NICE guidance

Non-surgical reduction of the myocardial septum

Interventional procedures guidance
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www.nice.org.uk/guidance/ipg40

1 Guidance

1.1 Current evidence on the safety and efficacy of non-surgical reduction of the myocardial septum appears adequate to support the use of the procedure, provided that normal arrangements are in place for consent, audit and clinical governance.

1.2 The procedure should only be performed in specialist units by clinicians who have had adequate training in the technique. The British Cardiovascular Intervention Society has agreed to produce standards for training.

2 The procedure

2.1 Indications

2.1.1 Non-surgical reduction of the myocardial septum is used to treat outflow tract obstruction in patients with hypertrophic obstructive cardiomyopathy (HOCM). Patients with HOCM have abnormally thickened heart muscle, which narrows the outflow tract from the left ventricle, often causing chest pain, breathlessness, palpitations and fainting spells. There is an increased risk of sudden death from heart attacks or abnormal heart rhythms.

2.1.2 Most patients with HOCM are treated with medication. More invasive treatments may be considered in patients who still get symptoms despite drug treatment. The standard surgical treatment is ventricular septal myotomy-myectomy, using an open surgical technique that requires cardiopulmonary bypass.

2.2 Outline of the procedure

2.2.1 Non-surgical reduction of the myocardial septum does not require open chest surgery or cardiopulmonary bypass. It involves inserting a catheter into the femoral artery and passing it up into the heart under X-ray control. Alcohol is injected into an artery that supplies blood to the septum. This destroys a part of the muscle in the septum, which then becomes thinner.

2.3 Efficacy

2.3.1 The studies showed that non-surgical reduction of the myocardial septum is efficacious in the short term. In three non-randomised studies, the mean reduction in gradient across the left ventricular outflow tract (LVOT) ranged from 22 mmHg to 42 mmHg, and compared favourably to the mean reduction in LVOT gradient for open surgery. The studies also reported reduced numbers of patients suffering from severe breathlessness and fainting spells after treatment. There is, however, a

lack of long-term follow-up. For more details, refer to the 'Sources of evidence' section.

2.3.2 The Specialist Advisors considered the procedure to be an established alternative to surgical relief of outflow tract obstruction in patients with HOCM.

2.4 Safety

2.4.1 In the studies, the most commonly reported complication was the need for patients to have a pacemaker implanted permanently because of complete heart block following the procedure. In one non-randomised study of 41 patients, 9 patients (22%) required a permanent pacemaker. The same study reported one procedure-related death. For more details, refer to the 'Sources of evidence' section.

2.4.2 The Specialist Advisors cited a 10% risk of complete heart block, requiring patients to have a permanent pacemaker implanted after having the procedure. The Advisors considered the procedure to be safe when performed by experienced operators in specialist units with an established interest in HOCM.

2.5 Other comments

2.5.1 Skilled use of ultrasound is required to identify the blood supply to the hypertrophic myocardium, and thus control the infarct size.

2.5.2 Appropriate patient selection is essential.

Andrew Dillon
Chief Executive
February 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 non-surgical reduction of myocardial septum', November 2002.

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

30 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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Contact NICE

National Institute for Health and Clinical Excellence
Level 1A, City Tower, Piccadilly Plaza, Manchester M1 4BT

www.nice.org.uk
nice@nice.org.uk
0845 033 7780

Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.