En Español (Spanish Version)

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Principal Proposed Natural Treatments

- Butcher’s Broom; Gotu Kola; Horse Chestnut; Oligomeric Proanthocyanidins (OPCs); Oxerutins and Other Bioflavonoids; Red Vine Leaf (Grape Leaf)

Other Proposed Natural Treatments

- Balneotherapy; Bromelain; Calendula; Collinsonia; Comfrey; Mesoglycan; Mimosa tenuiflora; Witch Hazel

Walking upright has given our leg veins a difficult task. Although they lack the strong muscular lining of arteries, they must constantly return a large volume of blood to the heart. The movements of the legs act as a pump to push the blood upward while flimsy valves stop gravity from pulling it back down.

However, over time these valves often begin to fail. The blood then begins to pool in the deep veins of the leg, stretching the vein wall and injuring its lining. This situation is called venous insufficiency. Typically, the legs begin to feel heavy, swollen, achy, and tired. Varicose veins, a condition closely related to venous insufficiency, occur when veins near the surface of the skin are damaged. They visibly dilate and become distorted, resulting in a cosmetically unpleasant appearance.

Varicose veins affect women about two to three times as often as men. Occupations involving prolonged standing also increase the incidence of venous insufficiency. Pregnancy and obesity do so as well because the increase of pressure in the abdomen makes it more difficult for the blood to flow upward.

Conventional medical treatment of venous insufficiency consists mainly of reducing weight, elevating the legs, and wearing elastic support hose. Unsightly damaged veins can be destroyed by injection therapy or be surgically removed.

Principal Proposed Natural Treatments

When it comes to natural products, some illnesses are far more responsive than others. While there are no well documented natural therapies for asthma (as an example), more than half a dozen natural therapies have meaningful supporting evidence as treatments for venous insufficiency/varicose veins.

These treatments have much in common. All of them appear to work by strengthening the walls of veins and other vessels, with the net effect of reducing fluid leakage. Studies indicate that use of such products reduces leg swelling and pain. However, there is no meaningful evidence that any natural product can cure unsightly varicose veins that already exist, or prevent new ones from developing.

Warning: Symptoms similar to those caused by varicose veins can actually be due to more dangerous conditions such as phlebitis or thrombosis. Medical evaluation is necessary prior to self-treating with the natural supplements described here.

Horse Chestnut
The most popular herbal treatment for venous insufficiency is horse chestnut.

One trial on horse chestnut followed 212 people over a period of 40 days using a crossover design. Participants initially received either horse chestnut or placebo and then were crossed over to the other treatment (without their knowledge) after 20 days. Horse chestnut treatment significantly reduced leg edema, pain, and the sensation of heaviness when compared to placebo. Although the design of this study was not quite up to acceptable standards, a better-designed double-blind study of 74 people also found benefit.

Good results were also seen in a partially double-blinded, placebo-controlled study that compared the effectiveness of horse chestnut versus compression stockings in 240 people over a course of 12 weeks (horse chestnut and placebo were blinded, but not the compression stockings). Compression stockings worked faster to lessen swelling, but by 12 weeks the results were equivalent between the two treatments, and both were better than placebo.

Despite these generally favorable results, a review of 17 randomized trials involving over 1,593 people with chronic venous insufficiency was somewhat less encouraging. In the placebo-controlled studies, researchers found that horse chestnut did reduce symptoms, such as leg pain and swelling. But, the results were inconsistent when the supplement was compared to other treatments, like compression stockings.

Unlike many herbs, the active ingredients in horse chestnut have been identified to a reasonable degree of certainty. They appear to be a complex of related chemicals known collectively as aescin. Aescin reduces the rate of fluid leakage from stressed and irritated vessel walls. We don't really know how it does this, but the most prominent theory proposes that aescin plugs leaking capillaries, prevents the release of enzymes that break down collagen and open holes in capillary walls, and forestalls other forms of vein damage.

Aescin has also been studied as a treatment for varicocele, a type of varicose veins that affects the testicles and can cause male infertility. In one study, 219 men with varicocele were randomized to 1 of 3 treatment groups: 30 mg of aescin twice daily for 2 months, surgical repair, or control (20 mg of vitamin E daily). Researchers found that the men who took aescin experienced an improvement in sperm density that was comparable to those in the surgery group and significantly more than those in the control group. However, aescin did not significantly improve sperm motility (another measure of sperm quality).

For more information, including dosage and safety issues, see the full Horse Chestnut article.

Oxerutins and Other Bioflavonoids

Oxerutins have been widely used in Europe since the mid-1960s but this supplement remains hard to find in North America. Derived from a naturally occurring bioflavonoid called rutin, oxerutins were specifically developed to treat varicose veins and related venous problems. It is not clear whether this particular derivative of rutin is more effective than other bioflavonoids used for these conditions, but oxerutins are by far the best studied.

About 20 double-blind, placebo-controlled studies, enrolling a total of more than 2,000 participants, have examined oxerutins' effectiveness for treating varicose veins and venous insufficiency. Virtually all have found oxerutins significantly more effective than placebo, giving substantial relief from swelling, aching, leg pains, and other uncomfortable symptoms, while causing no significant side effects. Together, these studies make a strong case for the use of oxerutins in these conditions.

For example, a 12-week, double-blind, placebo-controlled study enrolled 133 women with moderate, chronic venous insufficiency. Half received 1,000 mg oxerutins daily, and the rest took placebo. All participants were also fitted with standard compression stockings and wore them for the duration of the trial. The researchers measured subjective symptoms, such as aches and pains, as well as objective measures of edema in the leg.

Those who took oxerutins experienced significantly less lower-leg edema than the placebo group. Furthermore, these better results lasted through a 6-week follow-up period, even though participants were no longer taking oxerutins. The stockings, on the other hand, produced no lasting benefit after participants stopped wearing them. They gave symptomatic relief while they were worn, but they didn't improve capillary circulation in a lasting
Several other double-blind, placebo-controlled studies have also found benefits with oxerutins. Additionally, there is some evidence that troxerutin—one of the compounds in the standardized mixture sold as oxerutins—may be effective when taken alone, though perhaps not as effective as the standard mixture of oxerutins.

Oxerutins are closely related to the natural flavonoid rutin, which is found primarily in citrus fruits and buckwheat. Two double-blind, placebo-controlled studies suggest that buckwheat tea might also be effective against varicose veins, presumably because of its rutin content. Other citrus-derived bioflavonoids, such as diosmin, hesperidin, and hidrosmin, may also be effective. (See below the discussion of a combination treatment containing hesperidin methyl chalcone.)

For more information, including dosage and safety issues, see the full articles on Citrus Bioflavonoids and Oxerutins.

**OPCs**

Grape seed and pine bark contain high levels of special bioflavonoids called oligomeric proanthocyanidin complexes (OPCs). Similar substances are found in cranberry, bilberry, blueberry, hawthorn, and other plants.

OPCs are interesting antioxidant chemicals that appear to have the ability to improve collagen (a type of strengthening tissue found in many parts of the body), reduce capillary leakage, and control inflammation. Placebo-controlled studies (most of them double-blind) involving a total of about 500 participants suggest that OPCs provide significant benefit for varicose veins. For example, a double-blind study comparing grape seed OPCs against placebo in 71 individuals showed improvement in 75% of the treated group, as compared to 41% in the control group. Similarly, a 2-month, double-blind, placebo-controlled trial of 40 individuals with chronic venous insufficiency found that 100 mg 3 times daily of OPCs from pine bark significantly reduced edema, pain, and the sensation of leg heaviness. Another double-blind, placebo-controlled study of 20 individuals also found OPCs from pine bark effective. And finally, in a larger study, researchers randomized 98 people with chronic venous insufficiency and edema to receive pycnogenol (150 mg/day), pycnogenol (150 mg) plus elastic stockings, or elastic stockings alone. After 8 weeks, the two groups that included pycnogenol had improvements in their symptoms compared with group using only elastic stockings, and the combination of pycnogenol and stockings was associated with the best results of all.

In addition, evidence from small double-blind trials suggest OPCs might be more effective for venous insufficiency than either diosmin or horse chestnut.

For more information, including dosage and safety issues, see the full OPCs article.

**Gotu Kola**

There is significant scientific evidence for the effectiveness of the herb gotu kola in varicose veins/venous insufficiency.

A vacuum suction chamber has been used in some gotu kola studies to evaluate the rate of fluid leakage in venous insufficiency. It produces swelling when applied to the skin of the ankle. When leg veins are leaking a lot of fluid, this swelling takes longer to disappear.

In one study of people with venous insufficiency, 2 weeks of treatment with gotu kola extracts was shown to reduce the time necessary for the swelling to disappear.

A placebo-controlled study (whether it was double-blind was not stated) of 52 patients with venous insufficiency compared the effects of gotu kola extract at 180 mg daily and 90 mg daily against placebo. After 4 weeks of treatment, researchers observed improvement in various measurements of vein function in all treated patients, but not in the placebo group. They also found that the higher dose was more effective than the lower dose. This kind
of dose responsiveness is generally taken as good evidence that a treatment is actually effective.

Another study of double-blind design followed 87 people with varicose veins and compared the benefits of gotu kola at 60 mg and 30 mg daily against placebo. Again, the results showed improvements in both treated groups, but greater improvement at the higher dose.

A double-blind study of 94 people with venous insufficiency of the lower limb compared the benefits of gotu kola extract at 120 mg daily and 60 mg daily against placebo. The results also showed a significant dose-related improvement in the treated groups in symptoms such as subjective heaviness, discomfort, and edema.

A 1992 review of all the gotu kola studies available concluded that gotu kola extract provides a dose-related improvement in venous insufficiency symptoms, reducing foot swelling, ankle edema, and fluid leakage from the veins.

For more information, including dosage and safety issues, see the full Gotu Kola article.

Red Vine Leaf

Extracts of red vine leaf (Folia vitis viniferae, or grape leaf) have also been tried as a treatment for chronic venous insufficiency. One 12-week, double-blind, placebo-controlled study followed 219 individuals with chronic venous insufficiency. In this study, daily doses of 360 mg and 720 mg red vine leaf extract both proved significantly more effective than placebo in reducing edema as well as improving pain and other symptoms. The researchers concluded that the higher dosage resulted in a slightly greater, more sustained improvement. Benefits were also seen in a much smaller study.

The usual dose of red vine leaf is 360 mg or 720 mg taken once daily.

In the double-blind study just described, side effects were largely limited to mild gastrointestinal distress and occasional reports of headaches. Blood tests and physical examination did not reveal any harmful effects. However, comprehensive safety studies have not yet been performed, and red vine leaf is not at present recommended for pregnant or nursing women, or individuals with severe liver or kidney disease.

Butcher's Broom

Butcher's broom (Ruscus aculeatus) is so named because its branches were a traditional source of broom straw used by butchers. This Mediterranean evergreen bush has a long history of traditional use in the treatment of urinary conditions. More recent European interest has focused on the possible value of butcher's broom in the treatment of hemorrhoids and varicose veins.

A well-designed and reported double-blind trial evaluated the effectiveness of a standardized butcher’s broom extract in 166 women with chronic venous insufficiency. For a period of 12 weeks, participants received either placebo or butcher’s broom (one tablet twice daily containing 36.0 to 37.5 mg of a methanol dry extract concentrated at 15-20:1). The results showed that leg swelling (the primary measurement used) decreased significantly in the butcher’s broom group as compared to the placebo group.

Similar results were seen in a 12-week, double-blind, placebo-controlled trial with 148 participants. Studies of a combination treatment containing butcher's broom are mentioned below.

For more information, including dosage and safety issues, see the full Butcher's Broom article.

Other Proposed Natural Treatments
At least 20 double-blind, placebo-controlled studies have evaluated the efficacy of a popular European treatment containing butcher’s broom extract combined with the bioflavonoid hesperidin methyl chalcone as well as vitamin C. Although not all studies were positive, and many suffered from design flaws, in general it appears that this combination treatment is more effective than placebo.

A substance extracted from pig intestines known as mesoglycan has been investigated in Italy as a remedy for varicose veins and related conditions. In the best of the reported trials, 183 individuals with leg ulcers due to poor vein function were treated with either placebo or mesoglycan (first by injection and then orally) for 24 weeks. The results of this double-blind study suggest that mesoglycan significantly improved the rate at which the leg ulcers healed.

The bark of the tree of *Mimosa tenuiflora* is used in Mexico to treat skin problems. One small double-blind, placebo-controlled study hints that use of a gel containing Mimosa tenuiflora extract might also help heal such vein-related leg ulcerations.

Bromelain is not actually a single substance, but rather a collection of protein-digesting enzymes found in pineapple juice and in the stems of pineapple plants. Although there is no direct evidence on its use for varicose veins, bromelain has anti-edema effects similar to treatments used for varicose veins, suggesting that it might be helpful.

The herb collinsonia, or stone root, has a long traditional history of use as an oral treatment for varicose veins and hemorrhoids, but it has not been scientifically evaluated to any meaningful extent. The same is true for topical witch hazel, comfrey and calendula.

*Balneotherapy*, which involves the use of aqueous spa treatments such as warm and cold baths, mud packs, saunas, and steam baths, has been promoted for the treatment of varicose veins. A small randomized French trial found that 4 daily balneotherapy sessions for 3 weeks could significantly improve skin changes and quality of life in subjects with moderate to severe varicose veins compared to a group waiting to undergo the therapy.

For a discussion of homeopathic approaches to venous insufficiency, see the [Homeopathy] database.

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