Gastrojejunostomy Stenosis Rate by Anastomosis Technique After Roux-en-Y Gastric Bypass: A 10-Year Single Center Study

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Background

- There is no consensus on the ideal surgical technique to reduce postoperative stenosis at gastrojejunostomy after minimally invasive Roux-en-Y gastric bypass
- Gastrojejunostomy can be hand-sewn, circular stapled, linear stapled, combination of sewn and stapled, both laparoscopically or robotically
- Previous studies have reported a stenosis rate of 2-30%

Aim

Determine the rate of early stenosis requiring dilation based on gastrojejunostomy technique

Study Design

Retrospective cohort of all patients who underwent minimally invasive Roux-en-Y gastric bypass from **2014-2024** (both primary and revisional surgeries). Patients were stratified by operative approach and gastrojejunostomy technique.

- **Laparoscopic Combined**
- **Laparoscopic Hand-Sewn**
- **Laparoscopic EEA Stapler**
- **Robotic Hand-Sewn**

Definitions and Outcomes:

- **Stenosis:** requiring endoscopic dilation
- **Early:** within 90 days of operation
- **Primary outcome**: stenosis requiring early dilation after Roux-en-Y gastric bypass
- **Secondary outcomes:** Approach (Laparoscopic vs robotic), patient demographics

Statistical Analysis:

- Patient demographics and operative characteristics were compared with a standard Fisher exact test (*Table 1)*
- Time-to-event analysis was used to compare need for dilation by anastomosis technique (*Figure 1*)

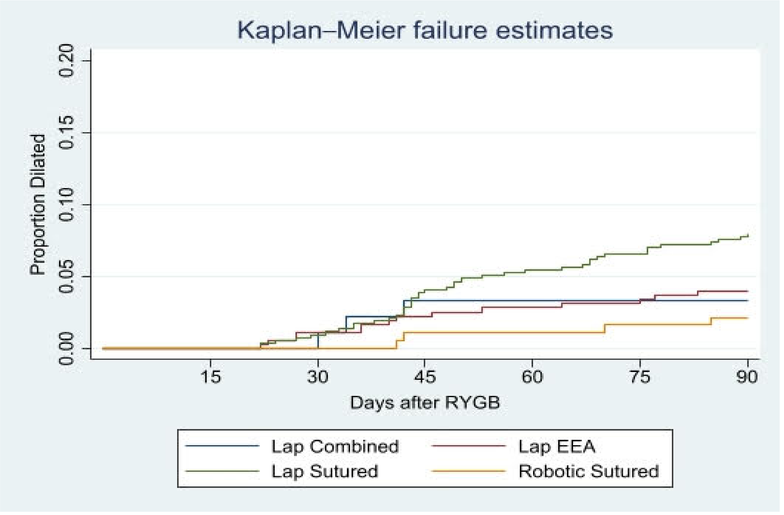
Results

- 1145 total patients included
- Female patients were more heavily represented (81.6%)
- The majority were primary Roux-en-Y Gastric Bypass, 12.7% of cases were revisional
- Overall endoscopic gastrojejunostomy dilation rate of 5.4%
- The majority of cases were performed laparoscopic (83.8%)
- Staple alone (30.9%) and suture alone (61.1%) were both represented, combined was only performed in 7.9% of cases

Table 1. *Patient demographic and operative characteristics comparing patients who underwent dilation versus who did not*

	No Dilation At 90 days	Dilation at 90 Days	p-value
	n = 1083	n = 62	
Age, years (IQR)	50 (40–58)	42 (33–52)	< 0.001
Sex, no (%)			0.18
Female	879 (81.2)	55 (88.7)	
Male	204 (18.8)	7 (11.3)	
Revision, no (%)	137 (12.7)	8 (12.9)	> 0.99
Approach, no (%)			0.03
Laparoscopic	902 (83.3)	58 (93.6)	
Robotic	181 (16.7)	4 (6.5)	
GJ Type, no (%)			0.006
Lap Combined	88 (8.1)	3 (4.8)	
Lap EEA	340 (31.4)	14 (22.6)	
Lap Suture	474 (43.8)	41 (66.1)	
Robotic Suture	181 (16.7)	4 (6.5)	

Figure 1. *Time-to-event Graph, representing the time between Roux-en-Y gastric bypass and endoscopic dilation, stratified by gastrojejunostomy technique*



Key Findings

- Patients requiring dilation were **younger**
- Patients requiring dilation were more likely to undergo **laparoscopic versus robotic approach**
- Compared to **laparoscopic hand-sewn** gastrojejunostomy anastomosis **laparoscopically stapled** and **robotically sutured** anastomoses were **less likely require dilation within 90 days**