Basic Phlebology Course
Sclerotherapy of Reticular Veins and Telangiectases: How I Do It

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Introduction

Successful treatment of reticular veins and telangiectases combines aspects of a systematic scientific approach as well as being an art form. It is important to detect associated saphenous reflux, including incompetent saphenous tributaries, as well as treating all visible veins. Using the correct strength and amount of sclerosant is also vital. Post-treatment compression is effective at improving the outcome. Managing the patient's expectations as well as progress of treatment is important.

Assessment of the patient

Almost all patients are suitable for treatment of reticular varices and telangiectases affecting the lower limbs. I advise patients who have had a previous DVT and who suffer post-phlebitic syndrome that the treatment is likely to have limited efficacy and there is a small risk of precipitating a DVT. Where there is a clear history of allergy to sclerosants injected for the treatment of telangiectases, these should be identified and avoided in order to prevent an anaphylactic reaction.

Clinical examination may reveal large varices as well as small veins affecting the lower limbs. Incompetence of saphenous trunks and tributaries often gives rise to thread veins affecting the anatomical region of distribution of the saphenous vein, with few telangiectases in other areas. The saphenous trunk and varices should be treated first, before any attempt is made to cure the telangiectases.

I always investigate the lower limbs using duplex ultrasonography before embarking upon treatment of telangiectases. Significant saphenous truncal incompetence may be present without clinically obvious varices. Again, this should be managed (usually by foam sclerotherapy) before treatment of associated reticular veins and telangiectases is attempted.

Information for the patient.

I provide written information describing the likely progress and outcome of treatment. This mentions that a course of treatment will be required necessitating a number of sessions of treatment at intervals of 2 or more weeks. The use of compression stockings is recommended for several days after each treatment. Possible adverse outcomes include skin pigmentation and injection ulcers. I don't currently mention DVT or anaphylaxis as possible complications of this treatment. I do mention that the development of further telangiectases is likely in the longer term.

Equipment required for sclerotherapy.

In the management of telangiectases and reticular varices I normally use polidocanol (Sclerovein, Resinag AG, Zug, Switzerland) 0.5%. I usually inject this (as a liquid) using 2 ml syringes and a 30 or 32 g needle. I temporarily apply dental rolls at injection sites and use PehaHaft (Hartmann, Germany) bandages is these are needed. My standard form of post-treatment compression is a class 2 (European) medical compression stocking (LegLine 30, Saltzmann AG, St Gallen, Switzerland).

Strategy for treatment.

I always persuade patients that they should lie supine or recumbent during treatment on a comfortable examination bed with electrical controls under a good, diffuse light. This minimises the risk of syncope during treatment, a problem that I have seen rarely following sclerotherapy. I don't apply any anti-septic to the skin before injection. There is no evidence from general research on this subject that this prevents infection and only very rarely have I seen any infective process arise from sclerotherapy.

I usually start in the most severely affected region and start by injecting the reticular varices. I ensure that the needle is in the vein by aspirating a small amount of blood before injecting the sclerosant. These veins usually lie 1 – 3 mm beneath the skin. For treating reticular varices I use 0.5% polidocanol and inject 0.1 – 0.25 ml into each vein. I inject at intervals of about 5 cm and try to ensure that every reticular vein beneath a particular area has been treated. I aim to inject all of one side of the leg or thigh visible without the patient changing position.

Then I use either a 30 or 32 g needle to inject the telangiectases in the same region. Sometimes they have already been filled with sclerosant and are showing a red inflammatory process. This indicates that they may have been treated sufficiently and I don't re-inject them. At each point I aim to inject 0.05 – 0.1ml of sclerosant so that a region of up to 2 – 3 cm in diameter fills with sclerosant. These vessels lie more superficially than the reticular varices, lying within the skin necessitating an intra-dermal injection technique. Following injection, I apply pressure with a dental roll taped to the skin or with cotton wool or clean paper to minimise post-sclerotherapy bleeding.

When all the reticular varices and telangiectases have all been filled with sclerosant in the accessible area of the leg, I move onto another region, repositioning the patient if necessary and repeat the process. The number of veins and area of the limb which can be treated in a single session depends on the experience of the operator and tolerance of the patient to the treatment. I usually tell patients that it will take between 3 and 12 sessions of treatment to achieve a satisfactory result depending on whether they have few veins or very extensive veins.

At the end of the treatment session I remove all adhesive tape and dental rolls before applying compression. I avoid applying compression over adhesive tape since this may result in traction blisters in the skin. In addition, compression pads worn beneath stockings look rather odd! I usually use thigh-length class 2 compression stockings worn for 3 days. In a few patients I use PehaHaft short stretch cohesive bandages. This is useful when treating larger reticular varices eg those with diameters of 2 – 3 mm, and in a few patients who have telangiectases that appear reluctant to disappear. I advocate bandaging in these patients for 3 days.

At subsequent treatment sessions I assess progress visually. My preferred time interval between treatments in the same anatomical region is 2 weeks, although patients with extensive bilateral varices may be treated weekly by injecting alternate legs. Sometimes larger reticular veins contain excessive

retained thrombus which can be aspirated with a 21 or 25g needle. Usually I find removal of thrombus unnecessary in the treatment of reticular varices since this is rapidly reabsorbed from most veins. I search the treated regions for residual reticular veins and telangiectases, treating any surviving veins by further sclerotherapy.

Post-treatment problems

Skin pigmentation

This is a problem which may arise in up to one quarter of patients, and most commonly affects those with skin types III – V. This may be caused by using excessive concentrations or doses of sclerosant or allowing thrombus to remain in veins close to the skin in susceptible patients. Compression bandaging may be helpful in minimising this problem. Once pigmentation has developed I know of no way of speeding its disappearance which may take a few weeks or many months. However, I have not found any patient where it has become permanent.

Injection ulcers

These can take a number of different forms. In one type, a red lump 5 – 10 mm dia develops in the region of treatment after about 2 weeks and breaks down into an ulcer which slowly increases in size up to 1-2 cm. They can usually be treated successfully with antibiotics at the ‘red lump’ stage.

In another type an unhealthy region of skin develops immediately at an injection site and slowly breaks down to form a small ulcer 1-5 mm dia. These are presumably due to injecting the arterial part of the circulation in the skin whilst treating telangiectases. Healing takes place over a few weeks. Some practitioners treat these ulcers with antibiotics.

If a small artery is inadvertently injected during treatment of reticular varices, then an acute inflammatory response develops in the adjacent skin over a few hours. The area affected may be 2 – 15 cm in diameter. This is followed by pain and inflammation in the region associated with necrosis of the underlying fat. The acute stage is best treated with high doses of steroids for several days. Unless large amounts of sclerosant have been injected the inflammatory process subsides and healing progresses slowly over several months. In cases where large volumes (>0.5 ml) have been injected, skin necrosis may arise necessitating excision of the affected skin.

Poor resolution of telangiectases.

In most patients, systematic treatment of reticular veins and telangiectases will result in resolution of the veins after a small number of treatment sessions. In some patients progress is poor or minimal! In these patients I carefully re-evaluate the limb to see if I have missed saphenous incompetence or varices in saphenous tributaries. I ensure that all reticular varices have been treated in the areas associated with telangiectases. In some patients it is helpful to try to identify the reticular veins using skin transillumination using, for example, a ‘VeinLite’ system. I also use ultrasound imaging with a high resolution probe (12MHz linear array) to identify small veins which may contribute to the problem. Veins of 0.5-1 mm can be injected under ultrasound guidance after some practice!

The outcome of treatment may be improved by the immediate application of firm, short stretch compression bandages (rather than stockings) for 3 days following treatment.

Telangiectatic matting.

A region of ‘pinkness’ may develop in a region previously treated by sclerotherapy for telangiectases. Careful examination shows that this is attributable to many fine telangiectases in this area. This may develop in an area where the reticular veins have not been obliterated before treating telangiectases. It many also arise if excessive amounts or strengths of sclerosant have been used. It arises after treatment with polidocanol, but can appear following treatment with any sclerosant. If a region is treated too frequently this problem may also develop.

If I see this problem I usually avoid treating the affected area for 1 – 3 months to allow the veins to disappear spontaneously. Following this, further sclerotherapy to the telangiectases using a low volume of sclerosant will usually achieve resolution of the problem.

DVT, severe allergy, visual disturbance.

I have rarely seen DVT after sclerotherapy for telangiectases but it does occur, presumably in those patients with unsuspected thrombophilia. I have never seen anaphylaxis following sclerotherapy but expect it daily! I have adrenaline and other resuscitation drugs available in my clinics. Visual disturbance occurs in a few patients after sclerotherapy for telangiectases and is a benign condition. It will resolve without treatment in 30-60 minutes but patients must not drive whilst affected.

Later follow-up and recurrence.

The strategy I have outlined above will lead to resolution of the veins in most patients but after 1-5 years recurrence is invariable. At this stage, I start again with clinical and ultrasound examination since some patients develop saphenous varices with the passage of time. In general, subsequent sessions of sclerotherapy are as effective in managing the veins as the initial treatment.