Staged Emergent Gastric Volvulus Repair With Endoscopic Decompression Has Favorable Short Term Outcomes

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PURPOSE

Patients with giant paraesophageal hernias who present acutely with incarceration or volvulus of the stomach have historically been considered a surgical emergency that requires urgent surgical intervention due to the risk of ischemia, strangulation, and perforation. However, in patients without apparent gastric ischemia or perforation and who are clinically stable, the timing of surgery (emergent or semi-elective) is controversial. These patients often present with dehydration and/or electrolyte abnormalities. We reviewed our experience in the management and the postoperative outcome of patients presenting with acute gastric volvulus who were managed in a step-wise fashion, first with endoscopic gastric decompression followed by semi-elective laparoscopic repair.

METHODS

This is a retrospective study of all patients who presented with acute gastric volvulus and underwent endoscopic reduction followed by laparoscopic paraesophageal hernia repair at a single institution between May 2016 and May 2023. Two patients with hemodynamic instability and fulminant gastric ischemia on endoscopy who did not undergo repair were excluded. The time to surgical intervention, morbidity, mortality, length of hospital stay, and the discharge disposition (home vs facility) were analyzed.

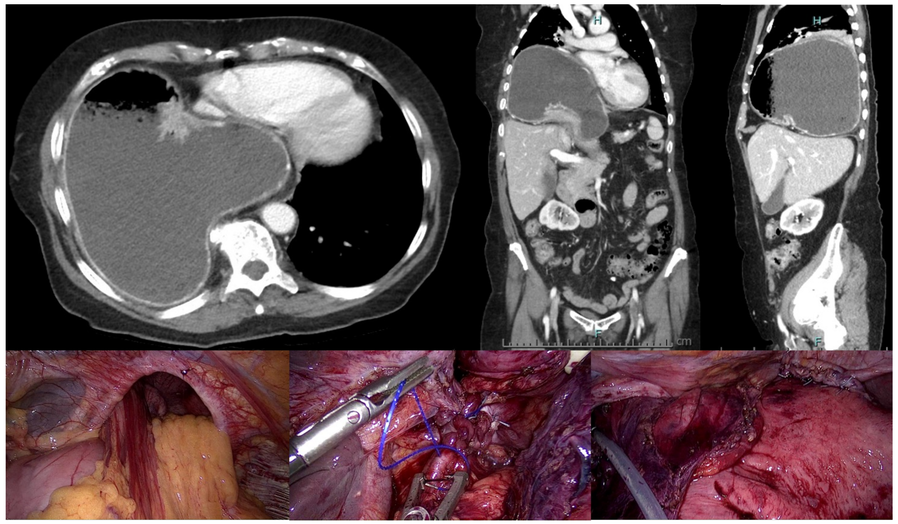


Figure 1: Preoperative CT scan demonstrating giant paraesophageal hernia. Photos left to right: intrathoracic stomach, crural repair, fundic gastropexy

Variable	Comparison	Odds Ratio	95% CI	p-value
Age	Per year increase	0.946	(0.836, 1.071)	0.38
BMI	Per unit increase	1.206	(0.836, 1.740)	0.3159
Complication	Major Complication Vs Non-Major Complication	0.409	(0.022, 7.429)	0.5454
Total Length of Stay (days)	Per day increase	0.748	(0.583, 0.959)	0.0221

Table 1: Multivariable logistic regression for binary outcome of being discharged home

RESULTS

Forty-three patients presented with acute gastric volvulus. The mean age was 68.1 years (range 21-93). Thirty-one patients were female (72%) and 34 patients were white (79%). Seven patients (17%) had a Type IV hernia while 36 patients (83%) had a Type III hernia. Endoscopic decompression followed by laparoscopic paraesophageal hernia repair during the same admission was performed on all patients. Mean time from endoscopic decompression to repair was 4.65 days (SD 3.49). Endoscopic evidence of gastric ischemia was present in 13 patients (30%). The mean Charlson Comorbidity index was 3.46 (SD 2.28). Median total length of stay was 7 days (95% confidence interval 5-11). Ten patients (23%) experienced major complications (Clavian-Dindo III-V). One patient died within 30 days and mortality was not related to surgery. In a multivariate regression, discharge to a facility (nursing home or rehab) was more likely as length of stay increased (OR 0.74, CI 0.58-0.96).

CONCLUSIONS

Patients presenting with gastric volvulus undergoing staged laparoscopic paraesophageal hernia repair allows time for correction of physiologic derangements and yields favorable outcomes when compared to the current literature on emergent laparoscopic paraesophageal hernia repair. Decreasing hospital length of stay will allow more patients to be discharged home.

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