—Case Reports—

Reemployment and Recovery from Stigma after Metabolic/Bariatric Surgery: A Case Report and Review

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Bariatric surgery is performed worldwide to address morbid obesity. The benefits of this surgery are weight loss and a decrease in obesity-related complications. The relationship between metabolic/bariatric surgery and reemployment has been evaluated in Western countries, but few such studies have been performed in Japan because the number of metabolic/bariatric surgeries is small. Only a limited number of Japanese studies have evaluated the effects of bariatric surgery on obesity stigma, which affects employment and advancement opportunities for obese persons and may result in dismissal. We describe a case of bariatric surgery for a 39-year-old man who was dismissed from his job because of morbid obesity. Traditional weight loss methods failed to maintain weight loss and, preoperatively, the patient was receiving treatment for type 2 diabetes, hypertension, and abnormal lipid metabolism. He underwent sleeve gastrectomy and lost 50.4 kg (percent excess weight loss: 68.1%) in the first postoperative year. All medications were stopped after improvement in the results of laboratory blood tests and he was reemployed at 8 months after surgery. Increased social activity associated with employment is a factor in suppressing rebound weight gain after bariatric surgery, and weight loss associated with bariatric surgery helps decrease anti-obesity social stigma. (J Nippon Med Sch 2023; 90: 282–287)

Key words: bariatric surgery, morbid obesity, social stigma, type 2 diabetes

Introduction

Bariatric surgery has spread rapidly worldwide because of the increasing number of morbidly obese persons. Laparoscopic gastric surgery was recently developed as a minimally invasive treatment[1], and obesity surgery can be performed laparoscopically using the technique. There are many reports of the effects of bariatric surgery on weight loss and improvement in obesity-related complications[2,3]. In Japan, metabolic/bariatric surgery for severe obesity has been covered by insurance since 2014, and strict standards have been established for centers that provide insured medical care. The total number of bariatric and metabolic procedures performed worldwide in 2018 was 696,191[4]. In Japan, 757 such procedures were performed in 2019[5].

At our center, we met the facility standards after 2019, performed the first surgery, and entered the field of obesity surgery. Although complications and healthcare costs associated with obesity are often discussed, obesity is also considered a labor market issue in Western countries. Because the history of this surgery is short in Japan, no study has investigated the social context, including the effect on the work environment, after metabolic/bariatric surgery. Obesity discrimination is present in all aspects of the labor market, from recruitment to selection, transfer, compensation, promotion, training, and dismissal[6]. Our patient experienced effective loss of body weight and diabetes remission and achieved social rehabilitation after reemployment at 8 months following bariatric surgery. This report describes the short-term out-

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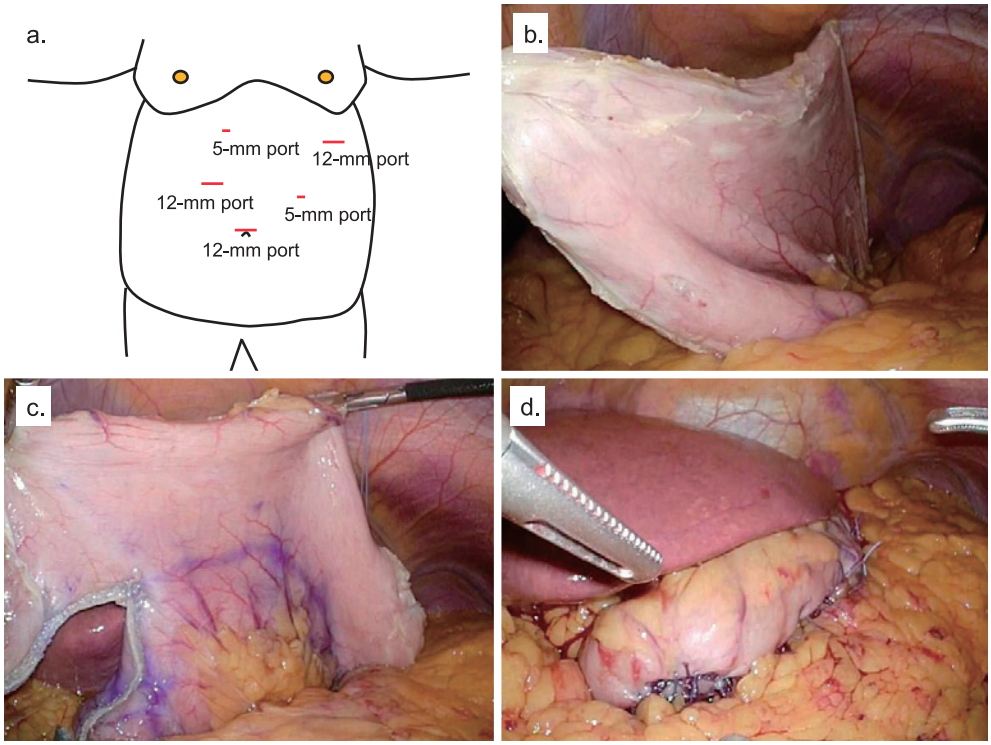


Fig. 1 Laparoscopic sleeve gastrectomy port sites and intraoperative photographs
a: port sites, b: posterior resection of the stomach, c: resection of the gastric corpus, d: remnant stomach after reinforcement suturing

comes of the first bariatric surgery at our center and considers the social effects of bariatric surgery in the published literature.

Case Presentation

A 39-year-old man was referred to our hospital for evaluation of morbid obesity, type 2 diabetes, hypertension, and abnormal lipid metabolism. He had been working for the Self-Defense Forces since age 18 years but left the job when he was 25 years old and later gained weight—from a starting weight of 70 kg to over 120 kg. At age 35 years, his primary care doctor treated his morbid obesity with diet counselling, regular physical exercise, and behavioral education; however, the patient continued to gain weight. He finally decided to undergo bariatric surgery after he was dismissed from his job at age 38 because of morbid obesity. At his first visit to our facility, he weighed 144.6 kg, his height was 175 cm, and his body mass index (BMI) was 51.2 kg/cm^2. It was difficult for him to perform exercise therapy for weight loss because of low back and knee pain from chronic obesity. He satisfied the diagnostic criteria for type 2 diabetes and was treated with oral medications, including a glucagon-like peptide (GLP-1) receptor agonist. His hemoglobin A1c (HbA1c) concentration was 6.7. Severe sleep apnea syndrome was revealed during the preoperative examination, which showed an apnea-hypoxia index of 81. We decided to perform bariatric surgery after consulting with the department of endocrinology to exclude the possibility of medical conditions that might cause obesity.

Laparoscopic sleeve gastrectomy as bariatric surgery was performed under general anesthesia, as described below. Five ports were used (**Fig. 1**). The first 12-mm port was placed at the umbilicus with an optical bladeless trocar, and four working ports were created in the upper abdomen. The CO_2 insufflation pressure was set at 12 mm Hg. The omentum was separated from the greater curvature opposite the angular incisure by using a vessel sealing system (LigaSure). Then, the short gastric vessels were divided between the fundus and spleen, and the greater curvature was resected along with the fundus by using a Signia stapler after securing the gastric lesser curvature by gastroscopy. The staple line was oversewn with a continuous suture for reinforcement. There were no perioperative complications, and blood loss was minimal. The operative time for sleeve gastrectomy was 3 hours 26 minutes. The patient was extubated in the operating room and monitored overnight in intensive care. An upper gastrointestinal contrast study on postopera-

Fig. 2
a. Photograph showing the resected stomach specimen.
b. Postoperative gastric fluoroscopy image.

tive day 3 showed a tubular stomach remnant with a volume of approximately 150 mL (**Fig. 2**). Oral intake was started the same day, and the patient was discharged from hospital on the 12th postoperative day. Over the next 12 months, he lost 50.4 kg (BMI: 33.4 kg/m^2) and achieved a percent excess weight loss (%EWL) of 68.1% (**Fig. 3a**). Moreover, his diabetes medications were discontinued. He started exercise therapy again and enjoyed outside activities with friends. The weight loss effect of surgery has been maintained for 1 year after surgery (**Fig. 3**), and laboratory studies show no signs of malnutrition or vitamin deficiency. He was rehired at 8 months after surgery.

This study was conducted in accordance with the principles described in the Declaration of Helsinki. The patient provided permission to publish the features of his case, and his identity has been protected.

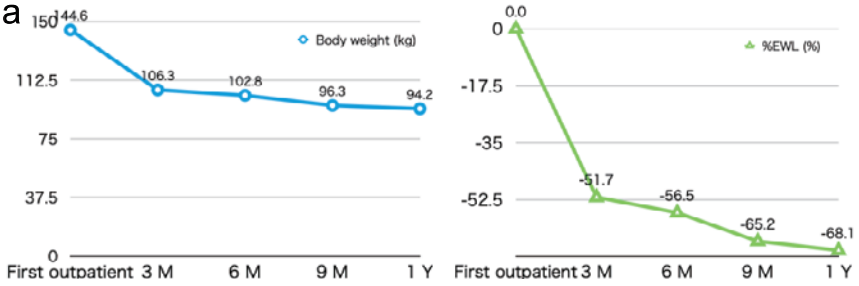
Discussion

Surgery for weight loss began in the 1950s. Laparoscopic techniques have revolutionized bariatric surgery by reducing operative time, length of stay, and the risk of complications, without hampering long-term benefits. The laparoscopic revolution has also vastly increased the number of bariatric procedures performed worldwide[7]. Surgical treatment of severe obesity was recently shown to improve obesity and prevent obesity-related complications such as diabetes. Bariatric surgery also suppresses carcinogenesis of liver cancer by limiting non-alcoholic steatohepatitis[8]. Amelioration of complications related to morbid obesity helps maintain long-term weight loss and reduces cumulative mortality[9].

Severely obese persons face discrimination and prejudice in their social activities, which affects their opportunities for employment and promotion[6,10]. Reasons for workplace discrimination against obese people include decreased productivity caused by physical disability and the accompanying absenteeism, and the need for forced work-environment adjustments to address body shape. Employers are often reluctant to hire obese people because of concerns it will increase health insurance costs. Improving severe obesity through metabolic/bariatric surgery improves patient productivity and work efficiency and addresses adverse effects on employment[11]. As a result, bariatric surgery can relieve stress and social alienation. Some reports indicate that weight loss surgery increases the reemployment rate[12]. In a report from a western country, 24% of surgically treated patients obtained full-time employment within 1 year after surgery. In contrast, the reemployment rate was only 9% for non-surgical patients ($p = 0.043$)[13]. Another study reported that obese patients undergoing surgery were 3.24 times as likely to return to work as non-surgical controls ($p = 0.01$)[14]. The effects of weight loss and improvement in metabolic diseases have been the focus of discussions in Japanese research on obesity surgery. However, many studies in western countries have also analyzed improvement in the reemployment rate after obesity surgery.

We recommended bariatric surgery for our patient because of his motivation after losing his job, which was

a



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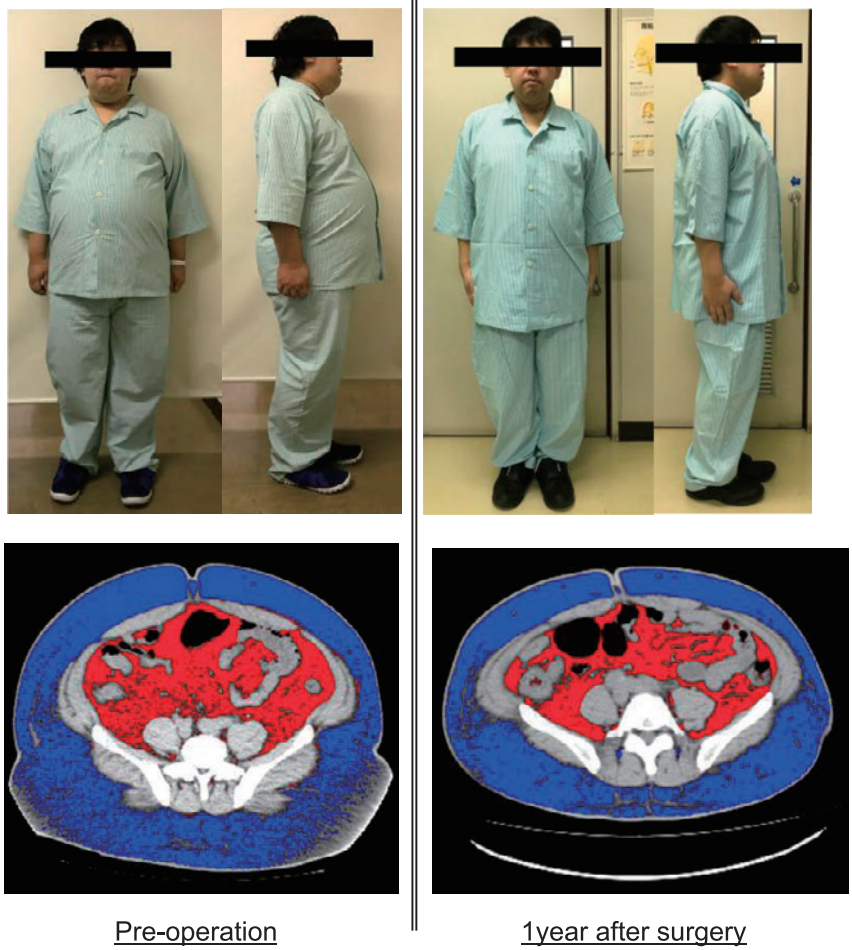

c

	Pre-operation	1year after surgery
SFA (cm^2)	473.9	366.3
VFA (cm^2)	207.1	268.3
VFA/SFA	0.44	0.37
Waist circumference (cm)	143.4	106.4

Fig. 3

a. Graphs showing postoperative changes in body weight loss and % excess weight loss.
b. Full-body photographs and abdominal computed tomography (CT) images preoperatively and 1 year after surgery. These images show visceral fat area (VFA; red) and subcutaneous fat area (SFA; blue)
c: Visceral fat area, subcutaneous fat area, and abdominal circumference on abdominal CT images.

the result of behavioral restrictions related to morbid obesity. The %EWL 1 year after the operation was 68.1%, which was equivalent to the rate in a previous observational report[15], and preoperative medications for diabetes, dyslipidemia, and hypertension were discontinued. These results indicate good therapeutic effects after obesity metabolic surgery. In addition to weight loss and improvement in obesity-related complications, the patient was rehabilitated and rehired 8 months after the operation. This suggests he was freed from the ill effects of the social prejudice against severe obesity.

Some patients undergoing metabolic/bariatric surgery regain weight after the second year[16,17]. The association between obesity and unemployment is also attracting attention as a public health problem, and it is thought that this association adversely affects obese persons[18]. Activity increases because of social activities associated with reemployment, thus suppressing weight regain. The increase in and maintenance of social activities are important factors, along with diet and exercise, in reducing the risk of repeat weight gain[19]. These factors are expected to attract attention as important factors in the continued therapeutic effect of weight loss surgery.

Conclusion

Our patient chose bariatric metabolic surgery after losing his job. He achieved good weight loss and resolution of complications and was rehired by his previous employer. In the near future, as the number of such surgeries increases in Japan, we expect that a growing number of studies will report reemployment of obese patients and improvement of quality of life.

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