
Treatment of Spider Veins of the Leg

By Primepares G. Pal, M.D., Jacqueline S. Pal, CNP, and Connie Milder, R.N.

Spider vein telangiectasias and small reticular veins of the legs are a common cosmetic problem affecting about 40% of women and about 15% of men in the United States. Superficial venous pathology of the lower extremities can be classified as either small or large vessel disease. Small vessel disease is comprised of spider veins, or telangiectasias, and reticular veins. Spider veins are small, thin veins that appear as clusters of red, blue or purple veins. Reticular veins are slightly larger veins measuring 1-3 mm in diameter, and are generally seen beneath the skin as “blue veins.”

Large vessel disease refers to surface varicose veins, incompetent truncal veins (great saphenous or small saphenous veins) and incompetent nontruncal veins (tributaries and perforators). An important distinction between treatment of large and small vessels is the fact that large vessel treatments are often regarded as a medical necessity and are billed for insurance compensation. Small vessel treatments are considered, typically, as elective cosmetic procedures.

TREATMENT APPROACH

A general history and physical examination should be performed on all patients. A more detailed history of pre-existing venous and arterial disease, vascular events and prior treatments should be recorded. The examination should note the type and size of venous pathology and the presence of venous reflux or incompetent valves. The detection of reflux or incompetent valves is facilitated by the use of ultrasound or a continuous wave handheld Doppler. Photographs may be useful in documenting pre-existing scars and skin lesions, and to document the progress of treatment.

Large varicose veins showing reflux must be addressed first. By managing refluxing vessels first, complications such as dyspigmentation, telangiectatic matting and spider vein treatment failure are minimized. In cases of saphenous vein incompetence, endovenous ablation techniques may be required. Branch varicose veins can be treated with ambulatory phlebectomy (AP) or sclerotherapy. AP allows treatment of virtually all large varicose veins, while sclerotherapy can be used to treat varicose and reticular veins.

After treatment of incompetent truncal veins, large varicose and reticular varicose veins, attention may then be turned to treatment of telangiectasias. Patients without underlying larger vessel valvular incompetence may have sclerotherapy or laser/light therapy as their primary treatment.

LASER- AND LIGHT-BASED TREATMENTS

Laser therapy is particularly useful for the treatment of small spider veins or telangiectasias (<0.5 mm), and in the treatment of telangiectatic matting resulting from sclerotherapy. It can also be used in the treatment of larger spider and reticular veins; however, sclerotherapy remains the gold standard for treatment of these vessels. Ideal candidates for laser treatment of leg veins have undergone appropriate surgery or sclerotherapy for the treatment of varicosities and reticular veins, as well as sclerotherapy to clear the majority of superficial vessels.

Laser therapy of leg veins may be considered as primary treatment in patients who are needlephobic, who are allergic to sclerosants, are prone to telangiectatic matting and who have vessels too small to cannulate. Relative contraindications include pregnancy, tanned skin, a history of photosensitivity disorder and keloidal scarring.

Numerous laser and light-based systems are available for treatment of leg veins. The discussion of each specific system is beyond the scope of this article. For a laser to be useful in vein treatment, it must be capable of selective thermal damage to a specific tissue target while minimizing collateral tissue injury. In general, lasers with shorter wavelengths are more effective treatment of small, reddish telangiectasias that do not extend beyond the papillary dermis, and longer wavelengths are more effective for the treatment of deeper, blue telangiectasias and reticular veins. Intense pulsed-light systems, devices that emit noncoherent light with wavelengths between 500 and 1200 nm, have also been reported for the treatment of leg veins; however, results have been variable.

In general, small telangiectasias often disappear at the time of treatment. Larger telangiectasias and reticular veins typically do not disappear at the time of treatment, but will gradually improve over the course of several months. While complications are infrequent, they may include epidermal damage, thrombosis, hyperpigmentation, matting and incomplete clearance.

SCLEROTHERAPY

Sclerotherapy is an injection technique that is highly effective and is probably the primary treatment of choice of telangiectasias and reticular veins. The goal is to injure the vessel wall with a chemical solution to cause irreversible endothelial

See Page 16

The Minnesota Vein Center specializes in the treatment of varicose veins and spider veins.

Continued from Page 10

destruction, leading to fibrosis and obliteration. Even though telangiectasias may be accompanied by symptoms such as pain and burning, it's often the very appearance of the telangiectasias that disturbs the patients enough to seek medical advice. Sclerotherapy not only offers the possibility of remarkably good cosmetic results, but also has been reported to yield an 85% reduction in symptoms.

Sclerotherapy of small vessels is generally done with liquid preparations, although "foam" preparations, used to treat large and small varicose veins, may also be injected. Several sclerosants are commercially available. Sodium tetradecyl sulfate, polidocanol and hypertonic saline are the agents most commonly used to treat leg veins. Chromated glycerin is another effective agent for telangiectasias. The selection of solution, concentration and volume is dictated by the type and site of venous disorder. FDA approval has been granted only for sodium tetradecyl sulfate (sotradecol) and sodium morrhuate. However, sodium morrhuate is best avoided due to unacceptable risk of allergies and tissue necrosis. Contraindications to sclerotherapy include coagulopathies, pregnancy, history of recurrent deep venous thrombosis and immobility. Treatment is often postponed for women who are breastfeeding.

Serious medical complications are extremely rare, although they may occur. These include DVT, thrombophlebitis, anaphylaxis and skin injury with mild scarring. Common cosmetic complications include hyperpigmentation, matting and trapping of blood. As a general rule, higher concentrations may result in more matting. More rapid vessel destruction associated with excessive thrombosis and pigmentation may occur when higher concentrations are used to treat vessels >0.4 mm in diameter. The occurrence of thrombi or "trapped" blood is a common event and can lead to a great deal of patient concern. Spontaneous resolution may occur, but often, the phlebologist will employ an 18G needle to release the "trapped" blood.

After each treatment, the veins will appear lighter, but several sessions may be needed to provide about 80% improvement. Patients who present with small numbers of untreated telangiectasias generally enjoy more rapid results, require fewer treatments and develop less matting, whereas those with extensive telangiectasias will require more treatments. Maximal response to a treatment may take four to six weeks or longer.

Compression dressings and hosiery have generally been advocated for treated veins of all sizes in order to reduce pigmentation and thrombosis, and to produce longer lasting results.

The treatment of telangiectasias and reticular veins is more an art than a science. The choice of any specific or combination of treatments can produce a wide and often unpredictable range of responses. By following guidelines such as the above, the variability in treatment outcomes is limited. ■