Editorial Commentary

Long-term efficacy of total and partial posterior fundoplication to treat gastroesophageal reflux disease

Rafael Cauê Katayama^, Ana Clara Lopes de Grande, Fernando Augusto Mardiros Herbella

Division of Surgical Gastroenterology, Department of Surgery, Universidade Federal de São Paulo-UNIFESP, São Paulo, Brazil

Correspondence to: Dr. Rafael Cauê Katayama. Division of Surgical Gastroenterology, Department of Surgery, Universidade Federal de São Paulo-UNIFESP, 1123 Tabapua St, rm 21, São Paulo 04533-010, Brazil. Email: caue.katayama@unifesp.br.

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Surgical treatment is a well-established therapeutic option for gastroesophageal reflux disease (GERD). Laparoscopic fundoplication has been reported as advantageous since it restores the anatomical and functional disorders related to GERD (1). However, performing a fundoplication means acting on the balance between GERD control and some possible adverse effects, such as dysphagia. This issue is not new but has called for a recent discussion on pros and cons comparing different types of fundoplication.

In this article of *JAMA Surgery*, Analatos *et al.* (2) reported a randomized clinical trial comparing 270° partial fundoplication (PF) *vs.* 360° total fundoplication (TF) for GERD treatment in a long term (15-year) follow-up. Patient's demographic characteristics were presented, and groups were comparable. Clinical dysphagia scores markedly improved after the procedures in both groups and was maintained during the entire follow-up. Although the same group had reported some small differences in dysphagia rates favorable to PF in a short follow-up (3,4), those differences disappeared over time. These findings corroborate the results published in other trials, systematic review and meta-analysis comparing TF and PF in short and long-term follow-up (5-7). GERD control based on symptoms questionnaires was similar between groups.

The authors reported almost 30% loss of follow-up. Although this is common in long-term studies, this could be considered as a limitation. On the other hand, they obtained an acceptable number of patients (159 PF and 151 TF) who had concluded the 15 years follow-up which should be considered when looking over the results.

Although typical GERD symptoms are often sufficient to determine the diagnosis (8), the lack of objective data, mainly 24 hours pH monitoring, should also be a limitation. A subjective evaluation of GERD control and dysphagia could explain the convergence of results toward equity between the procedures. Besides, it is well known both TF and PF when successfully performed increases lower esophageal sphincter pressure and the strength of esophageal peristalsis in patients with abnormal preoperative esophageal motility commonly observed in patients with GERD (9). This can explain low and similar rates in dysphagia symptoms after the procedures. The lack of objective measurement of GERD and esophageal motility is a limiting factor. Nevertheless, this study is important evidence that both procedures are efficient in GERD control with low rates of side effects, mainly dysphagia. The authors also evaluated the intake of proton pump inhibitors (PPIs) as part of the evaluation. Although there remains a worrysome continuous increase over time in the number of patients who are prescribed PPI after the operations (25% in the 15-year follow-up of this study), it is important to understand the reason for this increasing need of PPI. Interestingly, although many patients use PPIs after anti-reflux surgery, only one-third have objective evidence of recurrent reflux when tested by pH monitoring (10). It is possible that PPIs prescription after surgery are related

^ ORCID: 0000-0001-9403-8971.

to gastric symptoms, extra esophageal symptoms, or they are over prescribed once most patients who are taking PPIs don't have evidence of *de novo* GERD. This is controversial and studies with better methodology are needed to get through this issue.

In conclusion, Analatos *et al.* provides evidence that PF and TF are excellent options for GERD improvement with similar rates of side effect symptoms. Despite the presented results, choosing the type of fundoplication should be assisted by 24 hours pH monitoring and esophageal manometry respecting the individual characteristics of each patient.

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