

Surgery relieved symptoms but decreased survival more than medical treatment in gastro-oesophageal reflux disease

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Spechler SJ, Lee E, Ahnen D, et al. *Long-term outcome of medical and surgical therapies for gastroesophageal reflux disease. Follow-up of a randomized controlled trial.* JAMA 2001 May 9;285:2331-8.

QUESTION: In patients with complicated gastro-oesophageal reflux disease (GORD), how do the long term outcomes of surgical treatment compare with those of medical treatments?

Design

Randomised (allocation concealed*), blinded (unclear)*, controlled trial with a mean follow up of 10 years.

Setting

8 Veterans Affairs medical centres in the US.

Patients

247 patients (mean age 58 y) with complicated GORD. 129 of 160 surviving patients (mean age 67 y, 98% men) were included in the follow up analysis.

Intervention

Patients were allocated to receive surgical treatment (n=82), continuous medical treatment (n=77), or symptomatic medical treatment (n=88). The method of surgical treatment was open Nissen fundoplication. Continuous medical treatment consisted of 2 antacid tablets, 1 and 3 hours after meals; ranitidine 150 mg twice daily; and metoclopramide 10 mg 4 times daily, and sucralfate 1 g in 10 ml of warm water after meals, when necessary for persistent symptoms. Symptomatic medical treatment consisted of the above medications given only when necessary to control symptoms. Treatments were given for 12 to 28 months. Patients were then managed by their physicians.

Surgical v medical treatment for complicated gastro-oesophageal reflux disease†

Outcome during 140 months	Surgical	Medical	RBR (95% CI)‡	NNH (CI)‡
Survival	60%	72%	20% (0.5 to 33)	7 (5 to 283)
Outcomes at mean 10 year			RRR (CI)	NNT (CI)
Any antireflux medication	62%	92%	33% (17 to 50)	4 (3 to 7)
Proton pump inhibitor use	32%	64%	49% (21 to 70)	4 (3 to 9)
Histamine-2-receptor blocker use	41%	65%	37% (8.7 to 60)	5 (3 to 20)

†RBR = relative benefit reduction. Other abbreviations defined in glossary; RBR, RRR, NNH, NNT, and CI calculated from data in article.

‡Calculated by using Cox proportional-hazards data.

COMMENTARY

Despite the advent of laparoscopic techniques, antireflux surgery is still a difficult procedure with uncertain long term outcomes. Antireflux surgery is a physiological repair of the oesophagogastric junction and involves 3 components: reduction of the hiatal hernia back into the abdomen, closure of the crura opening surrounding the oesophagus, and reinforcement of the lower oesophageal sphincter with a fundoplication. Furthermore, even a successful repair can "wear out" over time because the oesophagogastric junction continues to be exposed to repeated abdominal stressors, such as heavy isometric exercises or work-related activities, obesity, eating disorders, or recurrent vomiting and coughing.

The study by Spechler *et al* is the first long term study of antireflux surgery done outside a major oesophageal surgical centre in the US. The results are probably similar to the experience in our general communities. Despite this study, which used traditional open Nissen fundoplication surgery, current laparoscopic results do not appear to be any better. This study may suggest that antireflux surgery was a failure because 62% of patients returned to using medications for their GORD, and 32% returned to using proton pump inhibitors. However, during the 9 years of follow up, 64% of patients treated with medications used proton pump inhibitors, whereas only 32% of the surgical group needed this expensive class of drugs. As the authors suggested, future studies will need to prospectively address the lower survival rate in the surgical treatment group (60%) compared with that in the medical treatment group (72%).

This important study may help to better define the role of antireflux surgery in the future treatment of GORD. It is not a cure for all patients and may have other still unknown disadvantages. However, some patients do well for a long time with minimal need for medication. Patients must understand the potentially beneficial and adverse effects of antireflux surgery and take part in this important treatment decision.

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Main outcome measures

Survival, use of antireflux medications, and frequency of subsequent antireflux surgeries.

Main results

Analysis was by intention to treat. The 2 medical treatment groups (continuous and symptomatic) were combined for analysis purposes because baseline characteristics, study treatments, and outcomes were similar. Survival during a period of 140 months was lower in the surgical group than the medical group (p=0.047) (table). Surgical treatment decreased the use of antireflux medications after the treatment period more than did medical treatment (p ≤ 0.02) (table). Surgical and medical treatments did not differ for use of prokinetics (p=0.39) or subsequent antireflux surgeries (p=0.38).

Conclusions

In patients with complicated gastro-oesophageal reflux disease, surgical treatment decreased survival and the use of antireflux medications more than did medical treatment. Surgical and medical treatments did not differ for subsequent antireflux surgeries.

*See glossary.