treatment is started at this stage, the result will be 100%. This stage will pass into the next stage over time.

Stage C1: (Telageiktasia) Small, purple or red "nets" appear on the skin. This is mainly the expansion of small capillaries and venules. Many people ignore this process, but this stage is the first signal that the disease is beginning.

Level C2 is the true varicose stage; At this stage, the venous valves completely cease to function. Blood begins to flow backward and the blood vessels swell. As a result, blue, bulging, "snake"-shaped veins appear under the skin. Their diameter exceeds 3 mm. At this stage, there is a risk of blood clot formation.

C3 is the chronic edema stage; In this stage, the patient's feet swell in the evening, especially the ankles and calves, but then return in the morning and form again during the day. This means that the circulatory system is severely impaired. The liquid part of the blood, plasma, leaks through the blood vessel walls into the soft tissues. The next stage begins with a change in skin color.

Level C4: “Skin Tragedy” This level is the last stop before the appearance of a wound. Because at this level, the blood hardens between the tissues, the tissues cannot be nourished and begin to die. The skin color changes: brown spots appear (hyperpigmentation), the skin hardens and itches. If the necessary procedures are not performed at this stage, the patient begins to develop ulcers, which indicates that the patient's condition has advanced to level C6 (Trophytic ulcer). When these ulcers heal, when the open wounds are closed, there is no longer an open wound on the skin, but there is a “trace” left by a previous wound. This wound site is either whitish-gray or, conversely, dark brown. The skin in this area is very thin (like parchment paper) and fragile. The tissues have almost lost their ability to regenerate (recover). Blood circulation in this area is extremely poor. ". The slightest physical injury, a shoe pinch or an insect bite can easily open an old wound and it will immediately return to the C6 stage. That is, if the necessary measures are not taken after the C4 stage, an ulcer will certainly form and the C6 stage will begin (the C6 active ulcer stage). Only after the operation is carried out and the wounds heal, the C5 stage will begin (the healed trophic ulcer stage). If the healed wound opens, the patient will return to the C6 stage again.

Varicose vein treatment methods are selected depending on the stage of the disease and the general condition of the patient. In modern medicine, there are three main types of treatment.

The first method is a conservative method, which is used when the patient is in the early stages of the disease and his condition is somewhat normal. In this type of treatment, compression therapy is provided by wearing special elastic stockings, that is, stockings compress the walls of the blood vessels from the outside and help the blood to rise upwards. Venotic drugs restore the tissue function of the patient's vascular walls and help the dilated blood vessels return to their normal state. Lifestyle changes, for example: lying with your legs elevated, going for walks, and not lifting heavy loads, are among them.

The second treatment method is minimally invasive technology. Currently, patients mainly prefer this method because it does not require any incisions or stitches. Examples of this method include sclerotherapy, laser ablation (EVLO), and radiofrequency ablation (RFA). Sclerotherapy is used in this practice to treat small veins and capillaries in patients with varicose veins. For this, the doctor injects a special drug (sclerosant) with a thin needle. Then this drug sticks to the walls of the blood vessels and stops the blood flow. Over time, the blood vessels turn into connective tissue, and the body breaks it down, thinking it is a foreign substance. Even when the blood vessels are closed, blood continues to flow through other circulatory vessels, but this drug does

AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 6. No 04. Aprel ,2026

not work in larger vessels, because the injection into these vessels is washed away by the flow of blood.

In the laser ablation method, the problem blood vessel is found using an ultrasound device, a hole is made like a needle hole, and then a laser fiber is inserted. While the movement of the laser fiber is monitored by ultrasound, it is moved to the beginning of the blood vessel, usually until it reaches the tip. After the laser is turned on, its tip heats up to a high temperature. The doctor begins to withdraw the laser fiber. During the withdrawal process, the laser heats the blood vessel wall from the inside, causing the vessel wall to contract. This stops the blood flow, just like sclerotherapy, and the blood moves through the surrounding vessels. The vessel then disintegrates.

Radiofrequency ablation is similar to the laser method, but differs in the principle of operation. At the beginning of the work, a hole is first drilled, just like the laser method, into which a catheter is inserted. The insertion site is the knee or ankle. The movement of the catheter is controlled by ultrasound. The tip of the catheter inserted into the vein is heated by radiofrequency for the first 6 cm. This catheter heats each segment for 20 seconds, then the doctor moves it to the next segment. During the process, the collagen protein in the vessel wall shrinks under the influence of heat and the inner wall of the vessel tightens, and then the blood flow stops. After this procedure, the blood vessel is also absorbed. In general, these types of procedures take a short time and do not cause excessive fear and suffering to the patient. They guarantee the restoration of normal life activities.

The third method is surgical treatment of varicose veins. This is a procedure that is performed when the disease is advanced, when the veins have become excessively enlarged, or when complications such as blood clots and ulcers have formed.

Result: In traditional phlebectomy, damaged blood vessels are used in situations where laser methods cannot help. In this surgical procedure, the patient is given local anesthesia, spinal anesthesia, or general anesthesia. The patient does not feel his legs during the procedure or is completely asleep. In the procedure, the doctor first makes two incisions to reach the vein. The first incision is made 2-3 cm above the groin, and the second incision is made 1 cm below the knee. The doctor finds the place where the vein meets the deep vein from the first incision and ties it with a thread to slow down the blood flow. Then the doctor cuts the vein. In the most basic step, the doctor inserts a metal or plastic probe from the ankle and guides it to the groin. In the groin, the tip of the vein is fixed to the tip of the vein and slowly pulled towards the ankle. During this process, the vein is separated in a reverse way. Finally, the incisions are sutured and closed with sterile bandages.

In a surgical procedure such as meniphlebectomy, the doctor first identifies the enlarged veins with an ultrasound device and draws a map on the skin over the ultrasound. This shows the doctor during the surgical procedure which part to perform the procedure from. The difference between this operation and other surgical methods is that, first of all, an incision is not made with a scalpel, but instead, 1-2 mm holes are opened with a needle or a special looped instrument. The patient is also given local anesthesia. Therefore, the patient is conscious throughout the entire procedure. The doctor separates the blood vessel sections piece by piece with a looped instrument through the holes in the incision. This is the difference between this procedure and traditional phlebectomy. When the punctured holes are so small, they do not need to be sutured. The surgical wound can only be closed with a sterile bandage.

In the short-strip surgical method, the blood vessels are not removed in whole or in pieces, but only the dilated parts of the blood vessel and the damaged valves are removed. This method aims to preserve the remaining healthy vascular tissue.

AMERICAN ACADEMIC PUBLISHER

INTERNATIONAL JOURNAL OF MEDICAL SCIENCES

ISSN NUMBER: 2692 - 5206 Volume 6. No 04. Aprel ,2026

Conclusion : This is not just an aesthetic problem, but a cry for help from the body. Behind the bulging veins can be hidden serious life-threatening conditions such as thrombosis or trophic ulcers. Modern medicine (Laser, RFA, Miniphlebectomy) is able to solve this problem without incisions and without pain. Therefore, do not postpone treatment for "tomorrow" - timely consultation with a specialist will ensure not only the beauty of your legs, but also the safety of your life.

References:

1. Nazarenko G.I. i dr. Analysis of the cause of recurrence of varicose disease: the best method of treatment // Angiology and vascular surgery. - 2014. - T. 2. - No. 2 (adjective). - S. 250-251.
2. Arnaudov G.D. Medical terminology 5 years. - Sofia: Medicine and culture, 1979. - 94 p.
3. Askerkhanov R.P. Voprosy etiology and pathogenesis of varicocele expansion of vein nizhnih konechnostey // Phlebologiya. - 2010. - No. 4. - S. 45-47.
4. Abalmasov K.G. i dr. Autovenous obturation of zadnebertsovykh vein and complex surgical treatment of chronic venous insufficiency: Methodological recommendations / Pod editor Acad. RAMN L.A. Bokeria. - M.: Izd-vo NTsSSX im A.N. Bakuleva RAMN, 2002. - 12 p.
5. Baranov G.A. Some aspects of etiopathogenesis and diagnosis of chronic venous insufficiency / G.A. Baranov, P.G. Dunaev. - Yaroslavl: Format-print, 2003. - 143 p.
6. Karimov. Sh.I. Surgical diseases. Tashkent 2010

Electronic resources.

1)ESVS 2022 Guidelines (European Society of Vascular Surgeons - basic guidelines): www.ejves.com
2)SVS/AVF Guidelines (American Society of Vascular Surgeons Standards): www.jvascsurg.org
3) Journal of Vascular Surgery (CEAP classification of varicose veins stages): www.jvascsurg.org
4)Mayo Clinic (Symptoms, risk factors and complications of varicose veins): www.mayoclinic.org
5) Cleveland Clinic (About the risk of varicose veins and deep vein thrombosis): my.clevelandclinic.org
6)NHS (UK) (Complications of varicose veins - ulcers and bleeding): www.nhs.uk
7)Medscape (Pathophysiology and Medications of Varicose Veins): emedicine.medscape.com
8)National Institutes of Health (NIH) (Scientific reviews on varicose veins): www.nhlbi.nih.gov
9)Cochrane Library (Comparative effectiveness of treatments): www.cochranelibrary.com

AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 6. No 04. Aprel ,2026

10)ScienceDirect (Research on Varicose Veins and Veins): www.sciencedirect.com
11)Russian Association of Phlebologists (Clinical Recommendations Collection): phlebo-union.ru