Concurrent Pyloroplasty with Hiatal Hernia Repair Improves Reflux Specific Quality of Life in Patients with Hiatal Hernias and Gastroparesis

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Introduction

Gastroparesis and delayed gastric emptying can lead to significant acid reflux in addition to other symptomatology. In patients with symptomatic hiatal hernias who opt for surgical correction for relief of reflux symptomatology, untreated gastroparesis can negatively impact the improvement in reflux specific quality of life. This study describes the positive impact on GERD symptomatology of concurrent pyloroplasty with hiatal hernia repair in patients with gastroparesis and hiatal hernias.

Materials and Methods

All patients who underwent concurrent pyloroplasty and hiatal hernia repair (PHHR) from 9/2020 through 8/2025 were retrospectively reviewed. These patients were compared to a control population of only hiatal hernia repairs (HHR) done over the same period. Re-do and emergent operations were excluded.

Descriptive statistics were used to summarize the demographic and baseline clinical characteristics of patients undergoing PHHR and those undergoing HHR. Continuous variables were summarized using the median and interquartile range (IQR), as normality assumptions were violated based on the Shapiro–Wilk test and visual inspection of histograms and Q–Q plots. Accordingly, the Mann–Whitney U test was applied to compare continuous variables between groups. Categorical variables were compared using the chi-square test or Fisher's exact test when expected cell counts were insufficient.

GERD HRQL (Gastroesophageal reflux disease health related quality of life) surveys were prospectively collected in all patients both preoperatively as well as postoperatively and the change in scores was compared. Differences between the two groups were assessed using the Mann–Whitney U test.

Table 1. Baseline characteristics of patients undergoing PHHR and HHR.

	HHR (n = 56)	PHHR (n = 11)	p value
Gender, n (%)			
Female	34 [60.7]	10 [90.9]	0.082
Male	22 [39.3]	1 [9.1]	
Age (Years)			
Median [IQR]	61.5 [53.0 - 71.0]	57.0 [27.0 - 61.0]	0.055
Toupet Fundoplication, n (%)			
Yes	38 [67.9]	8 [72.7]	1.000
No	18 [32.1]	3 [27.3]	
Length of Follow Up (Days)			
Median [IQR]	176 [38 - 229]	136 [24 - 450]	0.919
Preoperative GERD HRQL Score			
Median [IQR]	26.0 [13.3, 38.8]	27.0 [17.0 - 34.0]	0.846
Preoperative GERD HRQL Satisfaction, n (%)			
Satisfaction	4 [10.0]	0 [0.0]	0.384
Neutral	7 [17.5]	3 [42.9]	
Dissatisfaction	29 [72.5]	4 [57.1]	

Table 2. Changes in GERD HRQL scores and satisfaction scores among patients undergoing PHHR and HHR.

	HHR (n = 56)	PHHR (n = 11)	p value
GERD HRQL Score, Median (IQR)			
Preoperative	26.0 [13.3, 38.8]	27.0 [17.0 - 34.0]	0.66
Postoperative	2.0 [0.0, 7.5]	6.0 [0.0, 13]	
Change [post-pre]	-22.5 [-33.8, -5.0]	-16.0 [-24.0, -8.0]	
Postoperative GERD HRQL Satisfaction, n (%)			
Satisfaction	24 [66.7]	6 [66.7]	0.329
Neutral	6 [16.7]	3 [33.3]	
Dissatisfaction	6 [16.7]	0 [0.0]	

Results

A total of 11 patients underwent concurrent pyloroplasty and hiatal hernia repair (PHHR) during the study period, whereas 56 patients underwent hiatal hernia repair (HHR). Baseline characteristics were similar between the two groups, with no statistically significant differences. Preoperative GERD HRQL median scores were comparable: HHR 26.0 (IQR 13.3–38.8) vs PHHR 27.0 (17.0–34.0). Postoperatively, both groups demonstrated substantial improvement. Median scores decreased by 22.5 points in the HHR group and 16 points in the PHHR group. However, the between-group difference in change was not statistically significant. Similarly, postoperative GERD HRQL satisfaction did not differ significantly between the two groups.

Conclusion

There was no statistically significant difference in change in GERD HRQL scores between the PHHR group and the control HHR group. Quality of life improvement for patients in the PHHR group was on par with that of patients in the HHR group. Concurrent surgical management of gastroparesis at the time of hiatal hernia repair can significantly improve the quality of life in patients with GERD and gastroparesis. The authors recommend a low threshold for preoperative gastric emptying study for diagnosis of gastroparesis in those patients where there is a clinical suspicion.

References

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