NICE guidance

Complete cytoreduction for pseudomyxoma peritonei (Sugarbaker technique)

Interventional procedures guidance
Published: 28 April 2004
nice.org.uk/guidance/ipg56

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. However, 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.

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.

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 complete cytoreduction for pseudomyxoma peritonei does not appear adequate for this procedure to be used in the NHS outside centres funded by the National Specialist Commissioning Advisory Group (NSCAG).

1.2 Clinicians wishing to undertake complete cytoreduction for pseudomyxoma peritonei should take the following action.

- 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 complete cytoreduction for pseudomyxoma peritonei.

1.3 Publication of safety and efficacy outcomes will be useful in reducing the current uncertainty. The Institute may review the procedure upon publication of further evidence.

1.4 These recommendations apply only to the use of this technique to treat pseudomyxoma peritonei. The Institute will consider complete cytoreduction for peritoneal carcinomatosis separately.

2 The procedure

2.1 Indications

2.1.1 Pseudomyxoma peritonei is a rare, borderline malignant, slowly progressing tumour. It arises from the appendix or bowel and spreads throughout the peritoneal cavity, producing a large amount of mucus. Most patients will develop symptoms due to the bulk of the tumour. Most patients will eventually die of this condition, but they often survive for several years.

2.1.2 Standard treatment for pseudomyxoma peritonei is surgical debulking, in which the surgeon attempts to remove as much tumour as possible. Chemotherapy is also used. Recurrence is common, and therefore repeated debulking operations may be needed.

2.1.3 Patients with pseudomyxoma peritonei may be treated by 'watchful waiting', using surgery only when unacceptable symptoms or life-threatening complications, such as intestinal obstruction, arise.

2.2 Outline of the procedure

2.2.1 The Sugarbaker technique combines complete surgical tumour removal (complete cytoreduction) with intraoperative heated chemotherapy, and is followed by postoperative intraperitoneal chemotherapy. The operation takes around 10 hours and includes:

- removal of the right hemicolon, spleen, gallbladder, greater omentum and lesser omentum
- stripping of the peritoneum from the pelvis and diaphragm
- stripping of the tumour from the surface of the liver
- removal of the uterus and ovaries in women
- removal of the rectum in some cases.

2.3 Efficacy

2.3.1 No controlled studies were found. The studies were of poor quality. One study of 385 patients showed 5-year survival to be 86% for those with less malignant pathology (adenomucinosis) and 50% for those with more malignant pathology (mucinous adenocarcinoma). However, not all patients in this study were followed up for 5 years, and it is not clear how survival was calculated. Another study showed overall 5-year survival to be around 74% in 98 out of 321 patients who underwent repeat cytoreductive surgery. For more details, refer to the Sources of evidence section.

2.3.2 The Specialist Advisors commented that there is international controversy about the effectiveness of this procedure, given the slow natural history of pseudomyxoma peritonei. One Advisor noted that uncertainty about efficacy emanates from the difficulty in accurately diagnosing pseudomyxoma peritonei preoperatively.

2.4 Safety

2.4.1 In a study of 46 patients the main complications included: prolonged gastric paresis (almost all patients); neutropenia (49%); re-operation for postoperative complications (24%); stomach or bowel perforation (22%); enteric fistula (13%);

and peripheral pressure neuropathy (11%). Most studies, however, were of poor quality with regard to safety outcomes. For more details, refer to the Sources of evidence section.

2.4.2 The Specialist Advisors listed the potential complications as: death; major blood loss; respiratory infection; peritonitis; bowel perforation; obstruction; adhesions; wound dehiscence; and wound infection. One Advisor commented that such prolonged surgery increased the risk of morbidity and mortality.

2.5 Other comments

2.5.1 It was noted that the procedure has a considerable risk of serious side effects, and that efficacy is not clearly established.

2.5.2 The procedure needs to be evaluated in comparison with less radical surgery.

Andrew Dillon
Chief Executive
April 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 complete cytoreduction (Sugarbaker technique) in patients with pseudomyxoma peritonei', October 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 Changes since publication

As part of NICE's work programme, the current guidance was considered for review but did not meet the review criteria as set out in the IP process guide. This guidance therefore remains current.

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.

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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.