NICE guidance

Endovenous laser treatment of the long saphenous vein

Interventional procedures guidance
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Your responsibility

This guidance represents the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take this guidance fully into account, and specifically any special arrangements relating to the introduction of new interventional procedures. The guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the Yellow Card Scheme.

Commissioners and/or providers have a responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with

those duties. Providers should ensure that governance structures are in place to review, authorise and monitor the introduction of new devices and procedures.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

1 Guidance

1.1 Current evidence on the safety and efficacy of endovenous laser treatment of the long saphenous vein appears adequate to support the use of this procedure provided that the normal arrangements are in place for consent, audit and clinical governance. Current evidence on the efficacy of this procedure is limited to case series with up to 3 years follow-up. Clinicians are encouraged to collect longer-term follow-up data.

2 The procedure

2.1 Indications

2.1.1 Varicose veins are a sign of underlying venous insufficiency and affect 20% to 30% of adults. Long saphenous vein insufficiency is the most common form of venous insufficiency in people presenting with symptoms.

2.1.2 People with venous insufficiency may have symptoms of fatigue, heaviness, aching, throbbing, itching and cramps in the legs. Chronic venous insufficiency can lead to skin discolouration, inflammatory dermatitis, cutaneous infarction and ulceration in some patients.

2.1.3 Endovenous laser treatment is a minimally invasive alternative to surgical stripping of the long saphenous vein, which is an important part of the most common operation for varicose veins.

2.2 Outline of the procedure

2.2.1 Under ultrasound guidance and local anaesthesia, a catheter is placed into the long saphenous vein. A laser fibre is passed through it and positioned below the saphenofemoral junction. An anaesthetic agent is then injected, and the fibre is slowly withdrawn while energy from a diode laser (810 nm or 940 nm wavelength) is applied in short pulses. This is repeated along the entire length of the vein until the long saphenous vein is closed from the saphenofemoral junction to the point of access.

2.3 Efficacy

2.3.1 The evidence for efficacy was based on five case series. In these studies, the mean follow up ranged from 1 to 17 months. Saphenous vein closure rates were between 90% and 100%. One study reported a closure rate of 93.4% in patients followed up for 2 years (113 out of 121 veins), and in 40 patients who were followed up for 3 years, no new recurrences were reported. For more details, see the overview.

2.3.2 Opinion varied among the Specialist Advisors as to the efficacy of the procedure. One Advisor stated that short-term results were favourable but that long-term results were still unknown. A second Advisor commented that durability of the procedure had been established, at least in the medium term, while a third Advisor felt that efficacy had not yet been established.

2.4 Safety

2.4.1 The most common complications reported in the studies were pain and bruising. In a case series report of 423 patients, 90% (381) of patients reported feeling tightness along the limb and 24% (102) of patients experienced bruising; this resolved within 1 month after treatment. Phlebitis was also reported in between 5% (21 out of 423) and 12% (10 out of 85) of patients. For more details, see the overview.

2.4.2 The Specialist Advisors listed the potential complications as sensory loss, skin burns and perforation of deep veins. One Advisor stated that endovenous laser treatment had fewer complications than standard surgical treatment, whereas another Advisor believed that the complication rate was unknown.

2.5 Other comments

2.5.1 It was noted that although the procedure may be effective in occluding the vein, few studies have reported on patient-orientated outcomes, such as improvement in symptoms.

3 Further information

3.1 A randomised controlled trial is currently under way.

Sources of evidence

The evidence considered by the Interventional Procedures Advisory Committee is described in the overview.

Information for patients

NICE has produced information for the public on this procedure. It explains the nature of the procedure and the guidance issued by NICE, and has been written with patient consent in mind.

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Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.