

Case Report

Vertical Gastric Resection (Sleeve Gastrectomy) in a Morbidly Obese Patient with Past Jejunioileal Bypass

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Jejunioileal bypass (JIB) is a purely malabsorptive operation, which has been abandoned in the USA and Western Europe due to occasional serious complications. We are still seeing past JIB patients who have become obese again over the years, but are not suffering side-effects of the previous JIB, and are complaining of typical co-morbidities of the obesity. We present a prior JIB patient who underwent a sleeve gastrectomy in 2003 for recurrence of morbid obesity. The patient has been followed for another 4 years with regular laboratory tests, monitoring of weight loss, bone densitometry and possible complications. Selected morbidly obese patients who have undergone past JIB, can be safely treated by a restrictive procedure, sleeve gastrectomy, to accomplish successful weight loss without increasing the risk of possible serious complications.

Key words: Morbid obesity, obesity surgery, jejunioileal intestinal bypass, sleeve gastrectomy, weight loss, co-morbidity

Introduction

Jejunioileal bypass (JIB) was an early malabsorptive operation for morbid obesity. Although satisfactory long-term results have been reported in a number of series,¹⁻⁶ this operation was abandoned due to reports of complications, such as renal stone formation, liver failure, fat-soluble vitamin deficiencies, migratory arthritis, blind-loop syndrome, and diarrhea.⁷⁻¹¹ We are still seeing JIB patients of many years ago, who may have become obese again over

the years, and are not suffering from side-effects of the previous JIB. However, they may be complaining of typical co-morbidities related to the obesity.

Case Report

In 1976, a female, then 33-years-old, with weight 145.2 kg, BMI 56.8 kg/m² (super-obese), and marked lower back pain syndrome, underwent JIB. Her problems resolved 1 year following the JIB. At 2 years following the JIB, her lowest weight was 68.0 kg (having lost 77.2 kg). However, she began to gain weight 3 years after the surgery.

In September 2002, her weight was now 102 kg, height 1.625 m, and BMI 40. Co-morbidities now included arthritis of weight-bearing joints, low back pain, gastroesophageal reflux, rash under skinfolds, dyspnea during activities, and an incisional hernia. In her past history, she had undergone cholecystectomy in 1972, the JIB in 1976, hysterectomy in 1978, renal stone removal in 1979, right knee surgery in 1997, and operations for small bowel obstruction in 1979, 1984 and 1990. Her medications included Vioxx, Demadex, K-Dur, Nexium, Darvocet, and Fiorinal. Her blood-work showed potassium 3.1 (normal 3.5-5.3) secondary to diuretics, Hb 11.4 (normal 11.7-18.8) and Hct 33.7 (normal 3.5-5.4). The 24-hour urine abnormal levels were sodium 221 (normal 80-180) and oxalate 148.2 (normal 3.6-38.0).

In January 2003, 27 years after the original JIB, now 60 years old, she underwent a vertical gastric resection (standard sleeve gastrectomy). The gastric volume was reduced to 100 cc, and lysis of adhesions, drainage of

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the perigastric area with a J-P drain and liver biopsy were performed at the operation. The pathology results reported moderate hepatic steatosis and mild chronic gastritis. *H. pylori* results were negative.

The investigations 26 months after the sleeve gastrectomy (Table 1) found percent excess weight loss (%EWL) 95.74%. The patient has not had any problems with malnutrition, anemia, vitamin D-25, vitamin D-1,25, or vitamin A deficiencies. Her liver enzymes are normal and stable (Table 2). Her bone density has remained in the normal range after the sleeve gastrectomy (Table 3), and is being followed. The patient continues to take vitamin and mineral supplements, similar to duodenal switch patients.

When last seen in January 2007 (4 years after the sleeve gastrectomy), her BMI was 23.1, the co-morbidities of obesity had resolved, and she was doing well.

Table 1. Weight evolution after sleeve gastrectomy, in a patient with JIB in the distant past

After Sleeve gastrectomy	Weight (and kg lost)	BMI (kg/m ²)	%EWL
Before sleeve gastrectomy	120.1 kg	40.0	–
6 weeks	88.0 kg (-14)	34.4	33.0
3 months	82.5 kg (-19.5)	32.3	45.7
6 months	77.6 kg (-24.5)	30.4	57.1
9 months	66.7 kg (-35.3)	26.1	83.0
12 months	64.4 kg (-37.7)	25.3	88.0
18 months	67.1 kg (-34.9)	26.3	81.9
26 months	61.2 kg (-40.8)	24.0	95.7

%EWL = percent of excess weight lost.

Table 2. Blood results after sleeve gastrectomy

Test (normal range)	Pre-op	6 mons	12 mons	18 mons	26 mons	32 mons
Albumin (3.2-4.6)	3.7	3.8	4.4	4.0	39.	4.2
T. Protein (6.0-8.3)	6.0	5.6	6.8	5.9	6.0	6.2
Ferritin (20-288)	–	23.3	23.9	–	15	35
Hemoglobin (11.7-15.5)	11.4	10.8	12.5	11.6	11.1	12.0
Hematocrit (35-45)	33.7	32.1	37.3	33.9	33.2	35.9
Vit D-25 (20-100)	17	34	27	58	47	59
Vit D-1,25 (15-60)	28	46	41	53	35	63
T. Chol (<200)	167	116	170	128	133	144
Alk Phos (20-125)	95	102	129	85	104	81
AST (2-35)	19	15	18	16	25	24
ALT (2-40)	23	21	27	23	29	29

Table 3. Bone density – changes 2 years after the added sleeve gastrectomy

Before Sleeve Gastrectomy		2 Years Postoperatively	
T-score		T-score	
L 2-4	3.4	L 2-4	3.23
femur-neck	0.4	femur-neck	-0.4
Total	1.9	Total	+0.7

Discussion

There have been many series of JIB with good results, although on occasion, there have been serious sequelae. Regain of weight may occur in the long-term in some patients after JIB, but the development of morbid obesity in these patients is uncommon. A number of these patients were revised because of complications of the operation in earlier years. However, many JIB patients have adapted very well, and do not have side-effects of the operation. The biliointestinal bypass¹² and the ileogastrostomy¹³ are forms of JIB that have continued to be safe at a few centers over the years.

Our approach in this 60-year-old morbidly obese lady, was to add a restrictive component, open sleeve gastrectomy,¹⁴ to the existing malabsorption. After this added operation, the patient lost a significant amount of weight and stabilized at 24 months. The patient has now been followed for 4 years after the reoperation, with regular laboratory tests and monitoring of weight loss, bone densitometry and possible new complications. She appears to have settled out with BMI of 23.1 and is doing well.

In conclusion, morbidly obese patients who have undergone JIB in the distant past without having side-effects of the original malabsorptive surgery but who are suffering from co-morbidities related to recurrence of obesity, may benefit from a sleeve gastrectomy as a safe and effective weight loss option, with continued postoperative surveillance.

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