

Adjustments to warfarin dosing after gastric bypass and sleeve gastrectomy

ABSTRACT

Background: Warfarin dosing after bariatric surgery may be influenced by alterations in gastrointestinal pH, transit time, absorptive surface area, gut microbiota, food intake, and adipose tissue.

Objectives: The aim of this study was to describe trends in warfarin dosing after Roux-en-Y gastric bypass (RYGB) and sleeve gastrectomy (SG).

Setting: Single academic center.

Methods: All patients chronically on warfarin anticoagulation before RYGB or SG were retrospectively identified. Indications for anticoagulation, history of bleeding or thrombotic events, perioperative complications, and warfarin dosing were collected.

Results: Fifty-three patients (RYGB $n = 31$, SG $n = 22$) on chronic warfarin therapy were identified (56.6% female, mean 54.4 ± 11.7 yr of age). Of this cohort, 34.0% had prior venous thromboembolic events, 43.4% had atrial fibrillation, and 5.7% had mechanical cardiac valves. Preoperatively, the average daily dose of warfarin was similar in the RYGB group (8.3 ± 4.1 mg) and SG group (6.9 ± 2.8 mg). One month after surgery, mean daily dose of warfarin was reduced 24.1% in the RYGB group ($P < .001$) and 23.2% in the SG group ($P = .002$). At 12 months postoperatively, the required daily warfarin dose compared with baseline remained statistically different (RYGB: 6.8 ± 3.8 mg; SG: 6.1 ± 2.0 mg).

Conclusions: The warfarin dose is expected to be decreased by approximately 25% from preoperative levels after both RYGB and SG. Lower dose requirement within the first month after bariatric surgery is followed by a trend toward increased warfarin dose requirements, but remain less than baseline. Because dose requirements change constantly over time, frequent postoperative monitoring of the international normalized ratio is recommended.

Keyword: Anticoagulation; Bleeding; Gastric bypass; INR; Sleeve gastrectomy; Thrombosis; Warfarin