Minimally invasive surgery for gastro-oesophageal reflux disease

A pragmatic randomised trial indicates that laparoscopic fundoplication for gastro-oesophageal reflux disease provides better quality of life and symptom relief than long-term drug treatment.

Overview: Gastro-oesophageal reflux disease is a common cause of dyspepsia in which stomach acid leaks out of the stomach via the lower oesophageal sphincter and into the oesophagus. In some patients, gastro-oesophageal reflux disease can irritate the lining of the oesophagus and cause mucosal breaks, known as oesophagitis. Endoscopy is used to diagnose oesophagitis caused by reflux, but 40–60% of patients with symptoms have no signs of reflux on endoscopy (endoscopy-negative reflux disease).

In England, 73,135 patients admitted to hospital in 2011–12 were diagnosed with gastro-oesophageal reflux disease, 34,235 of whom had oesophagitis. Gastro-oesophageal reflux disease is more common in older people, women and people who are obese.

Current advice: NICE guidance on managing dyspepsia in adults in primary care (currently being updated) states that surgery is not recommended for the routine management of persistent gastro-oesophageal reflux disease. Individual patients whose quality of life remains significantly impaired may, however, value this form of treatment.

Instead, people with gastro-oesophageal reflux disease should undergo diagnostic endoscopy and should initially be offered a full dose proton pump inhibitor for 1 or 2 months. If symptoms recur following initial treatment, proton pump inhibitors should be continued at the lowest dose possible to control symptoms, with a limited number of repeat prescriptions. An H2 receptor antagonist or prokinetic therapy should be offered if response to a proton pump inhibitor is inadequate.

New evidence: Grant et al. (2013) conducted a pragmatic randomised trial to assess quality of life and symptom relief after laparoscopic fundoplication or medical management in people with gastro-oesophageal reflux disease. Participants who had been on drug treatment for more than 12 months and who were eligible for both surgery and continued medical management were randomly allocated to either treatment strategy. Those patients who had a strong preference for either surgery or medical management were invited to join one of two non-randomised preference arms. Surgery was full or partial laparoscopic fundoplication at the discretion of the surgeon, whereas medical management entailed treatment review and adjustment by a local gastroenterologist.

Between March 2001 and June 2004, 357 patients at 21 UK centres were randomised to surgery (n=178) or medical management (n=179). A further 453 patients were recruited to the non-randomised preference groups for surgery (n=261) and medical management (n=192). Around two-thirds of patients (69.9% overall) completed follow-up postal questionnaires at 5 years.

At 5 years after enrolment, 334 (76%) patients in the two surgery groups and 30 (8%) patients in the two medical management arms had undergone fundoplication. People randomised to, or with a preference for, surgery had significantly better scores on the 100-point REFLUX questionnaire – a
measure of quality of life, gastrointestinal symptoms and side effects of treatment – than patients in the two medical management groups (mean difference 8.3, 95% confidence interval 3.2 to 13.4, p=0.001). Patients in the surgery groups also less frequently reported individual symptoms, such as heartburn and dysphagia, and scored better on the Short Form (SF)-36 and EuroQol 5 dimension (EQ-5D) health status measures. A lower proportion of patients randomised to surgery were taking anti-reflux drugs, such as omeprazole and lansoprazole, at 5 years than were patients randomised to medical management (56 of 127 [44.1%] vs 98 of 119 [82.4%]).

The authors concluded that laparoscopic fundoplication provides better long-term symptom relief and health-related quality of life than medical management in patients with gastro-oesophageal reflux disease. They suggested that their intention-to-treat analysis may have underestimated the benefits of fundoplication because of the low number of patients randomised to surgery who were actually operated on (63%) and the significantly lower baseline REFLUX scores in the 24 (13%) participants randomised to medical management who subsequently had surgery.

Commentary: "Reflux often responds well to acid suppression medication, but because the disorder is so common, the small proportion of unresponsive cases is a burden on primary care. Accurately diagnosing the problem (to ensure that it really is reflux) and then fixing the problem physically allows patients to have better quality of life and come off medication, reducing the burden of their care.

"The multicentre nature of this study means that the results provide a fair snapshot of the standards and outcomes of anti-reflux surgery in UK patients with long-term reflux symptoms inadequately managed by medication. The inclusion of the preference groups allows the results to be extrapolated widely, because patients with gastro-oesophageal reflux disease do commonly come to consultations with treatment preferences. However, it is a pity that the trial failed to completely randomise participants, because full randomisation is possible (and has been achieved elsewhere) and would have produced true unbiased results.

"Anti-reflux surgery is not universally available in the UK. In addition, it is not always successful and in a small percentage of cases leaves patients with troublesome side effects. The provision of this surgery needs to increase in the UK, and any expansion needs to take place in recognised centres with good outcomes. New surgical developments to reduce side effects may help to improve outcomes, and specialist centres should be involved in the process of quality improvement." – Professor Stephen Attwood, Professor of Surgery at the Department of Health Services Research, Durham University and Consultant Upper Gastrointestinal Surgeon, Northumbria Healthcare NHS Foundation Trust

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