

Predictors of post-operative anemia in anemic patients following bariatric surgery

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BACKGROUND: Obesity affects iron homeostasis, resulting in anemia. Bariatric surgery is the most effective obesity treatment. However, up to 66% of patients develop anemia after bariatric surgery.

RATIONALE: Previously, we identified incidence and risk factors for anemia in non-anemic patients after bariatric surgery. This current study aimed to identify the incidence and risk factors for anemia in anemic patients after bariatric surgery.

METHODS: A retrospective analysis of Ontario Bariatric Registry data was conducted on patients that received a primary bariatric procedure between January 2010 and June 2020. The primary outcome was recovery from pre-operative anemia at any follow-up time from 6 months to 5 years post-bariatric surgery. We created a binary logistic regression model to identify risk factors.

RESULTS: 1871 patients had baseline hemoglobin values below the WHO-defined threshold levels for their sex. 560 (29.9%) never recovered from anemia, and 1311 (70.1%) recovered across the time points post-surgery. Female sex, older age, and greater weight loss were associated with higher odds of recovery. Lower baseline hemoglobin and heart disease were associated with lower odds of recovery. There was no significant difference in recovery when sleeve gastrectomy was compared to Roux-en-Y gastric bypass.

CONCLUSION: A higher proportion of patients recover from anemia following bariatric surgery, and a lower proportion remain anemic. Patients experiencing greater weight loss are more likely to recover. In contrast, patients with lower baseline hemoglobin and heart disease need closer monitoring. Lastly, this cohort showed no significant difference between a restrictive and a malabsorptive procedure in recovery.

249/250 – word count does not include study title, names, or affiliations.

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