A Minimalist Approach to Gastric Outlet Obstruction Secondary to Vertical Banded Gastroplasty

F Kamel¹, E Yorke^{1,2}, C de Gara^{1,2}

¹Department of Surgery, University of Alberta, Edmonton, AB

²Centre for the Advancement of Minimally Invasive Surgery, Edmonton, AB

Introduction

Bariatric Surgery is the only established treatment modality for severe obesity with long-term efficacy in sustainable weight loss² and comorbidity resolution such as diabetes, hypertension and dislipidemia.⁵ Vertical Banded Gastroplasty (VBG) was first described in 1982 by Mason and gained popularity in the 1990s due to good weight loss outcomes.⁴ Revision surgery for VBGs is estimated to be as high as 56% for complications and failure of sustained weight loss⁷, with up to 21% occurring within three years of the original operation.^{1,3} One of the late complications of VBGs requiring revision surgery is gastric outlet obstruction with a rate of 9-12%.^{3,6}

Methods

A retrospective chart review of all patients who had revision VBG surgery from November 2014 to July 2016 at the Royal Alexandra Hospital in Edmonton, Alberta was completed. From August 2015 to July 2016, a total of six patients selected for VBG mesh division were identified. A single surgeon performed all of these revisions.

Results

All six patients were female. Demographics are presented in Table 1. All patients had Esophagogastroscopey and Stomach & Duodenum Fluoroscopy preoperatively (Table 2). Table 3 and Figure 1 demonstrate the approach to each patient and intraoperative findings. All patients had immediate symptom resolution postoperatively and maintained relief at 30-day follow up.

Table 1: Patient Demographics

Median Age at VBG Procedure	37 (32 – 54)
Median Age at Revision Procedure	51 (48 – 72)
Median Time to Revision Procedure	18 (12 – 19)
Median Weight Lost following VBG Procedure (kg)	36 (3 – 59)
Revision Preoperative BMI	38.7 (24.2 – 43.0)

References

- (1)Brethauer et al. Systematic Review on Reoperative Bariatric Surgery: American Society for Metabolic and Bariatric Surgery Revision Task Force. *Surg Obes Relat Dis.* 2014;10(5):952-972.
- (2)Douketis et al. Periodic Health Examination Update: Detection, Prevention and Treatment of Obesity. *Can Med Assoc J.* 1999;160(4):513-525.
- (3)Marsk et al. High Revision Rates after Laparoscopic Vertical Banded Gastroplasty. *Surg Obes Relat Dis.* 2009;5:84-98.
- (4)Mason EE. Vertical Banded Gastroplasty for Obesity. *Arch of Surg.* 1982;117:701-706.
- (5)Sjostrom L. Bariatric Surgery and Reduction in Morbidity and Mortality: Experiences from the SOS Study. *Int J Obesity.* 2008;32:593-597.
- (6)Van Dielen et al. Laparoscopic Adjustable Gastric Banding versus Open Vertical Banded Gastroplasty: A Prospective Randomized Trial. *Obes Surg.* 2005;15:1292-1298.
- (7)van Gemert WG, van Wersch MD, Greve JWM, Soeters PB. Revisional surgery after failed vertical banded gastroplasty: restoration of vertical banded gastroplasty or conversion to gastric bypass. *Obes Surg.* 1998;8:21-28

Table 2: Preoperative Investigations

Esophagogastroscopey	n = 6 (100%)
Narrowing at band site	5 (83%)
Endoscopic Dilation	4 (67%)
S & D Fluoroscopy	n = 6 (100%)
Delayed Gastric Emptying	3 (50%)

Table 3: Operative Approach and Findings

Approach to Abdomen	n = 6 (100%)
Laparoscopy	5 (83%)
Converted to Open	1 (17%)
Approach to Mesh Band	n = 6 (100%)
Release/Partial Excision	3 (50%)
Complete Excision	2 (33%)
*No band release	1 (17%)

Figure 1: Appearance of resected bands

Conclusion

We present a safe, alternate management approach to patients who develop gastric outlet obstruction following a VBG procedure. This approach affords the opportunity for conversion to an alternate bariatric procedure in the future, should one be indicated. Nonetheless, long-term sequelae remain to be determined.