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ASK THE DOCTOR

Advanced Techniques for Treating Varicose Veins

By Ariel Soffer, MD

Q: I am a 33-year-old mother of three. I have had uncomfortable and somewhat unsightly varicose veins for over five years now. Is this a cardiovascular problem, and, if so, what can be done short of vein-stripping surgery like my mother had?

A: You are correct: varicose veins do indeed represent a problem in the vascular component of the cardiovascular system. Fortunately, medical science has advanced since the time your mother had vein-stripping surgery for the condition. Today, numerous other therapies are available for varicose veins.



WHAT ARE VARICOSE VEINS?

Veins are the blood vessels responsible for carrying blood from the body to the lungs and heart. Movement of the large leg muscles is responsible for pumping blood through the veins. Under normal conditions, the one-directional valves in these veins fight gravity and push blood up towards the heart. When the valves malfunction, however, pools of blood collect in the veins, creating increased pressure and causing the veins to bulge. The veins then become weakened, enlarged, and twisted. For some sufferers, varicose veins can lead to serious circulatory problems.

THE CAUSES OF VARICOSE VEINS

Varicose veins tend to develop from faulty valves in the veins and weakened vein walls, which can cause the veins to swell. Some people are more likely than others to develop varicose veins and spider veins (more delicate red and blue veins that can appear on the skin's surface) because of inherited characteristics, the aging process, or hormonal changes.



Some studies suggest that up to 50% of American women may be affected. Hormonal factors can also impact the disease and it is very common for pregnant women to develop varicose veins during their first trimester. Pregnancy causes an increase in the progesterone level and blood volume, which may cause veins to enlarge. Also, the enlarged uterus puts increased pressure on the veins. In most cases of pregnancy, varicose veins improve within three months after delivery. With each additional pregnancy, however, abnormal veins are more likely to remain.

Varicose veins may also result from conditions that increase pressure on the leg veins. These include aging, occupations that involve standing, obesity, and leg injuries. If the condition is severe, varicose veins can rupture or cause ulcers to form on the skin. It is therefore imperative for individuals suffering from varicose veins to seek treatment. There are a variety of ways to treat varicose veins, including medical and nutraceutical approaches.

NUTRACEUTICAL TREATMENT FOR VARICOSE VEINS

One of the most widely used nutraceutical approaches for varicose veins is horse chestnut seed extract (*Aesculus hippocastanum*). Horse chestnut seed extract is widely used in Europe for chronic venous insufficiency,¹⁻¹⁰ a syndrome that may include varicose veins, leg swelling, leg pain, itching, and skin ulcers. Chronic venous insufficiency arises when the leg veins are unable to pump enough blood back to the heart because of conditions such as elevated blood pressure in the legs, deep vein thrombosis, or phlebitis.

Horse chestnut seed extract demonstrates impressive efficacy in relieving the symptoms of chronic venous insufficiency, effectively reducing leg volume, alleviating leg pain, improving edema, and averting itching.¹⁰ The active ingredient in horse chestnut seeds is a chemical called escin, which in clinical studies has been reported to increase blood circulation.¹¹ Studies suggest that twice-daily horse chestnut extract containing 50 mg escin is as effective as standard therapy with compression stockings in the early stages of chronic venous insufficiency.^{2,6}



Escin works by increasing the tone in the walls of the veins, preventing blood from pooling there.¹² Its ability to support healthy blood circulation has made horse chestnut a popular treatment for varicose veins.

More recent studies indicate that escin (extracted from horse chestnut seeds) may also possess anti-inflammatory properties useful in reducing edema, swelling, and hemorrhoids.^{13,14} As a topical application, escin is also popular in Europe for treating sprains. Although horse chestnut extract has been recommended for a variety of medical conditions such as inflammation and arthritis, varicose veins and chronic venous insufficiency are the only conditions for which there is strong supportive scientific evidence.

For optimal effects, the therapeutic dose of horse chestnut extract is 250 mg twice daily (standardized at 20% escin), which provides an equivalent dose of escin shown to be beneficial in clinical studies.

Another agent showing much promise against varicose veins is rutin. A plant-derived flavonoid, rutin has been shown to help relieve the symptoms of varicose veins in late pregnancy.^{15,16} (Note: Pregnant women should always consult a physician before consuming dietary supplements.)

Offering further potential against varicose veins are the proanthocyanidins. These flavonoid complexes are powerful antioxidants that are found in grape seeds and skin, pine bark extract, and other sources. Clinical studies show that proanthocyanidins are effective against chronic venous insufficiency and venous ulcers, suggesting they may be potentially useful against varicose veins.^{17,18}



Preliminary findings suggest that vitamin K2 may hold promise in fighting varicose veins by activating a vitamin-K2-dependent protein crucial for maintaining healthy blood vessels.^{19,20}

Other nutrients such as calcium, carnitine, glucosamine, magnesium, and vitamin C may also hold applications in the management of varicose veins.²¹ These agents deserve further examination in managing this common and troublesome vascular condition.

MEDICAL INTERVENTIONS

Sclerotherapy is a non-surgical form of treatment in which a solution is injected into the problem veins to close them off. Unfortunately, the treatment may not address the underlying problem of leaking vein valves, and therefore has a variable level of success and a high recurrence rate. Sclerotherapy is thus mainly used to eradicate spider veins and is not as effective for large varicose veins.

The circulatory problem of varicose veins is best treated by endovascular laser therapy, a newer technology that works by heating the inside of the vein, causing it to seal shut and disappear. During this 20-minute procedure, a very thin laser fiber is inserted into the damaged vein. It is largely painless and can be performed on an outpatient basis, allowing patients to go back to work the same day. In capable hands, this technology has a 99% success rate. Advanced cardiovascular specialists have been performing this miraculous procedure for the past five years and it has largely eliminated the need for the more invasive vein-stripping surgery. The result is usually a complete resolution of symptoms and often a vast improvement in aesthetic appearance.



SUMMARY

Varicose veins are part of a continuum of circulatory disease. If left untreated, they can cause not only worsening discomfort and unsightly appearance, but may lead to non-healing wounds in the legs that could prove deadly. Therefore, it is imperative that individuals suffering from varicose veins receive adequate diagnosis and appropriate treatment by progressive cardiovascular specialists who are well trained in managing the condition.

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on cardiovascular topics such as mitral valve prolapse, coronary artery disease, and varicose vein treatment. He is an adjunct faculty member of the University of Florida's Vascular Biology Working Group and is the official team cardiologist of the Florida Panthers hockey team. He is also a nationally recognized clinical instructor and researcher on endovenous laser ablations. Dr. Soffer can be reached at www.mitral.com.

If you have any questions on the scientific content of this article, please call a Life Extension Health Advisor at 1-800-226-2370.

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