Stony Brook Medicine

TIMING AND IMPACT OF BLEEDING AFTER BARIATRIC SURGERY

Introduction: The timing of bleeding after sleeve gastrectomy (SG) or Roux-en-Y gastric bypass (RYGB), the management, surgical (reoperation) or non-surgical (reintervention) and its implication on patient outcomes has not been thoroughly studied. We sought to describe the rates of reoperation or reintervention after bleeding following SG or RYGB and establish the difference between the two, as well as compare the need for subsequent management after the initial approach.

Methods: The Metabolic and Bariatric Accreditation and Quality Improvement Program (MBSAQIP) database was queried between 2015 and 2018 for any bleeding after SG or RYGB and subsequent reoperation or reintervention. Multivariable Fine-Gray models were used to compare the hazard of reoperation/reintervention. Multivariable generalized linear regression models were used to compare the number of subsequent reoperations/reinterventions depending on the initial management. Univariable analysis was used to adjust for significant confounding risk factors and deaths as competing events.

Results: 6251 patients with early or late bleeding after SG or RYGB were identified. 1927 and 1057 patients had reoperation and reintervention, respectively. For patients who developed bleeding, SG was associated with significantly higher reoperation risk while RYGB was associated with significantly higher risk of reintervention. Early bleeding was associated with significantly increased risk of reoperation and decreased risk of reintervention, regardless the initial procedure.

Variable	Comparison Levels	Reoperation HR (95% C.I.)	Reintervention HR (95% C.I.)
Surgery at early bleeding (<72hours)	RYGB vs SG	0.81 (0.73, 0.89)	2.09 (1.79, 2.45)
Surgery at late bleeding (>72 hours)	RYGB vs SG	0.38 (0.29, 0.49)	1.62 (1.30, 2.01)
Bleeding at RYGB	Early vs late	3.04 (2.42, 3.83)	0.44 (0.38, 0.51)
Bleeding at SG	Early vs late	1.42 (1.19, 1.70)	0.34 (0.27, 0.43)

The total number of subsequent reoperations/reinterventions did not differ significantly depending on whether the patients had reintervention or reoperation first (HR 1.01, 95% C.I (0.75, 1.36), p-value 0.9418)

Conclusion: Patients after SG who experience bleeding are more likely to undergo reoperation than RYGB patients. On the other hand, patients with bleeding after RYGB are more likely to undergo non-surgical reintervention compared to SG patients. Early bleeding is associated with higher risk of reoperation and lower risk of reintervention both after SG and RYGB. The initial approach did not play a role in the total number of subsequent reoperations/reinterventions.

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