University of Texas Health Science Center at San Antonio
Interlibrary Loan

ILLiad TN: 15423

ILL Number: 35692694

Borrower: UUE

Fax: (801)581-3632
Ariel: 155.100.78.5
Email: ill@lib.med.utah.edu
Phone: (801)581-5282

Shipping Address:
University of Utah
Eccles Health Sciences Library-ILL
10 N. 1900 East
Salt Lake City UT 84112-5890

Call #:
Location: **online**

Received Date: 10/5/2007 09:10:40 AM
Patron: Brown, Carol
Journal Title: Obesity surgery ; the official journal of the American Society for Bariatric Surgery and of the Obesity Surgery Society of Australia and New Zealand.
Volume: 12
Issue: 1
Month/Year: feb 2002
Pages: 121-3
Article Author:
Article Title: Cottam Dr; Preperiationeal hernniation

Comments: Borrowing Notes; Please ARIEL 155.100.78.5 or 155.100.78.2 if no extra charge, thank you

Shipping Method: Ariel
Charge: Charge
Maxcost: $11IFM

Unfilled for the following reason:

___LAC (Lack Volume/Issue
___CST (Cost Exceeds Maxcost)
___NOT (Not Owned)
___NYR (Not Yet Received)
___INC (Incorrect Citation)
___NOS (Not on Shelf)
___LOS (Lost)
___BDY (At Bindery)
___OTH (Other) Elaborate:_____

Lending Library:

OCLC: TSA
DOCLINE:TXUTSA

TExpress: 63/SAT
UTHSCSA Library
7703 Floyd Curl Drive MSC 7941
San Antonio TX 78229-3900

Hours: Monday-Friday, 8AM – 5PM CST
Phone: 210-567-2460
Fax: 210-567-2463
ARIEL: 129.111.57.225
Email: ariel-ill@uthscsa.edu

Circle One:

IFM EFTS Invoice No Charge $_____

Comments:_____

Scanned, Mailed or Faxed by:_____

Obesity Surgery, 12, 121-123

Case Report

Preperitoneal Herniation Into a Laparoscopic Port Site Without a Fascial Defect

Daniel R. Cottam, MD; Piotr J. Gorecki, MD; Marcio Curvelo, MD; David Weltman, MD; L. D. George Angus, MD; Gerald Shaftan, MD

Nassau University Medical Center, Department of Surgery, East Meadow, NY, USA

Background: Port site herniation is an uncommon event that usually occurs as a result of incomplete fascial closure. This allows the omentum or viscera to herniate through the incompletely closed defect. However, in laparoscopic surgery for morbid obesity, the omentum and viscera can herniate through the thick preperitoneal space even with a complete closure of the fascia.

Case Report: A 19-year-old female with BMI 55 underwent uneventful long limb laparoscopic Roux-en-Y gastric bypass. On postoperative day 1 the patient had limited pain, was ambulating well, and was tolerating sips of liquids. A limited upper GI series performed on postoperative day 2 revealed no leak or obstruction. Several hours later the patient developed abdominal pain associated with nausea, which progressed to vomiting. CT of the abdomen suggested a port site herniation into the left subcostal port. The cause of the obstruction appeared to be herniation through the left subcostal port site. At laparotomy, a segment of bowel just distal to the anastomosis was found herniated through the port site. The Richter's hernia was reduced. Careful inspection of the fascia revealed a complete fascial closure, with the strangulated portion of the bowel incarcerated in the preperitoneal space. Following repair of the preperitoneal defect, her subsequent recovery was unremarkable.

Conclusion: Laparoscopic surgery for morbid obesity presents the possibility for preperitoneal herniation. Closure, using a fascial closure device, under laparoscopic control, may offer a solution by closing both the fascia and peritoneum all at once.

Key words: Morbid obesity, bariatric surgery, laparoscopy, bowel obstruction, hernia, Richter's

Reprint requests to: Daniel R. Cottam, 31 Woodpecker Lane, Levittown, NY 11756, USA. E-mail: danamycottam@yahoo.com

Introduction

Port site herniation is an uncommon but well described complication of laparoscopic surgery.[1] It usually results from a lack of or an incomplete closure of the fascia.[2-4] This allows the omentum or viscera to herniate through the fascial defect. However, in laparoscopic surgery for morbid obesity, the omentum and viscera can herniate through the thick preperitoneal space, even with a complete closure of the fascia.[5]

Case Report

A 19-year-old female with a BMI of 55 underwent an uneventful long limb laparoscopic Roux-en-Y gastric bypass. A 3-cm left subcostal incision, through which the head of a 25-mm circular stapler (US Surgical, Norwalk, CT, USA) was inserted, was closed extracorporeally with two figure-of-eight sutures.

On the first postoperative day, the patient was ambulating well and tolerating sips of liquids. A limited upper GI series performed on the second postoperative day revealed no anastomotic leak. Twelve hours later, she developed nausea, which progressed to vomiting. A repeat contrast study was performed, which again revealed no proximal or distal anastomotic defects and no bowel obstruction. Physical examination did not reveal any evidence of an acute incisional hernia. Because of

repeated vomiting and increasing abdominal pain, a CT scan of the abdomen was performed which revealed a partial small bowel obstruction with the transition point just distal to the entero-enterostomy (Figure 1). The cause of the obstruction appeared to be a bowel herniation through the left subcostal port site.

At laparotomy, a segment of bowel 3 cm distal to the anastomosis was found herniated through the port site. The Richter's hernia was reduced, and inspection of the left subcostal port site revealed a complete fascial closure. The strangulated portion of the bowel had indeed herniated into the preperitoneal fat space (Figure 2). The preperitoneal fat space was repaired and a gastrostomy tube was inserted in the distal stomach. Her subsequent recovery was unremarkable.

Discussion

Laparoscopic port site herniation is reported to occur in 0.17% to 1.83% of patients.[2,6] These events are attributable to a lack of or an incomplete closure of the fascial defect.[2-4,7-10] However, in laparoscopic bariatric surgery prefascial herniation may also occur. These prefascial hernias can happen at any large port site (ie. where a circular stapler or laparoscopic gastric band is introduced) regardless of the adequacy of fascial closure. The morbidly obese are at high risk for prefascial hernias because of their substantially thicker preperitoneal space and their elevated intraabdominal pressure.[11-14]

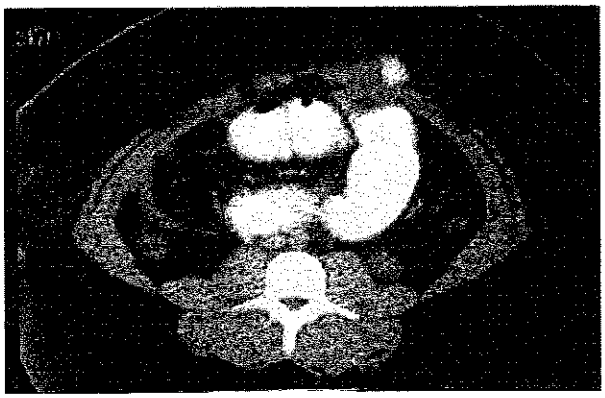

Figure 1. CT scan showing a partial small bowel obstruction, with the transition point just distal to the enteroenterostomy.

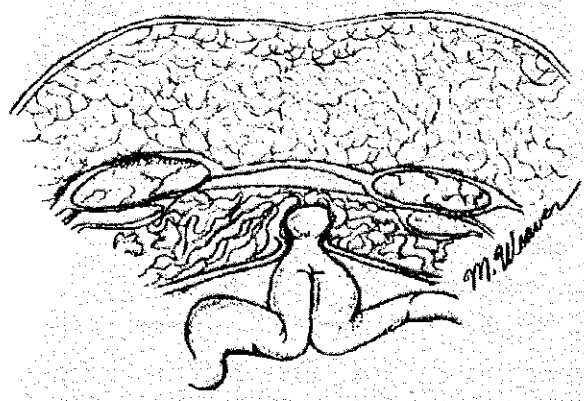

Figure 2. Illustration of the Richter's hernia with a complete fascial closure. The strangulated portion of the bowel is herniated into the preperitoneal fat space.

Diagnosis of prefascial hernias is impossible on physical examination because there is no palpable abdominal wall defect. Helpful imaging studies may include an upper GI series with small bowel follow-through or a CT scan that can demonstrate an obstructive pattern. Additionally, a CT scan can show herniation into a port site defect.[3,15-17] This problem can be eliminated with adequate muscle relaxation and the use of a suture-passing device that closes the fascia and the peritoneum together.[18]

Conclusion

Laparoscopic surgery for morbid obesity presents the possibility for preperitoneal herniation due to the patient's abundant preperitoneal space and elevated intraabdominal pressure. Closure, using a fascial closure device, under laparoscopic control, can eliminate this potential complication by closing both the fascia and peritoneum all at once.

References

1. Lajer H, Widecrantz S. Hernias in trocar ports following abdominal laparoscopy: a review. Acta Obstet Gynecol Scand 1997; 76: 389-93.
2. Plaus WJ. Laparoscopic trocar site hernias. J Laparoendosc Surg 1993; 3: 567-70.
3. Chow CC, Daly BD. Complications after laparoscopic pelvic lymphadenectomy: CT diagnosis. Am

J Radiol 1994; 163: 353-6.

4. Leung TY, Yuen PM. Small bowel herniation through subumbilical port site following laparoscopic surgery at the time of reversals of anesthesia. Gynecol Obstet Invest 2000; 49: 209-10.
5. Matthews BD, Heniford T. Preperitoneal Richter hernia after a laparoscopic gastric bypass. Surg Laparosc Endosc Percut Techn 2001; 11(1): 47-9.
6. Leibl BJ, Schmedt CG. Laparoscopic surgery complications associated with trocar tip design: review of literature and own results. J Laparoendosc Adv Surg Techn 1990; 9: 135-40.
7. Bongard F, Dubecz S. Complications of therapeutic laparoscopy. Curr Prob Surg 1994; 31: 857-924.
8. Toub DB, Campion MJ. Omental herniation through a 5mm laparoscopic cannula site. J Am Assoc Gynecol Laparosc 1994; 1: 413-4.
9. Kurtz B, Daniell JF. Incarcerated incisional hernia after laparoscopy: A case report. J Reprod Med 1993; 38: 643-4.
10. Williams MD, Flowere S. Richter Hernia: a rare complication of laparoscopy. Surg Laparosc Endosc 1995; 5: 419-21.
11. Sugerman H, Windsor A., Bessos M et al. Effects of surgically induced weight loss on urinary bladder pressure, sagittal abdominal diameter and obesity co-morbidity. Int J Obes 1998; 22: 230-5.
12. Sugerman H. Increased intrabdominal pressure in obesity (Correspondence). Int J Obes 1998; 22: 1138.
13. Sugerman H, Windsor A, Bessos M et al. Intra-abdominal pressure, sagittal abdominal diameter and obesity comorbidity. J Intern Med 1997; 241: 71-9.
14. Nguyen NT, Lee SL. Evaluation of intra-abdominal pressure after laparoscopic and open gastric bypass. Obes Surg 2001; 11: 40-5.
15. Serra C, Baltasar A. Internal hernias and gastric perforation after a laparoscopic gastric bypass. Obes Surg 1999; 9: 546-9.
16. Wicks A, Voyvodic F. Incisional hernia and small bowel obstruction following laparoscopic surgery: computed tomography diagnosis. Australasian Radiol 2000; 44: 331-2.
17. Caoili E, Paulson E. CT of small-bowel obstruction: another perspective using multiplanar reformations. Am J Radiol 2000; 174: 993-8.
18. Petrakis I, Sciacca V. A simple technique for trocar site closure after laparoscopic surgery. Surg Endosc 1999; 13: 1249-51.

(Received July 4, 2001; accepted August 16, 2001)