



## Case Report

# Bariatric Surgery: Report of First Two Cases in Bangladesh

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### Abstract

Surgery is now considered to be the most effective treatment for reducing weight and maintaining weight loss in patients with clinically severe obesity. The use of bariatric surgery for treating severe obesity has increased dramatically over the past decade; about half of patients who undergo these procedures are women of reproductive age. Body mass index (BMI) is taken as a guide to measure obesity. Currently a patient with BMI 35 and above who fails to lose weight with adequate medical means is taken as an indication for bariatric surgery. But for those who have co-morbidities like diabetes or sleep apnoea this surgery is indicated at BMI even lower than 35. Bariatric surgery has the potential of curing certain type 2 diabetes mellitus and hypertension as well as preventing co-morbidities associated with very high BMI. In this paper we report the first two cases of bariatric surgery in Bangladesh.

### Introduction

Obesity is defined as a body-mass index (BMI) (the weight in kilograms divided by the square of the height in meters) of 30 or more<sup>1</sup>. The prevalence of obesity is rising to include more than 30% of the population<sup>2-3</sup>. The majority of large and long-term epidemiologic studies have indicated that obesity is associated with increased mortality<sup>4</sup>. The life expectancy of severely obese persons is reduced by an estimated 5 to 20 years<sup>5</sup>. Weight loss is known to be associated with improvement of intermediate risk factors for disease<sup>6</sup>, suggesting that weight loss would also reduce mortality. Surgery is now considered to be the most effective treatment for reducing weight and maintaining weight loss in patients with clinically severe obesity<sup>7</sup>.

Bariatric surgery is a superspeciality branch of surgery that deals with metabolic disorders and morbid obesity<sup>1</sup>. These operations can be categorized into three types, restrictive, malabsorptive and combined<sup>8</sup>. Restrictive procedures include gastric banding and sleeve resection where the stomach volume is effectively reduced. In malabsorptive procedures a bypass is performed between stomach and jejunum; and in combined procedures stomach volume reduction is done along with gasrojejunostomy. In western countries bariatric surgery has now become very

common, the reason being awareness of the dangers of obesity like diabetes mellitus, hypertension, coronary heart disease, hypercholesterolemia, various types of cancer, infertility, osteoarthritis, mental disorders, sleep apnea etc. It is alarming to note that even in Bangladesh the incidence of obesity is increasing<sup>9</sup>. In this paper we report the first two cases of bariatric surgery in Bangladesh.

### Case Reports

*Case 1:* A 48-year-old lady underwent abdominoplasty and sleeve resection of the stomach on 19<sup>th</sup> April 2008. Her initial pre-operative weight was 115 kg, which equates to a body mass index (BMI) of 46.

*Case 2:* A 30-year-old lady doctor, with the initial pre-operative weight of 145 kg, hypertensive and BMI of 55, underwent abdominoplasty and sleeve resection of the stomach on 26<sup>th</sup> July 2008.

Under general anaesthesia (GA), type IV abdominoplasty was done. Upper flap was raised to gain access to the abdominal cavity. Harmonic scalpel was used to divide greater omentum from the stomach. This division was made close to the greater curvature starting from 5 cm proximal to the pylorus and going up

to the gastroesophageal junction. Extreme care was taken to avoid injury to the spleen, and 7.5 cm linear cutting stapler from Johnson & Johnson (Fig. 1) was used to remove two-third or 70% of the stomach (Fig. 2). The first stapler was used in an oblique direction dividing the greater curvature 6 cm proximal to the pylorus; and the subsequent staplers fired vertically parallel to the lesser curvature and under guidance of a thick nasogastric tube. In this way stapling and division was continued up to the angle of His - thus completely removing the greater portion of the stomach from the left side. The resulting tubular shaped stomach was then checked for staple line bleeding.

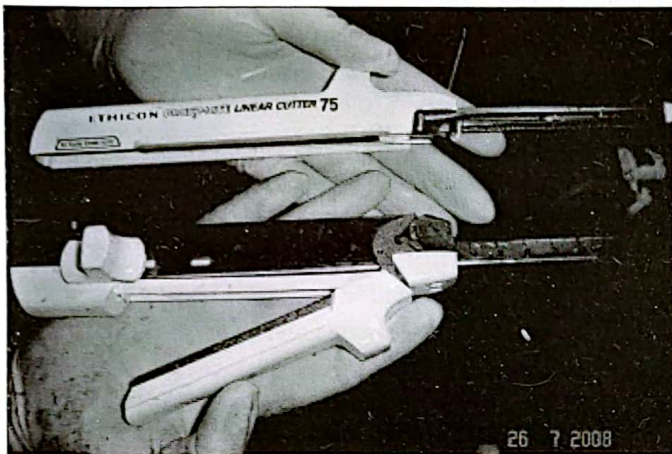


Fig. 1: Linear cutting stapling device (7.5 cm).



Fig. 2: Stapling device been used to remove two-third of the stomach.

Both the patients were evaluated by contrast X-ray on the 3<sup>rd</sup> post-operative day (POD) to check residual stomach size and leakage. Fig. 3 shows the pre-operative barium meal X-ray of stomach and Fig. 4 shows the post-operative X-ray of the same patient after sleeve resection.

After 3 months the first case had lost 25 kg. The abdominal girth reduced from 59 to 48 inches, *i.e.*, reduced by 11 inches. The second case similarly lost 27 kg within the first two and half

months. Her abdominal girth reduced by 10 1/2 inches. She had been cured of hypertension and no longer requires antihypertensive medications.



Fig. 3: Pre-operative barium meal X-ray of stomach a patient to be underwent sleeve resection of the stomach.

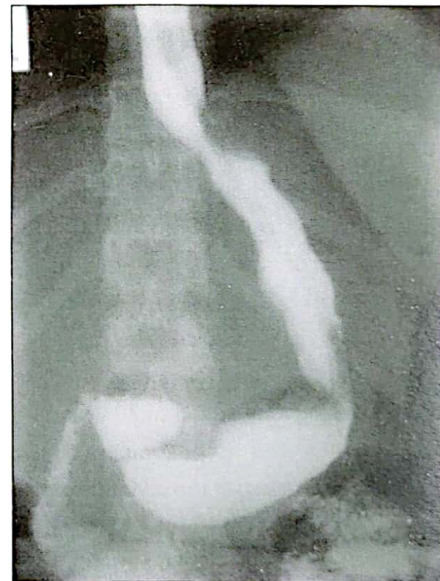


Fig.4: Post-operative X-ray underwent sleeve resection of the stomach.

#### Discussion

Body mass index (BMI) is taken as a guide to measure obesity<sup>1,10</sup>. Currently a patient with BMI 35 and above who fails to lose weight with adequate medical means is taken as an indication for bariatric surgery<sup>1</sup>. But for those who have co-morbidities like diabetes or sleep apnoea this surgery is indicated at BMI even lower than 35. Bariatric surgery has the potential of curing certain type 2 diabetes

mellitus<sup>11</sup> and hypertension as well as preventing co-morbidities associated with very high BMI.

Post-operative follow-up is important to ensure strict adherence to nutritional advice<sup>12</sup>. Patients are advised to take 5 small meals in a day and to avoid high calorie drinks. In gastric sleeve resection patients, vitamin B<sub>12</sub> injections are required to prevent post-operative megaloblastic anaemia<sup>12</sup>.

Possible complications after bariatric surgery include anaesthetic hazards, pulmonary embolism, injury to spleen and liver, staple line bleeding, leakage, wound infection and post-operative nutritional deficiencies<sup>13-14</sup>. We have done both of our cases as open procedures; this is because they desired an abdominoplasty procedure at the same sitting.

### Conclusion

With advancement in laparoscopic surgical techniques, it is easier to go for laparoscopic bariatric surgery first, and after the patient has lost weight plastic surgeons can carry out an abdominoplasty or a thigh-lift as per requirement. It is therefore important to build up teamwork with general surgeon, plastic surgeon, bariatric anaesthetist, nutritionist, endocrinologist and psychologist for safe and effective bariatric surgery in Bangladesh.

### References

1. Sjöström L, Narbro K, Sjöström CD, Karason K, Larsson B, Wedel H, Lystig T, *et al.* 2007. Effects of bariatric surgery on mortality in Swedish obese subjects. *N Engl J Med.* 357(8): 741-752.
2. Flegal KM. 2005. Epidemiologic aspects of overweight and obesity in the United States. *Physiol Behav.* 86: 599-602.
3. Ogden CL, Carroll MD, Curtin LR, McDowell MA, Tabak CJ and Flegal KM. 2006. Prevalence of overweight and obesity in the United States, 1999-2004. *JAMA.* 295: 1549-1555.
4. Freedman DM, Ron E, Ballard-Barbash R, Doody MM and Linet MS. 2006. Body mass index and all-cause mortality in a nationwide US cohort. *Int J Obes (Lond).* 30: 822-829.
5. Fontaine KR, Redden DT, Wang C, Westfall AO and Allison DB. 2003. Years of life lost due to obesity. *JAMA.* 289: 187-193.
6. Sjöström L, Lindroos A-K, Peltonen M, *et al.* 2004. Lifestyle, diabetes, and cardiovascular risk factors 10 years after bariatric surgery. *N Engl J Med.* 351: 2683-2693.
7. Kushner R. 2000. Managing the obese patient after Bariatric surgery: A case report of severe malnutrition and review of the literature. *JPEN J Parenter Enteral Nutr.* 24(2): 126-132.
8. Buchwald H, Avidor Y, Braunwald E, Jensen MD, Pories W, Fahrbach K and Schoelles K. 2004. Bariatric surgery: A systematic review and meta-analysis. *JAMA.* 292: 1724-1737.
9. Duerenbugh P, Yap M and van Staveren WA. 1998. Body mass index and percent body fat; A meta analysis among different ethnic groups. *Int J Obes Relat Metab Disord.* 22: 1164-1167.
10. Dixon JB, Pories WJ, O'Brien PE, Schauer PR and zimmer P. 2005. Surgery as an effective early intervention for diabetes: Why the reluctance? *Diabetes Care.* 28(2): 472-474.
11. Deitel M. 2003. Overweight and obesity worldwide now estimated to involve 1.7 billion people. *Obes Surg.* 13: 329-330.
12. Behms KE, Smith CD and Sarr MG. 1994. Prospective evaluation of gastric acid secretion and cobalamin absorption following gastric bypass for clinically severe obesity. *Dig Dis Sci.* 39: 315-320.
13. Kral JG. 1998. Surgical treatment of obesity. In *Clinical Obesity* (Kopelman PG and Stock MJ eds.), pp. 545-563. Oxford Press, Malden, MA.
14. Podnos YD, Jimenez JC, Wilson SE, Stevens CM and Nguyen NT. 2003. Complications after laparoscopic gastric bypass: A review of 3464 cases. *Arch Surg.* 138: 957-961.

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