Sleeve Gastrectomy with Same-Day Discharge: Independent Predictors of Complication and Relative Uptake

Elliot S. Ballato[1], Gustavo Salgado-Garza[1], Tamar Walker[1], Stephanie G. Wood[1], and Andrea M. Stroud[1]

[1]Department of Surgery, Oregon Health & Science University, Portland, OR, USA

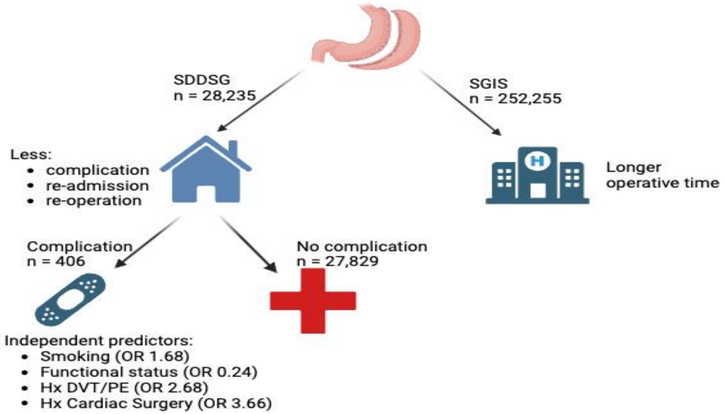
Introduction

- Sleeve gastrectomy (SG) is the most widely performed bariatric surgery in the US
- Same-day discharge sleeve gastrectomy (SDDSG) is increasingly popular
- Risk factors for complications in SDDSG remain unknown[1]

Methods

- A retrospective cohort study on SG was performed using 2021 & 2022 MBSAQIP (CPT code 43775)
- Cases of SDDSG were identified by inpatient length of stay >0 for SG with inpatient stay (SGIS) or = 0 for SDDSG
- 2:1 propensity score matching between inpatient and outpatient sleeve gastrectomy groups was performed
- X^2 and t-test were used for univariable analysis, stepwise logistic regression model was used to identify independent predictors of complications in SDDSG

Figure 1. Sleeve Gastrectomy Pathways and Outcomes (2021-22 MBSAQIP)



Results

- Overall rate of complication, readmission, and reoperation was significantly *lower* in SDDSG than sleeve gastrectomy with inpatient stay (SGIS) (1.4 % vs. 2.0%, p <0.001)
- Independent predictors of complication in SDDSG multivariable analysis included actively smoking (OR 1.68, p = 0.003), functional status (OR 0.24, p = 0.02), prior cardiac surgery (OR 3.66, p = 0.005), and DVT/PE (OR 2.68, p = 0.007)
- SDDSG was 10.1% of all SG, yet 91.7% of all SG patients had none of the predictors of complication we found here

Table 1. Propensity Score Matched Comparison of SDDSG vs SGIS Patient Characteristics & Outcomes

	SDDSG n = 28,235 (n, %)	SGIS n = 56,346 (n, %)	p-value
Age	41.9 ± 10.7	41.8 ± 11.7	0.17
Highest BMI	45.3 ± 7.3	45.5 ± 7.3	**<0.001**
ASA 3-4	21,203 (75.2)	42.484 (75.4)	0.30
Operative Time (mins)	49.9 ± 28.8	70.8 ± 36.1	**<0.001**
Complication	406 (1.4)	1,137 (2.0)	**<0.001**
Readmission	431 (1.5)	1,259 (2.2)	**<0.001**
Reoperation	117 (0.4)	358 (0.6)	**<0.001**
Outpatient IV Tx	1,727 (6.1)	1,811 (3.2)	**<0.001**

Table 2. Baseline Characteristics and Procedural Variables Associated with Complication in SDDSG

	Complication n = 406 (n, %)	No Complication n = 27,829 (n, %)	p-value
Age	42.4 ± 10.5	41.9 ± 10.7	0.34
BMI	44.1 ± 6.9	43.6 ± 6.9	0.16
Smoking	37 (9.1)	1551 (5.6)	**0.002**
Independent Functional Status	403 (99.3)	27786 (99.8)	**0.004**
OpTime (mins)	49.9 ± 28.9	49.3 ± 27.0	0.67
Hx OSA	133 (32.8)	7771 (27.9)	**0.03**
Hx Foregut Surgery	22 (5.4)	854 (3.1)	**0.007**
Hx Cardiac Surgery	5 (1.2)	92 (0.3)	**0.002**
Hx VTE	8 (2.0)	197 (0.7)	**0.003**
Hx PE	6 (1.5)	165 (0.6)	**0.02**
Robot Assist	46 (11.3)	3832 (13.8)	0.16

Discussion and Conclusions

- SDDSG and SGIS appear to have similar outcomes with current patient selection protocols
- More hospital systems and patients can potentially benefit from same day discharge after sleeve gastrectomy[2]
- SDDSG can allow for significant cost savings for hospitals and patients[3]
- Knowing which variables can complicate the postop course for same day discharge sleeve gastrectomy patients is the first step toward standardizing this practice

References

1. Kleipool, S.C., et al., *Feasibility of same-day discharge after laparoscopic sleeve gastrectomy in the Netherlands.* Surgical Endoscopy, 2024. **38**(2): p. 872-879.
2. Al-Masrouri, S., et al., Ambulatory sleeve gastrectomy: a prospective feasibility and comparative study of early postoperative morbidity. Surg Endosc, 2023. 37(7): p. 5553-5560.
3. Landreneau, J.P., et al., Safety and cost of performing laparoscopic sleeve gastrectomy with same day discharge at a large academic hospital. Surg Endosc, 2024.