NICE guidance

Laparoscopic mobilisation of the greater omentum for breast reconstruction

Interventional procedures guidance
Published: 27 February 2008

www.nice.org.uk/guidance/ipg253

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 Recommendations

1.1 Current evidence on the safety and efficacy of laparoscopic mobilisation of the greater omentum for breast reconstruction is based on limited numbers of patients. However, it is a variation of the open technique, the safety and efficacy of which are known. Therefore, the evidence is considered adequate to support the use of this procedure provided that normal arrangements are in place for consent, audit and clinical governance.

1.2 During consent, patients should be informed that the volume of omentum may be insufficient for full reconstruction, and that further, more complex procedures may be required.

1.3 Patient selection should be carried out in the context of a multidisciplinary team experienced in the management of patients requiring breast reconstruction, and should include a breast cancer specialist and a surgeon experienced in laparoscopic techniques.

2 The procedure

2.1 Indications and current treatments

2.1.1 Breast reconstruction is commonly carried out in the context of breast cancer treatment, either at the time of breast cancer surgery or at a later date. The aim of breast reconstruction is to create a new breast that is similar in size, shape and

texture to the one that was removed.

2.1.2 Breast reconstruction may involve the use of either prosthetic material (breast implant) or autologous tissue (usually from the patient's abdomen, buttocks or back), or a combination of the two.

2.1.3 In autologous tissue reconstruction, either a free or a 'pedicled' (or 'mobilised') flap can be used. Free flap reconstruction usually involves removing skin, fat and sometimes muscle from the lower abdomen or buttock, and grafting it to the breast area, using microsurgery to establish a new blood supply. Pedicled flap reconstruction usually involves tunnelling of skin, muscle and fat from the back or abdomen through to the chest, with the tissue flap remaining connected to its original blood supply. If there is not enough tissue to create a whole breast, an implant may also be used. Although pedicled and free flaps are conventionally harvested by open surgery, endoscopic techniques have recently been developed with the aim of speeding recovery and minimising scarring caused by skin incisions.

2.2 Outline of the procedure

2.2.1 Breast reconstruction with a laparoscopically harvested omental flap is usually carried out at the same time as breast cancer surgery. Under general anaesthesia, the greater omentum is detached from the colon and stomach laparoscopically. This procedure can be performed for either a pedicled flap or a free flap.

2.2.2 When a pedicled flap is used, the greater omentum remains connected to the right gastroepiploic artery. A skin-sparing mastectomy is performed, with axillary lymph node clearance as required, and a subcutaneous tunnel is created from the inframammary skinfold. Forceps are then inserted into the abdominal cavity through an incision at the linea alba to draw the greater omentum through the tunnel and into the mastectomy wound.

2.2.3 When a free flap is used, the right gastroepiploic vein and artery are clipped at their origins. The omental flap is removed through a small incision in the lower abdominal wall and inserted in the mastectomy wound. Microsurgery is used to

connect the gastroepiploic artery to the internal mammary artery.

2.2.4 With both pedicled and free flaps, the omental tissue is fixed to the pectoralis major muscle with staples or sutures.

2.3 Efficacy

Sections 2.3 and 2.4 describe efficacy and safety outcomes which were available in the published literature and which the committee considered as part of the evidence about this procedure. For more details, refer to the sources of evidence.

2.3.1 In a case series of 44 women, cosmetic results were reported to be 'mostly satisfactory', the reconstructed breast being soft in texture and natural in appearance. No size reduction of the reconstructed breast was noted during follow-up (median 25 months). In a case series of 10 women, the results were reported to be 'very satisfactory' in 6 patients.

2.3.2 In the two case series, omental flaps of inadequate volume were reported in 11% (5/44) and 20% (2/10) of women. They were therefore combined with latissimus dorsi myoflaps (in the first series) or implant insertion (in the second series).

2.3.3 All five Specialist Advisers noted that it would be difficult to determine in advance how much of the omentum could be harvested and whether it would be adequate for breast reconstruction.

2.4 Safety

2.4.1 The case series of 44 women reported that 4 (9%) developed wound or graft infections, which were treated conservatively; 1 woman (2%) suffered a 'minor' vascular injury and 1 (2%) developed an epigastric hernia. None of the women were reported to have suffered local or systemic breast cancer recurrence after a median follow-up of 25 months.

2.4.2 In the case series of 10 women, 1 reported epigastric pain, which persisted for 4

months (but resolved with medication), and 1 developed partial necrosis of an areolar graft implanted during the same operation. There were no reports of women developing abdominal wall hernias or local or systemic recurrence of breast cancer by the end of follow-up (period not stated).

2.4.3 The Specialist Advisers listed the possible adverse events as including partial flap necrosis, vascular injury, wound and graft infection, epigastric hernia and inadequate flap volume. They considered the additional theoretical events (compared with open surgery) to include the risk of seeding tumour cells into the peritoneal cavity, vascular damage leading to total flap loss, damage to intra-abdominal organs during harvest, referred pain (through the autonomic nervous system) and impact on future abdominal surgery (lack of greater omentum to defend against intra-abdominal sepsis).

3 Further information

3.1 NICE has guidelines on familial breast cancer, early and locally advanced breast cancer and advanced breast cancer.

Sources of evidence

The evidence considered by the interventional procedures advisory committee is described in the overview for this guidance.

ISBN: 978-1-4731-5897-9

Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.