

Low Complication Rates Following Laparoscopic Gastric Bypass. A Report from the Bariatric Surgery Center of Excellence.



Piotr Gorecki MD, Todd F Huzar MD, Bashar Fahoum MD
 Department of Surgery, New York Methodist Hospital, Brooklyn, New York

Introduction: Bariatric surgery remains the only modality to provide morbidly obese patients with a significant and sustained weight loss. Laparoscopic Roux-en-Y Gastric Bypass (LRGB) has become the gold standard of bariatric procedures. However significant but variable complication rates following laparoscopic gastric bypass were reported.

Materials and Methods: We present our experience with 434 consecutive patients who underwent LRGB at our institution between August 2001 and October of 2006. All patients met the NIH criteria for bariatric surgery and were operated by a single surgeon using the same technique. All patients and complications data were collected prospectively. A “Complication” was defined as any occurrence affecting uneventful recovery.

Results: There were 387 females (89.2%) and 47 males (10.8%) with an average body mass index (BMI) of 48.3 kg/m² (range 35-73). Mean length of stay was 3.4 days (1-40) and median hospital stay was 3 days. All operations were completed laparoscopically. The mean operating time was 182 min. and the mean blood loss was 45 cc. There were no major intra-operative complications and no need for intra-operative blood transfusion. There was no perioperative mortality. There were eight postoperative complications (1.8%) requiring re-operation (GI hemorrhage-4, leak from gastroenterostomy-2, bowel obstruction-2). Another nine patients required additional interventions or longer hospital stay. Forty-nine patients (11.3%) had minor complications responding to conservative treatment. There were no long-term disabilities. Detailed analysis of postoperative complications will be presented.

Conclusion: Establishment of the Bariatric Surgery Center of Excellence assists in achieving low complication rates by promoting the best clinical pathways and best training paradigms for both the surgeon and the institution. Low complication rates that compare favorably with those reported in the literature can be achieved.

Perioperative complications - Minor

Perioperative Minor	# 434
Wound infection	17 (3.9 %)
Pulmonary atelectasis	8 (1.84 %)
Dehydration	1 (0.46 %)
Ileus	4 (0.92 %)
Urinary tract infection	5 (1.15 %)
C. Dif Colitis	1 (0.23 %)
Hypoxemia	1 (0.23 %)
CHF	1 (0.23 %)
Total	(8.52 %)

Late complications

60 Patients (13.8%) had 64 late complications (29 re-operated 6.7 %)

Late	# 434
Mortality	0
Bowel obstruction **	4 (0.9)
Internal hernia – pain only	18 (4.1%)
Stomal stenosis	26 (6%)
GI Bleeding	3 (0.7%)
Trocar site hernia (umbilicus)	2 (0.46)
Cholecystitis	4 (0.92)
Gallstone pancreatitis	1 (0.23)
Marginal ulceration	5 (1.15)
Nausea	1 (0.23)
Total	60 (13.8%)
Brain Tumor – Glioblastoma Late mortality*	1

* Operated elsewhere – glioblastoma -1

** Including operated elsewhere - 1

Perioperative complications – Major (detail)

Perioperative Major	# 434
MOF	1 (0.23%)
ARDS	1 (0.23%)
Anastomotic leak - early	2 (0.46%)
Intraabdominal abscess	3 (0.69%)
Anastomotic leak – late	1 (0.23%)
GI hemorrhage – Total (4 re-operations)	16 (3.7%)
Port site hernia (incarcerated)	1 (0.23%)
Bowel obstruction	2 (0.46 %)
Pulmonary embolus	0
DVT	0
Myocardial Infarct (non Q wave)	1 (0.23 %)
CO2 retention – Respiratory Failure	1 (0.23 %)
Pulmonary edema – Respiratory failure	1 (0.23%)
Pneumothorax (CVP line)	1 (0.23%)
Pneumonia	2 (0,46%)
Total	(5.76 %)

Perioperative complications – Major (Group)

25 Patients (5.76%) had 33 major complication (8 reoperated – 1.8 %)

Requiring Re-operation	8
GI Hemorrhage – staple line bleed	4
Leak from gastrojejunostomy	2
Bowel obstruction	2
Blood transfusion –	12
Staple line bleed	12
Intra-peritoneal bleed	0
Additional intervention	6
Longer hospital stay	3
Mortality	0

References

- Higa KD, Boone KB, Ho T. Complications of the laparoscopic Roux-en-Y gastric bypass: 1,040 patients--what have we learned? *Obes Surg.* 2000;10:509-13.
- Schauer PR, Ikramuddin S, Gourash W, Ramanathan R, Luketich J. Outcomes after laparoscopic Roux-en-Y gastric bypass for morbid obesity. *Ann Surg.* 2000;232: 515-29.
- Livingston EH, et al. Complications of bariatric surgery. *Surgical Clinics of North America.* 2005 Aug; 85(4): 853-68
- McCullough PA, et al. Cardiorespiratory fitness and short term complications after bariatric surgery. *Chest* 2006 Aug; 130(2): 517-25.
- Nelson WK, Enteric hyperoxaluria, nephrolithiasis, and oxalate nephropathy: potentially serious and unappreciated complications of Roux-en-Y gastric bypass. *Surgical Obesity Related Disorders.* 2005 Sep-Oct; 1(5):481-5.
- Jamal MK. Impact of major co-morbidities on mortality and complications after gastric bypass. *Surgical Obesity Related Disorders.* 2005 Nov-Dec; 1(6): 511-6.
- Parikh MS, Laker S, et al. Objective comparison of complications resulting from laparoscopic bariatric procedures. *Journal American Journal Surgery.* 2006 Feb; 202(2): 252-9.

5 complications occurred in the first 100 patients
 7 Patients had 7 intra-operative complications

Intra-operative Complications	# 434
Mortality	0
Major	0
Minor	
Conversion to laparotomy	0
Liver laceration (minor)	2
Stapling of nasogastric tube	1
Stapling temperature probe	2
Incomplete division of the stomach	1
Linear stapler malfunction	1
Total	7 (1.6 %)

Complications - Summary 434 patients

- Mortality 0%
- Intra-operative 1.6%
- Perioperative
 - Minor 8.5%
 - Major 5.7 %
- Late 13.8 %
- Long Term Disability 0%