NICE guidance

Endovenous laser treatment of the long saphenous vein

Interventional procedures guidance
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www.nice.org.uk/guidance/ipg52

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 20–30% 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 An anaesthetic agent is then injected, and the fibre is slowly withdrawn while energy from a diode laser (810 nm or 940 nm wavelength) is applied in short pulses.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 (113/121 veins), and in 40 patients who were followed up for 3 years, no new recurrences were reported. For more details, refer to the Sources of evidence section.

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% (21/423) and 12% (10/85) of patients. For more details, refer to the Sources of evidence section.

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.

Andrew Dillon
Chief Executive
March 2004

Sources of evidence

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

'Interventional procedure overview of endovenous laser treatment of the long saphenous vein', April 2003.

Information for patients

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

4 About this guidance

NICE interventional procedure guidance makes recommendations on the safety and efficacy of the procedure. It does not cover whether or not the NHS should fund a procedure. Funding decisions are taken by local NHS bodies after considering the clinical effectiveness of the procedure and whether it represents value for money for the NHS. It is for healthcare professionals and people using the NHS in England, Wales, Scotland and Northern Ireland, and is endorsed by Healthcare Improvement Scotland for implementation by NHSScotland.

This guidance was developed using the NICE interventional procedure guidance process.

We have produced a summary of this guidance for patients and carers. Information about the evidence it is based on is also available.

Changes since publication

28 January 2012: minor maintenance.

Your responsibility

This guidance represents the views of NICE and was arrived at after careful consideration of the available evidence. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. This guidance does not, however, override the individual responsibility of healthcare professionals to make appropriate decisions in the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way which would be inconsistent with compliance with those duties.

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Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.