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EDITORIAL PERSPECTIVE

We Asked the Experts: "When is a Laparoscopic Fundoplication Warranted For Gastroesophageal Reflux Disease?"

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At least once or twice per month, we see a patient with debilitating reflux symptoms. Usually it is a patient who describes volume regurgitation occurring on a daily basis, and frequently necessitating sleeping propped up in a recliner. These patients have cut out caffeine, alcohol, spicy foods, and late meals with friends. They take high doses of proton pump inhibitors religiously! When asked how long this has been going on, the answer is variable but, more often than not, many years, if not decades, have passed since the symptoms began. And it is not uncommon for these patients to admit that they themselves insisted on a referral to a surgeon, as they were tired of their poor quality of life with breakthrough symptoms on maximal medical therapy.

So why the hesitation to obtain a surgical opinion? The evidence (described below) is often in favour of anti-reflux surgery. Perhaps the answer rests with a few high-profile publications on this topic. As an example, an Editorial published in the NEJM in 2019 [1] with the title "Think First, Cut Last" does not encourage surgical referrals for gastroesophageal reflux disease (GERD)!

The evidence up to 2014 was nicely summarized in a systematic review which included 1972 patients across 7 randomized trials comparing medical and surgical therapy for GERD [2]. In this paper, the meta-analyses for health- and GERD-related quality-of-life showed a clear and significant pooled effect estimate in favour of fundoplication. Given that some of the trials included open fundoplication rather than laparoscopic surgery, and all but one trial involved PPI therapy, there should be no argument that this was a strong result.

Fast forward to 2019 and Spechler et al.'s randomized trial of medical versus surgical therapy in refractory heartburn, published in the NEJM [3]. Again, surgery prevailed at 12 months with 67% of the patients in the surgical arm reporting more than 50% improvement in GERD-related quality-of-life, compared to 28% of those in the active medical arm. Yet, despite these striking results, the accompanying Editorial took an opposing slant, cautioning the reader to rule out functional dyspepsia, eosinophilic esophagitis, rumination, and achalasia, before accepting a diagnosis of refractory reflux! [1] The Editorial then offered advice on optimizing medical management and suggested that the results in Spechler et al.'s study may reflect a powerful placebo response.

The bottom line is that laparoscopic fundoplication works. It creates a mechanical 'flap-like' valve between the stomach and the esophagus, which is independent of the constituent of the refluxate (i.e. acid or non-acid). Whilst it is true that effective and durable reflux control may come at the expense of an 'over-competent' barrier, with (short-term) symptoms of dysphagia, gas bloat, and increased flatulence, an overwhelming 87–90% of patients report long-term satisfaction with the procedure [4].

Contrary to the NICE (National Institute for Health and Care Excellence) guidelines for reflux (updated in [5]), we suggest that there are six, not three, categories of patients with GERD who deserve a surgical opinion. The NICE guidelines include the following:

1. A patient who is intolerant of proton pump inhibitors (PPIs), or a patient who has real concerns about the potential side effects of long-term PPIs. For example, a patient with osteoporosis who wants to maximize

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intestinal calcium absorption to prevent her/his fracture risk.
2. A patient who has objective evidence of reflux (endoscopic esophagitis or positive pH study) who does not wish to take long-term PPIs.
3. A patient with break-through symptoms, or 'non-responsive symptoms', on maximal medical therapy.

We believe there are a further three reasons to refer a patient with severe reflux symptoms to a specialist surgeon:

4. A patient with predominantly volume reflux, often defined as regurgitation or waterbrash. Volume reflux cannot be effectively controlled by medication, as the patient will continue to regurgitate non-acidic fluid. This is a subgroup of patients who are consistently satisfied with the result of anti-reflux surgery.
5. A patient with (asymptomatic) ongoing endoscopy findings of esophagitis despite maximal medical therapy (e.g. 40 mg twice daily pantoprazole or esomeprazole), or other severe sequelae of reflux (e.g. Barrett's esophagus with dysplasia). Surprisingly, some of these patients are sent back to the general practitioner for ongoing management when the reflux problem has clearly not been controlled. In these patients, absolute reflux control (acidic and non-acidic) is often needed, and this is not achieved by medical therapy.
6. A patient with a mechanical issue, i.e. large hiatus hernia, which is symptomatic. Common symptoms, besides reflux, include early satiety, postprandial chest pain, anemia (usually from ischemic ulcers known as Cameron's ulcers), repeated episodes of aspiration pneumonia, and shortness of breath (in a patient with a completely intra-thoracic stomach).

We have over 50 years of combined specialist surgical experience in dealing with severe gastroesophageal reflux disease (GERD). Our 'list' of who should be referred to a surgeon has been amicably debated with our colleague gastroenterologists and refined with the benefit of hindsight and prospective evaluation of more than 3,900 laparoscopic fundoplications over the last three decades [4].

Are there patients to avoid? Definitely. A dissatisfied patient who returns soon after surgery complaining of recurrent reflux is often a patient who did not have symptoms secondary to reflux in the first place. We are particularly wary of patients with 'atypical' symptoms, especially cough and/or nausea, those with an absent response to anti-reflux medication, and those with a lack of symptom association to reflux episodes on a pH study. As well, some patients with a body mass index over 40 might be better served by an appropriate bariatric surgery procedure rather than fundoplication.

To conclude, for the majority, laparoscopic fundoplication for GERD is lifestyle surgery, and not an urgent problem. However, for some, it is so much more. Eradication of severe reflux is 'life-changing' for many patients, enabling them to eat or drink whatever they wish, sleep flat if they so desire, and walk up a hill or run a marathon without coughing due to reflux. We thank the journal editors for asking us to comment on this important topic.

Declarations

Conflict of interest None declared.

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