NICE guidance

Percutaneous endoscopic laser thoracic discectomy

Interventional procedures guidance
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www.nice.org.uk/guidance/ipg61

1 Guidance

1.1 Current evidence on the safety and efficacy of percutaneous endoscopic laser thoracic discectomy does not appear adequate for this procedure to be used without special arrangements for consent and for audit or research.

1.2 Clinicians wishing to undertake percutaneous endoscopic laser thoracic discectomy should take the following action.

- Inform the clinical governance leads in their Trusts.
- Ensure that patients understand the uncertainty about the procedure's safety and efficacy and provide them with clear written information. Use of the Institute's information for the public is recommended.
- Audit and review clinical outcomes of all patients having percutaneous endoscopic laser thoracic discectomy.

1.3 Further research will be useful in reducing the current uncertainty and clinicians are encouraged to collect longer-term follow-up data. The Institute may review the procedure upon publication of further evidence.

2 The procedure

2.1 Indications

2.1.1 Percutaneous endoscopic laser thoracic discectomy is used to treat symptomatic thoracic disc herniation. This occurs when a portion of the intervertebral disc protrudes into the spinal canal and impinges on a nerve root. Symptoms include back pain, radicular pain, nondermatomal leg pain, bladder dysfunction and lower extremity weakness. If left untreated, serious neurological sequelae may occur.

2.1.2 Standard discectomy for thoracic disc herniation may be either by open posterolateral or anterior approaches. A percutaneous endoscopic approach may lessen the morbidity associated with the procedure by allowing access and visualisation of the anterior and lateral aspects of the disc. The choice of approach will depend upon the characteristics of the disc herniation and the surgeon's experience with the above techniques.

2.2 Outline of the procedure

2.2.1 Percutaneous endoscopic laser thoracic discectomy is usually done under local anaesthesia through a small incision in the back, using X-ray monitoring. A needle is introduced into the centre of the affected intervertebral disc. A guidewire is passed through the needle, followed by small instruments, which are used to remove some disc material. A Holmium–YAG laser is then introduced and laser energy is used to destroy more of the disc. Debris is removed by surgical instruments. The patient's neurological status is monitored throughout.

2.3 Efficacy

2.3.1 No controlled studies were identified. The studies identified provided little detail of study design and outcomes. In one study 96% (96/100) of patients reported 'good-to-excellent results/symptomatic relief', but the meaning of this was not defined. The average time to return to work in this study was 10 days. For more details, refer to the 'Sources of evidence' section.

2.3.2 One Specialist Advisor commented that there was no evidence to support the efficacy of the procedure, and that the procedure was difficult to master.

2.4 Safety

2.4.1 No operative or postoperative complications were reported in the studies identified. However, these studies provided little detail of study design and outcomes.

2.4.2 One Specialist Advisor considered that this procedure had the potential for serious neurological complications, and was concerned about risks to patients while surgeons learnt the procedure. This Advisor also thought that the procedure could result in nerve injury.

2.5 Other comments

2.5.1 This decision relates to the procedure when used in isolation (for example, to treat degenerative disc disease). No judgement is made regarding the use of this procedure as part of a larger operation, such as the treatment of scoliosis.

2.5.2 Appropriate patient selection for this procedure is important and may be difficult.

Andrew Dillon
Chief Executive
May 2004

3 Further information

Sources of evidence

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

'Interventional procedure overview of percutaneous endoscopic laser thoracic discectomy', October 2002.

Information for patients

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

4 Changes since publication

The guidance was considered for reassessment in October 2009 and it was concluded that NICE will not be updating this guidance at this stage. However, if you believe there is new evidence which should warrant a review of our guidance, please contact us.

28 January 2012: minor maintenance.

5 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.

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.