Cleveland Clinic

Cleveland Clinic
Bariatric and Metabolic Institute

SAGES
Society of American Gastrointestinal and Endoscopic Surgeons

Prolonged Length of Stay after Primary Bariatric Surgery: Analysis of 455, 019 Patients from the MBSAQIP Database

Wills M[1], Mocanu V[1], Barajas-Gamboa J[2], Restrepo-Rodas G [2], Lee S[3], Shin T[4], Romero-Velez G[1], Strong A[1], Navarrete S[1], Corcelles R[1], Allemang M[1], Rodriguez J[2], Kroh[1], Dang J[1]

[1]Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, OH [2]Cleveland Clinic Abu Dhabi, Abu Dhabi, UAE, [3]Department of General Surgery, Seoul Medical Center, Seoul, Republic of Korea, [4]University of Virginia, Charlottesville, VA

Background & Objectives

- Enhanced Recovery After Surgery (**ERAS**) protocols have revolutionized perioperative outcomes and resource utilization in bariatric surgery
- With increasing procedure volumes, identifying predictors of extended hospitalization is critical
- We analyzed factors contributing to prolonged length of stay (**PLOS**) in primary bariatric surgery using the MBSAQIP database

Methods

- We performed a retrospective analysis of the MBSAQIP database (2020-2022), examining primary bariatric surgery
- Prolonged length of stay (PLOS) was defined **as >2 standard deviations from the mea**n
- Patients **with major complications** (reoperation, re-intervention, anastomotic leak, GI bleed) were **excluded**. Multivariable logistic regression identified independent predictors of PLOS

Key Outcomes

- 22,074/455,019 (**4.9%**) primary bariatric surgery patients experienced **PLOS**.
- PLOS patients were **older**, had **higher BMI**, predominantly **female**, and had more preoperative **comorbidities** including diabetes, hypertension, and GERD (all $p<0.001$)
- PLOS patients had **more complications** including deep SSI, AKI, cardiac complications, pneumonia, and unplanned intubations (all $p<0.001$) (Table I)
- On multivariable analysis, PLOS was independently associated with increasing **age**, **female** sex, lower **functional status**, **renal insufficiency**, **racial** status, and **RYGB** (Table II)

Results

Table II. Multivariable logistic regression.

Characteristic	Adjusted odds ratio	95% confidence interval	*P*-Value
Age (years)	1.1	1.1-1.4	<0.001
Female sex	1.4	1.3-1.5	<0.001
Functional status			
Partially dependent	2.0	1.5-2.4	<0.001
Fully dependent	3.1	1.2-7.8	0.015
Renal insufficiency	2.3	1.8-2.8	<0.001
RYGB	1.4	1.8-2.8	<0.001

RYGB, Roux-en-Y gastric bypass.

Table I. Baseline demographics, procedural data, and outcomes.

Characteristic	Normal LOS	PLOS	*P*-Value
Age (years)	43.1±11.8	45.4±12.3	<0.001
Female sex	81.8	84.4	<0.001
BMI	45.1±7.6	46.2±8.7	<0.001
Comorbidities			
Type II diabetes	22.4	30.1	<0.001
Hypertension	44.1	53.9	<0.001
Hyperlipidemia	22.1	28.5	<0.001
GERD	29.7	36.9	<0.001
Procedural outcomes			
Operating time (min)	84.7± 47.5	109.4±65.0	<0.001
Deep SSI	0.02	0.14	<0.001
Acute kidney injury	0.01	0.36	<0.001
Cardiac complications	0.01	0.25	<0.001
Pneumonia	0.03	0.76	<0.001
Unplanned intubation	0.01	0.35	<0.001

Categorical data are presented as percentage (%) and continuous data are presented as mean (±standard deviation). *BMI, body mass index. GERD, gastroesophageal reflux disease.*

Conclusions

- PLOS occurs in 4.9% of primary bariatric surgery patients without major complications
- Key predictors: female sex, advanced age, comorbidities, functional status and RYGB
- **Targeted perioperative strategies** needed for high-risk subgroups to optimize care and resource use