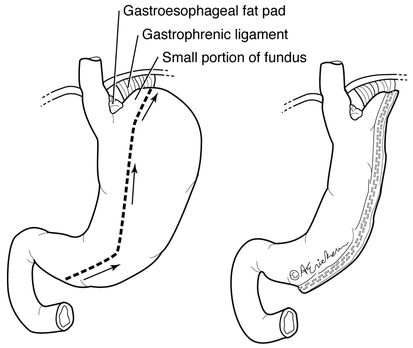
Preservation of the Gastrophrenic Ligament Allows for Antireflux Surgery in Medically Refractory GERD Following Sleeve Gastrectomy

Damien Lazar, MD MBA[1]. Alexander Hien Vu, MD[1], Nilufar Tursunova, MD[1], George Ferzli, MD FACS[1]
[1] Department of Surgery, NYU Langone Health, New York, NY

Introduction

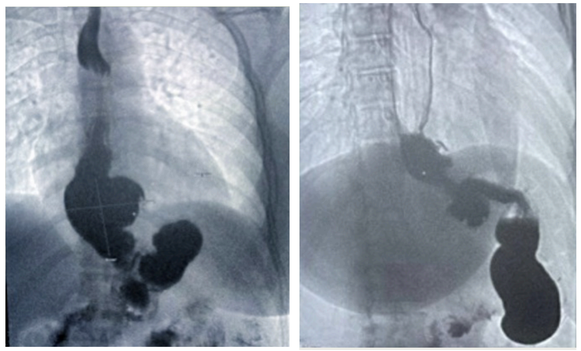
- Despite the enormous popularity of sleeve gastrectomy in recent years, a growing body of literature estimates that as high as 50 percent of patients will develop de novo gastroesophageal reflux disease (GERD) following sleeve gastrectomy or experience a worsening of symptoms.
- Due to anatomic alterations performed during a sleeve gastrectomy, typical surgical options for managing medically refractory GERD are unavailable, which results in approximately 7-8% of post-sleeve patients undergoing conversion to Roux-en-Y gastric bypass due to GERD.
- We describe a technique of performing laparoscopic sleeve gastrectomy with preservation of the gastrophrenic ligament, the associated gastroesophageal fat pad, and a small portion of gastric fundus intended to reduce subsequent development of GERD and allow for anti-reflux surgery rather than conversion to bypass if surgical management is necessary, without a difference in excess bodyweight loss or other complications or outcomes.

Laparoscopic sleeve gastrectomy with preservation of the gastrophrenic ligament, the associated gastroesophageal fat pad, and a small portion of gastric fundus

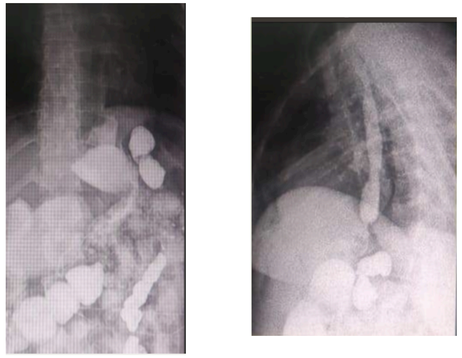


Methods & Procedures

- All adult patients who underwent sleeve gastrectomy performed using this technique between January 1, 2012 and July 1, 2020 by a single surgeon at an academic medical center were evaluated via electronic medical records and MBSAQIP 3 year follow-up data. Weight loss, GERD, and re-operation rates were evaluated.
- **Pre-op**

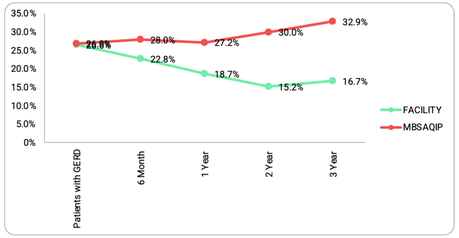


- **Post-op after anterior 180 degree fundoplication**

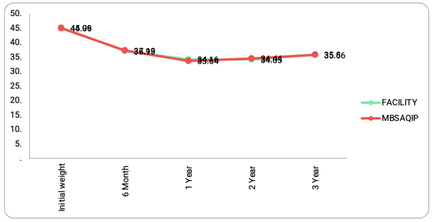


Results

- 582 patients underwent sleeve gastrectomy.
- These patients demonstrated a decrease in BMI of 9.3 at 3 year follow-up, equivalent to published national data.
- 16.7% of patients experienced GERD symptoms requiring medication at 3 years, **well below the 32.9% reported in the MBSAQIP database.**
- 1.8% of these patients underwent conversion to Roux-en-Y gastric bypass, aligned with the national rate of 1.9%.



	Patients with GERD	6 Month	1 Year	2 Year	3 Year
FACILITY	26.6%	22.8%	18.7%	15.2%	16.7%
MBSAQIP	26.9%	28.0%	27.2%	30.0%	32.9%



	Initial BMI	6 Month	1 Year	2 Year	3 Year
OUR FACILITY	45.09	36.99	34.16	34.05	35.8
MBSAQIP	44.96	37.13	33.64	34.44	35.66

Conclusions

- Laparoscopic sleeve gastrectomy is the most commonly performed weight loss surgery in the United States with over 150,000 performed annually, but surgical management of post-operative GERD is limited by the traditional sleeve gastrectomy technique.
- Our technique of performing this surgery without disruption the gastrophrenic ligament or the gastroesophageal fat pad, and with preservation of a small portion of proximal fundus, provides similar weight loss outcomes to the conventional method.
- This method s not associated with increased complications such as GERD or increased conversion to Roux-en-Y gastric bypass and preserves options for future antireflux surgery in cases of GERD refractory to medical management.
- This method represents an additional surgical option for patients undergoing sleeve gastrectomy, particularly those with symptomatic GERD who are resistant to alternative surgical options such as Roux-en-Y Gastric Bypass