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INTRODUCTION

The only successful long-term treatment for obesity and its complications is bariatric surgery (sleeve gastrectomy or Roux-en-Y gastric bypass)[1-3]

ERAS protocols outline treatment pathway to optimize the patient pre-operatively, and reduce recovery time and pain post-operatively, however, their relative uptake and their impact on patient healthcare outcomes within bariatric surgery is currently unknown.[4-6]

Establishing an ERAS protocol for bariatric centers, as well as a set of criteria which determines what patients are eligible for this protocol would allow surgeons to comfortably discharge patients early.

PURPOSE

The purpose of our study was to :

- Examine the trends in length of hospital stay as a surrogate for ERAS adoption following bariatric surgery between 2015 and 2019 using the MBSAQIP database.

- Explore the trends in complications following SG or RYGB to determine if there is a connection between early discharge and adverse post-operative outcomes.

- Evaluate for variables which are predictive of earlier discharge to help inform which factors are associated with the successful implementation of ERAS protocols.

METHODS

The MBSAQIP database was used to compile patients who underwent Roux-en-Y gastric bypass or sleeve gastrectomy between 2015 and 2019 (n = 748, 955) . The database consists of a standardized set of pre-, intra- and post-operative variables [19].

Patients were categorized into either early discharge (≤ 2 days) or late discharge (3-7 days).

A variety of patient and non-patient factors were compared to between the two groups and a multivariable logistic regression was carried out to determine predictive factors for early discharge.

RESULTS

The rate of early discharge increased between 2015 and 2019. Those discharged early had fewer comorbidities in all measured domains.

The rate of post-operative complications decreased or was unchanged, except for outpatient dehydration treatment which was increased between 2015 and 2019.

	Operative Year					
	2015 (n = 128,650) n (%)	2016 (n =114,363) n (%)	2017 (n=155,836) n (%)	2018 (n =159,618) n (%)	2019 (n =160,528) n (%)	p-value
Mortality	130 (0.10)	113 (0.08)	106 (0.07)	139 (0.09)	123 (0.08)	0.03
Reoperation	1,478 (1.15)	1,480 (1.03)	1,554 (1.0)	1,641 (1.0)	1,693 (1.05)	0.001
Reintervention	1,887 (1.5)	1,796 (1.2)	1,551 (1.0)	1,524 (0.95)	1,489 (0.93)	< 0.0001
Readmission	5,289 (4.1)	5,409 (3.8)	5,362 (3.4)	5,529 (3.5)	5,557 (3.5)	< 0.0001
Serious Complication	4,697 (3.7)	4,750 (3.3)	4,502 (2.9)	4,559 (2.9)	4,698 (2.9)	< 0.0001
Outpatient Dehydration Treatment		5,014 (3.5)	6,000 (3.9)	6,705 (4.2)	7,775 (4.8)	< 0.0001
Emergency Visits		8,808 (6.1)	10,554 (6.8)	11,661 (7.3)	12,628 (7.9)	< 0.0001
Follow-up Visits	123,508 (96)	137,860 (95.5)	148,434 (95.3)	152,177 (95.3)	152,911 (95.3)	< 0.0001

Table 3: Post-operative complication rates between 2015 and 2019 following bariatric surgery

Lower ASA classification and operative year were predictors of early discharge. Operative year 2019 was determined to be the single greatest independent predictor of early discharge, while RYGB was determined to be the least predictive.

Predictors of Early Discharge	Odds Ratio	95% Confidence Interval	p-value
Operative Year			
2016 vs. 2015	1.20	1.18 - 1.22	< 0.0001
2017	1.58	1.56 - 1.61	< 0.0001
2018	1.95	1.92 - 1.98	< 0.0001
2019	2.26	2.22 - 2.29	< 0.0001

Table 4 [excerpt]: predictors of early discharge of patients undergoing bariatric surgery

CONCLUSIONS

There is a general trend in bariatric surgery towards the adoption of discharge within one day of surgery, suggestive of an increased adoption of ERAS amongst bariatric patients.

Despite increased early discharge, post-operative outcomes do not appear to be negatively impacted.

Further work is needed in order to establish safe and effective ERAS protocols for bariatric patients, as well as set of criteria to determine which patients are eligible for this practice.

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