Short-term Outcomes of One-Stage versus Two-Stage Revisional Bariatric Surgery after Adjustable Gastric Band Removal

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BACKGROUND:

The need for revisional bariatric surgery after adjustable gastric banding (AGB) is increasingly reported with a rate of 30-60%. The timing of band removal and type of revisional procedure remain controversial. Our aim was to compare the safety and short-term outcomes of one-stage versus two-stage revisional surgery after AGB removal.



METHODS:

This is a retrospective review of all patients who underwent AGB removal with planned revisional bariatric surgery at a single academic institution during 2013-2020. Baseline demographics, body mass index (BMI), early postoperative morbidity, and short-term outcomes were recorded. Descriptive statistics are displayed as count (percentage) or median (range).

RESULTS:

61 patients underwent AGB removal with a planned revisional surgery (72% female, 28% male). While 44 patients (72%) underwent one-stage revisional surgery, 17 patients (28%) had their revisional bariatric surgery performed in two stages. Patients' characteristics are shown in table 1. The main reason for band removal was weight regain or inadequate weight loss. The most common revisional surgery performed was sleeve gastrectomy (SG) as shown in table 2. Short-term weight outcomes are shown in table 3. The overall rate of 30-day postoperative morbidity, including readmissions and reoperations, was 11% for the entire study cohort. The rate of major postoperative morbidity was 5% versus 12% in the one-stage and two-stage groups, respectively (P=0.65).

Table (1): Patients' characteristics

Parameter	Median (Range)
Age	46 (20-72) years
BMI prior to AGB removal	46 (30-72) kg/m^2
Time from AGB insertion to removal	7 (2-17) years
Time interval between AGB removal to planned revisional surgery in the two-stage group	3 (1-24) months

Table (2): Type of revisional surgery

	Type of revisional surgery	Number of patients (%)
One-stage group	SG	43 (98%)
	SADI	1 (2%)
Two-stage group	SG	11 (65%)
	RYGB	6 (35%)

CONCLUSION:

Revisional bariatric surgery, particularly SG, after AGB removal can be safe in a one-stage setting. Both one-stage and two-stage approaches in revisional surgery after AGB removal are similarly effective in further weight loss at short-term follow-up. Larger studies with longer follow-up time are needed to confirm our findings.

Table (3): Short-term weight outcomes

	One-stage group	Two-stage group	P value
Median follow-up time	12 (5-18) months	11 (7-17) months	P=0.17
Median percent total weight loss (%TWL)	22% (6-40%)	22% (1-26%)	P=0.12
Median change in BMI	13 (5-23) kg/m^2	9 (0-12) kg/m^2	**P=0.005**

Table (4): Early postoperative morbidity

	Rate of major postoperative morbidity	P value
One-stage group	**5%** - Acute SMV thrombosis (requiring anticoagulation): 1 patient - Postoperative bleeding s/p SG (requiring pRBC transfusion & ICU admission): 1 patient	**P=0.65**
Two-stage group	**12%** - Postoperative leak s/p SG (managed non-operatively): 1 patient - Incarcerated incisional hernia (underwent open repair POD1): 1 patient	