NICE guidance

Laparoscopic deroofing of simple renal cysts

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 laparoscopic deroofing of simple renal cysts is adequate to support the use of this procedure provided that normal arrangements are in place for consent, audit and clinical governance.

1.2 Patient selection for this procedure is important because most renal cysts do not cause symptoms and do not require treatment. Clinicians should take steps to predict whether deroofing is likely to relieve symptoms, usually by observing the effect of cyst aspiration. Laparoscopic deroofing should not be performed for renal cysts that are asymptomatic.

2 The procedure

2.1 Indications

2.1.1 Simple renal cysts typically have thin walls with no calcification, septation or enhancement shown on contrast studies. Solitary simple cysts are common and are often diagnosed incidentally. In the minority of patients who are symptomatic, pain is the most frequent complaint.

2.1.2 Symptomatic renal cysts can be managed with analgesic medication, needle aspiration (with or without administration of a sclerosant) and open surgical cyst deroofing if aspiration is unsuccessful at relieving symptoms in the long term. In some patients, a nephrectomy may be necessary. Asymptomatic cysts do not usually require any treatment.

2.1.3 Laparoscopic deroofing is not used if there is any suspicion of malignancy. The management of polycystic kidney disease is different from that of simple renal cysts and is therefore not addressed in this guidance.

2.2 Outline of the procedure

2.2.1 Laparoscopic deroofing of renal cysts is usually performed under general anaesthesia, using a retroperitoneal or transperitoneal approach. In the former, a small incision is made in the back and a dissecting balloon is inserted to create a space in the retroperitoneal tissues. In both approaches, carbon dioxide insufflation is used and small incisions are made to provide access for the laparoscope and surgical instruments. Ultrasonography may be used to help locate the cyst, which is usually aspirated, and part of the cyst wall is then excised. Fat or omentum may be interposed to prevent recurrence.

2.3 Efficacy

2.3.1 In a non-randomised controlled trial of patients with symptomatic simple renal cysts, pain recurred in all 5 patients treated with cyst aspiration and sclerotherapy at a mean follow-up of 17 months, whereas all 7 patients treated with laparoscopic deroofing were pain-free at a mean follow-up of 18 months.

2.3.2 In five case series of patients with symptomatic simple renal cysts (155 patients in total), the proportion of patients who were symptom-free ranged from 91% (41 out of 45) after a mean follow-up of 52 months to 100% (20 out of 20) after a mean follow-up of 6 months.

2.3.3 Four of these case series reported rates of cyst recurrence as 0% (0 out of 13) after 6 months, 13% (3 out of 23) after 34 months, 4% (2 out of 45) after 39 months and 19% (7 out of 36) after 67 months. For more details, see the overview.

2.3.4 Some Specialist Advisers expressed no concerns about efficacy. Others stated that there is a possibility that cysts may refill after the procedure. The Advisers

considered patient selection to be important because not all cysts cause symptoms.

2.4 Safety

2.4.1 Four studies of patients with simple renal cysts (91 patients in total) each reported one case of haemorrhage (overall incidence 4%). In two patients the cyst excision margin bled excessively; one case required conversion to open surgery but the other was controlled by an intracorporeal suture. Self-limited retroperitoneal bleeding occurred in one patient (in whom a retroperitoneal approach was used) and reactionary haemorrhage occurred in another. One study reported that 1 of 9 patients had prolonged ileus. One study reported wound infection in 8% (2 out of 24) of patients and urine leakage in 4% (1 out of 24).

2.4.2 In a case series of 17 patients, a cyst wall carcinoma was identified during one procedure and an open nephrectomy was performed immediately. No findings of malignancy were reported in three other case series (of 29, 20 and 36 patients, respectively). For more details, see the overview.

2.4.3 The Specialist Advisers stated that theoretical adverse outcomes include haematuria, urinary tract infection, port site infection, urine leakage (from a parapelvic cyst), intraoperative bleeding, conversion to open surgery or nephrectomy, and injury to other internal organs or major blood vessels.

3 Further information

3.1 NICE has published interventional procedures guidance on laparoscopic nephrectomy (including nephroureterectomy) and a guideline on chronic kidney disease: assessment and management.

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.