Will 2019 see the fading out of traditional varicose vein surgery?

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⇨**IN RECENT YEARS** there has been a considerable change in surgical practice in the field of varicose veins surgery. The original methods of treatment date back more than 2,000 years, but were improved in 1905 and 1908 by the introduction of 'varicose vein stripping' – in which the diseased veins were removed in their entirety. The treatments were performed under general anaesthesia, leading to significant post-operative pain and a recovery period of about one month. The long-term outcome of treatment was satisfactory.

In the past 15 years a number of new treatments have been introduced which can be accomplished under local anaesthetic. They include thermal ablation methods, where a tube is passed along the diseased vein for a distance of 20-50cm. The tube contains a heating method, which may be a laser fibre optic, an electrically-heated catheter or used to deliver super-heated steam. The vein is anaesthetised and the heat applied to destroy it without removing it.

An improved method of injecting varicose veins, known as 'ultrasound guided foam sclerotherapy', has been popularised. In this method, injections of foam created from a sclerosant drug are made into the diseased saphenous veins and associated varices under ultrasound guidance. Local anaesthesia is not required for this treatment except at the point of injection.

The efficacy of these treatments is very similar and comparable to the ability of surgery to treat varicose veins. The main difference is that those treatments have a greatly reduced post-operative recovery time compared to 'stripping' operations, with most patients experiencing little post-treatment discomfort. Return to work is usually with 1-3 days, in contrast to much longer periods of recovery following surgery.

The National Institute for Health and Care Excellence (NICE) publishes advice on which treatments are accepted as safe and effective for use in the NHS. NICE Clinical Guideline 168 (July 2013) offers advice on the relative efficacy of modern treatments. Thermal ablation methods are recommended as the first-line treatment, if it is feasible to use one of those techniques. Otherwise, ultrasound guided foam sclerotherapy is recommended.

Where none of the modern methods of treatment is considered to be feasible, conventional surgery is recommended. The information confirms that all currently-used treatments are acceptable forms of management, but emphasis is placed on the modern methods which permit rapid recovery and avoid complications associated with conventional surgical treatment.

Changes in practice

Detailed information on NHS treatments is collected and published as Hospital Episode Statistics. In 2000 almost all patients with varicose veins were managed surgically. In 2014/2015 32,700 treatment episodes were provided: of those, surgical treatment was used in 23%. Thermal ablation procedures were used in half of all treatments and foam sclerotherapy in 18% – some in combination with thermal ablation methods.

In 2016 the Health and Social Care Information Centre published the results of a study on patient reported outcome measures (PROMs) amongst varicose veins patients. PROMs have become the main outcome measure of treatments provided by the NHS – and many healthcare providers in other countries. They provide an estimate of efficacy of treatments for conditions which curtail lifestyle rather than life expectancy. In general, similar results were obtained from all treatments, although slightly more patients reported improvement after surgical treatment than the less invasive treatments.

The complications reported by patients were also studied, including wound problems and bleeding. In all, 31% of patients reported one or more complications after surgery, 16% after thermal ablation and 11% following foam sclerotherapy. That reinforces the view from earlier work that surgical treatment is associated with a higher level of post-operative complications than the more modern treatments.

Implications for clinical practice: what can go wrong?

The increasing complexity of modern methods of varicose veins treatment means they require substantially different surgical skills compared to varicose vein stripping techniques; and some surgeons may still be in the conversion phase of their training. Modern treatments require skills in ultrasound imaging and ultrasound guided injection. Not all vascular surgeons have so far achieved full competence in these areas.

Adverse events after surgery include: wound problems (bleeding, infection, healing, scars), post-operative pain and bruising, damage to adjacent structures (cutaneous nerves, motor nerves, major arteries and veins, lymphatic vessels) and problems related to general anaesthesia. As noted above, a study of patient reported outcomes recorded the greatest frequency of adverse events following surgical treatment.

Given that NICE guidance indicates that the first-line treatments are thermal ablation and foam sclerotherapy, I consider there can be little justification for using surgical stripping of varicose veins: a treatment devised in the first decade of the 20th century. In the past decade I have found that, in all cases of varicose veins that I have treated, surgery was not required to achieve a good outcome.

I have advised a number of patients who have experienced significant adverse events following surgical treatment of varicose veins. The nerves at the back of the knee are at risk of damage during treatment of varicose veins arising in this anatomical region. The veins run very close to the nerves and care has to be taken to avoid accidentally cutting or removing the nerve in mistake for a vein. I have advised claimants who have suffered partial paralysis of the limb following surgical errors of that type.

In the groin region, where the veins run close to the lymphatic vessels which drain interstitial fluid from the limb, surgical exploration of the region in order to remove varicose veins may damage the lymphatic vessels. That may lead to a number of complications following surgery, including a leak of lymph (clear fluid) from the groin incision or a cystic accumulation of fluid in the groin, which can be felt as a lump or swelling in the groin. In addition, lymphoedema (permanent swelling of the limb) may occur when major lymphatic vessels have been damaged during surgical treatment.

I have advised two claimants who suffered severe and extensive infections of the limb following surgical intervention. Protracted infection led to a long recovery period and permanent and extensive scarring of the affected limb.

In the longer term, recurrence of varicose veins may also occur. That is a problem common to all varicose veins treatments. However, a particular instance is varicose veins which have recurred after surgical treatment. A number of publications show that poor results with early recurrence occur when surgery is used as the treatment in this type of varicose vein. However, when ultrasound-guided foam sclerotherapy is used, the frequency of recurrence is the same as that for veins which have never been treated.

The complications mentioned above are almost completely avoided by the modern endovenous treatments. Since NICE has advocated these as first-line treatments, I consider that, where patients have received surgical interventions and suffered serious adverse events, these may be attributable to substandard care. ❑

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The British Vein Institute

19 years

Defendant instructions
Claimant instructions
Single joint expert
Court experience

Areas of experience:

- Surgery of veins and arteries
- Sclerotherapy & laser ablation of varicose veins
- Varicose veins
- Deep vein thrombosis
- Pulmonary embolism
- Leg ulcer
- Lymphoedema
- Peripheral ischaemia
- Injury to blood vessels
- Medical negligence and personal injury

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