THE EFFECT OF SIZING DEVICE USE DURING LAPAROSCOPIC SLEEVE GASTRECTOMY ON RATES OF POSTOPERATIVE DEHYDRATION AND OTHER 30-DAY COMPLICATIONS: AN ANALYSIS OF THE ACS-MBSAQIP DATABASE

Erik J DeAngelis MD, Juliet Lee MD, FACS, Noor Habboosh BA, Nyrah D Humayun BS, Brynne A Ichiuji BA, Andrew D Sparks MS, Paul Lin MD, FACS, Khashayar Vaziri MD, FACS, Hope T Jackson MD, FACS

Department of Surgery, George Washington University

Introduction

- During laparoscopic sleeve gastrectomy (LSG), many surgeons use an intraoperative sizing device.
- Optimal choice or combination of sizing devices is not known.
- The purpose of this study was to determine the association of sizing device on rates of dehydration, bleeding, and staple line leak following LSG.

Methods

- Patients 18-80 y.o. who underwent elective LSG were identified using the American College of Surgeons Metabolic and Bariatric Surgery Accreditation Quality Improvement Program (ACS-MBSAQIP) database from 2015-2018.
- Primary analysis was propensity score matched and compared the use of sizing device (bougie and/or EGD) to no sizing device.
- Secondary analysis compared all combinations of sizing devices in a multivariate analysis (EGD, bougie, EGD+bougie).

Table I : Multivariate Analysis of All Sizing Device Combinations

EGD vs Bougie	Adjusted odds ratio (95% CI)	p-value
Readmission Due to Dehydration	0.69 (0.49 – 0.97)	0.033
Intervention Related to Dehydration	0.23 (0.06 – 0.91)	0.037
EGD vs EGD+Bougie	**Adjusted odds ratio (95% CI)**	**p-value**
Intervention Related to Dehydration	0.21 (0.05 – 0.86)	0.030
Bougie vs EGD+Bougie	**Adjusted odds ratio (95% CI)**	**p-value**
Readmission Due to Dehydration	1.16 (1.07 – 1.27)	<0.001
Intervention Related to Bleeding	0.64 (0.45 – 0.89)	0.009

Results

- 418,901 patients were identified
- A sizing device was used in 408,551 (97.5%) cases
- No sizing device was used in 10,350 (2.5%) cases
- 4,479 (1.1%) cases utilized EGD
- 322,436 (77.0%) cases utilized bougie
- 81,636 (19.5%) cases utilized EGD+bougie
- No sizing device was associated with decreased odds of outpatient dehydration treatment (OR=0.82; 95% CI: 0.71–0.95; p=0.007)
- Table 1 summarizes the significant outcomes of the secondary analysis

Conclusions

- Using no sizing device was associated with a lower rate of outpatient dehydration treatment.
- If a sizing device was used, the type of sizing device chosen was significantly associated with readmission, dehydration, and bleeding outcomes after LSG.
- There is a need for standardization of sizing device during LSG.