National Institute for Health and Clinical Excellence

Haemorrhoidal artery ligation

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NICE interventional procedure guidance 342

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NHS Evidence has accredited the process used by the NICE Interventional Procedures Programme to produce interventional procedures guidance. Accreditation is valid for three years from January 2010 and applies to guidance produced since January 2009 using the processes described in the 'Interventional Procedures Programme: Process guide, January 2009' and the 'Interventional Procedures Programme: Methods guide, June 2007'

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Contents

1 Guidance

1.1 Current evidence on haemorrhoidal artery ligation shows that this procedure is an efficacious alternative to conventional haemorrhoidectomy or stapled haemorrhoidopexy in the short and medium term, and that there are no major safety concerns. Therefore this procedure may be used provided that normal arrangements are in place for clinical governance, consent and audit.

2 The procedure

2.1 Indications and current treatments

2.1.1 Haemorrhoids (piles) occur when the vascular anal cushions become enlarged. They may cause bleeding, itching or discomfort (grade I) and, if large, may prolapse out of the rectum. Haemorrhoids that prolapse may reduce (return into the anal canal) spontaneously after defaecation (grade II); they may need to be reduced digitally (grade III); or they may not be reducible, remaining continually prolapsed (grade IV).

2.1.2 Grade I or II haemorrhoids may be treated by diet modification and topical applications. Interventional treatments include rubber band ligation and sclerosant injections. Treatments for grade III and IV haemorrhoids include surgical excision of the haemorrhoids (haemorrhoidectomy) or stapled haemorrhoidopexy.

2.2 Outline of the procedure

2.2.1 Haemorrhoidal artery ligation reduces the blood flow to haemorrhoids, with the aim of reducing discomfort and bleeding. It also aims to achieve some shrinkage of haemorrhoids but adjunctive treatment is required for large prolapsing haemorrhoids.

2.2.2 The procedure is usually performed with the patient under general anaesthesia, and is normally carried out after an enema. Using a proctoscope, the haemorrhoidal arteries are ligated with sutures (above the dentate line) to remove the flow of blood to the haemorrhoids. A Doppler probe may be used to help locate the haemorrhoidal arteries. For larger prolapsing haemorrhoids, an adjunctive mucosal plication procedure is done. The prolapsing mucosa is plicated up to the level of the dentate line where it is fixed by ligation of the plicating sutures (haemorrhoidopexy).

Sections 2.3 and 2.4 describe efficacy and safety outcomes from the published literature that the Committee considered as part of the evidence about this procedure. For more detailed information on the evidence, see the overview.

2.3 Efficacy

2.3.1 In a systematic review of 17 studies with a total of 1996 patients, a subset of 6 studies with a follow-up of 1 year or more (850 patients treated by the procedure) reported bleeding, pain on defaecation, and prolapse in 10% (49/507), 9% (18/206) and 11% (46/427) of patients respectively. A subset of 9 studies with a follow-up of less than 1 year (855 patients treated by the procedure) reported bleeding and prolapse in 6% (40/638) and 8% (50/638) of patients respectively. The proportion of patients with preoperative bleeding, pain and prolapse ranged from 45% to 100%, 12% to 83% and 12% to100% respectively across the studies.

2.3.2 A randomised controlled trial (RCT) of 41 patients treated by the procedure or stapled haemorrhoidopexy reported symptom resolution in 78% (18/23) and 83% (15/18) of patients respectively at 6-week follow-up (p = not significant).

2.3.3 A case series of 616 patients treated by the procedure without Doppler guidance reported symptom resolution at 4-week follow-up in 96%, 98% and 96% of patients who had presented with bleeding, prolapse and pain on defaecation respectively (absolute figures not stated). In the same study, among 523 patients with 1-year follow-up, mean patient satisfaction score was 8.2 on a 10-point visual analogue scale (VAS). A case series of 330 patients reported resolution of symptoms at a mean follow-up of 46 months in 93% (132/142) of patients who presented with bleeding and 92% (110/119) of patients who presented with prolapse.

2.3.4 The Specialist Advisers listed key efficacy outcomes as less postoperative pain than other treatments, resolution of haemorrhoids, and relief of symptoms such as bleeding, prolapse, swelling, pain, soreness and itching in the short and long term.

2.4 Safety

2.4.1 Postoperative haemorrhage was reported in 3 of 1996 patients treated by the procedure in the systematic review (2 required blood transfusion and 1 developed coagulopathy, not otherwise described). Bleeding requiring readmission was reported in 4 patients in the case series of 616 patients (timing of events not stated). Immediate and delayed bleeding was reported in 4 and 3 patients respectively in the case series of 330 patients (1 case of immediate bleeding was due to laceration of a rectal polyp; 1 case of delayed bleeding required a further operation to stop the bleeding). Submucosal haematoma was reported in 1% (4/330) of patients in the case series of 330 patients (not otherwise described).

2.4.2 Postoperative haemorrhoid thrombosis was reported in 18 and 5 patients in the case series of 507 and 330 patients respectively (follow-up not stated). In a case series of 100 patients, thrombosis of residual haemorrhoids was reported in 3 patients at 4-, 7- and 17-month follow-up (patients had grade III haemorrhoids; 2 treated by thrombectomy, 1 treated by haemorrhoidectomy).

2.4.3 Postoperative fistula formation was reported in 1 patient in the case series of 507 patients (1-year follow-up).

2.4.4 Postoperative fissure was reported in 11 and 2 patients in the case series of 507 and 330 patients respectively (not otherwise described). Acute fissure (successfully managed by conservative treatment) was reported in 3 patients at 9-, 10- and 15-day follow-up and anal fissure was reported in 2 patients at 8- and 11-month follow-up in the case series of 100 patients (not otherwise described).

2.4.5 The RCT of 41 patients treated by haemorrhoidal artery ligation or stapled haemorrhoidopexy reported postoperative pain on a VAS (higher score indicates more pain; range not defined) as 1.6 and 3.2 respectively at 7-day follow-up ($p < 0.001$) and 0.2 and 1.0 respectively at 21-day follow-up ($p = 0.06$).

2.4.6 The Specialist Advisers considered theoretical adverse events to include infection, rectal perforation, pelvic abscess, anal stenosis, acute and chronic pain and faecal incontinence.

3 Further information

3.1 For related NICE guidance see our website.

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 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

4 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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