Trends in GERD-Related Quality of Life after Primary Laparoscopic Anti-reflux Surgery: A Longitudinal Analysis

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INTRODUCTION

Minimally invasive antireflux surgery (ARS) has demonstrated excellent long-term symptom relief and prevention of disease recurrence. However, the persistence of improvements in quality of life (QoL) remains under investigation. We aimed to describe QoL trends using the GERD-Health-Related Quality of Life (GERD-HRQL) questionnaire in an unselected cohort.

METHODS

After IRB approval, we conducted a longitudinal analysis using a prospectively maintained database of patients who underwent elective minimally invasive ARS by a single surgeon (Sept 2016–July 2024). Patients were included if they completed preoperative and scheduled postoperative GERD-HRQL questionnaires at 1, 2, 3, and 5 years. Exclusion criteria were revisional surgery, non-fundoplication procedures, emergencies, and lung transplant patients. We analyzed trends in total GERD-HRQL scores, subcomponent scores (heartburn, dysphagia, regurgitation), patient satisfaction, and acid suppression therapy use.

RESULTS

- 83 patients met the inclusion criteria and completed both preoperative and consecutive follow-ups (median age: 65 years [IQR 57–72], 69.9% female). The proportion of eligible patients at each time point was 83/83 (100%) at 1 year, 31/55 (56.4%) at 2 years, 24/43 (55.8%) at 3 years, and 16/26 (61.5%) at 5 years.
- The median preoperative GERD-HRQL score was 27, with elevated heartburn, regurgitation, and dysphagia subcomponent scores.
- Postoperatively, ARS resulted in a sustained improvement in total and subcomponent scores, with minimal recurrence of evaluated symptoms until 5-years postoperatively ($p \leq .01$ for all comparisons) (**Table 1 and Figure 1a**).

	Preoperative (N = 83)	1 Year (N = 83)	2 Years (N = 31)	3 Years (N = 24)	5 Years (N = 16)
Heartburn Subscore	13 (7, 21)	0 (0, 2)**	1 (0, 5.5)**	0 (0, 4.25)**	1 (0, 3.25)**
Regurgitation Subscore	10 (1.5, 17)	0 (0, 0)**	0 (0, 0)**	0.5 (0, 4.5)**	0 (0, 1.5)**
Dysphagia Subscore	2 (0, 4)	0 (0, 0.5)**	0 (0, 1)**	0 (0, 1.25)**	0 (0, 1)**

Table 1. Pre- and postoperative GERD-HRQL total and subcomponent scores following antireflux surgery.
Continuous variables are reported as median and interquartile range. Scores at each follow-up were compared to preoperative scores using the Wilcoxon rank-sum test adjusted by the Bonferroni method. Abbreviations: * p-value: < .05, ** p-value: < .01.

- Similarly, 77% of patients reported preoperative proton pump inhibitor (PPI) use; this proportion was markedly reduced at all postoperative timepoints (**Figure 1b**).

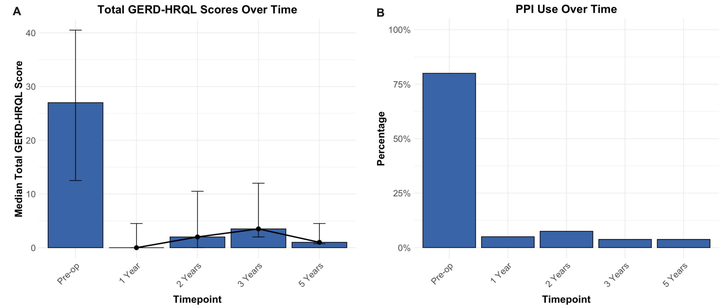


Figure 1. A) Total GERD-HRQL Scores and B) PPI use pre-operatively and at 1, 2, 3, and 5-year postoperative follow-ups.

CONCLUSIONS

Our findings confirmed significant reductions in total GERD-HRQL scores, including heartburn, dysphagia, and regurgitation, following ARS.

Improvements in QoL and patient satisfaction persisted over time (up to 5 years), indicating that primary ARS offers long-term QoL benefits.

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