CASE REPORT PEER REVIEWED | OPEN ACCESS

Richter port site hernia as cause of acute bowel obstruction after laparoscopic gastric bypass: A case report

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ABSTRACT

Introduction: Early post-operative small bowel obstruction is challenging. After laparoscopic surgery, port site herniation and herniation through a peritoneal defect into the preperitoneal space should be considered as causes of early post-operative small bowel obstruction.

Case Report: A 36-year-old female developed early post-operative small bowel obstruction due to port-site Richter hernia after laparoscopic gastric bypass managed by diagnostic laparoscopy.

Conclusion: Early post-operative small bowel obstruction should always be suspected and diagnosed early in certain high risk procedures.

Keywords: Hernia, Obstruction, Port site, Post-operative, Richter

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INTRODUCTION

The early surgical complications observed following bariatric surgeries are similar to those of other major intra-abdominal surgeries. However, given is the more frequent occurrence of medical comorbidities and the difficulty in early diagnosing the complication. Bariatric patients require special attention in the early post-operative follow-up [1–3].

Although it is usually amenable to non-operative management, early post-operative small bowel obstruction (ESBO) is challenging. Early post-operative small bowel obstruction is most often due to adhesions and will usually resolve with non-operative management. Familiarity with the less common causes may help decide whether to re-operate or not [1, 2, 4]. There are different ways to prevent ESBO including intra-operative technique and using of some chemical materials [5]. Non-operative management of adherential syndrome is recommended. When needed, surgery can be done either by open method or laparoscopically [6].

After laparoscopic surgery, port site herniation and herniation through a peritoneal defect into the preperitoneal space should be considered as causes of ESBO [7–10]. In our paper, we present a case that showed both findings as the cause of (ESBO) with management and literature review.

CASE REPORT

A 36-year-old Saudi woman, known to have morbid obesity, complained of heartburn symptoms for a long time. Her body mass index (BMI) was 45 kg/m^2. Endoscopy was done and showed reflux esophagitis, Los Angeles grade B, and small hiatal hernia. The patient was admitted for laparoscopic gastric bypass on 31 March 2021.

The procedure was challenging due to adhesion from previous cesarean sections. However, no intraoperative complications were encountered. Post-operatively, the patient kept nothing by mouth (NPO) for four days on intravenous fluid with potassium maintenance. She complained of mild diffuse abdominal pain, nausea but no vomiting, and she was not passing gas or bowel motion for four days. Abdominal examination was soft and lax abdomen with mild surgical site tenderness and mild distension. On the fourth post-operative day, the patient underwent upper gastrointestinal gastrografin study and serial abdominal X-ray, which showed dilated bowel loops (Figure 1).

Nasogastric tube was inserted with an aspiration of 80 mL of fluids. On the fifth post-operative day, the patient was taken for diagnostic laparoscopy due to failure of conservative management. Intraoperative findings showed Richter's hernia in supraumbilical 12 mm port site containing healthy small bowel (Figure 2). The decision was to reduce the hernia and close the fascial defect with PDS II (polydioxanone) suture. On the second day post-diagnostic laparoscopy, the patient was doing well and tolerating orally with no nausea or vomiting and passed a bowel motion. The patient was discharged home with an uneventful post-operative hospital course.

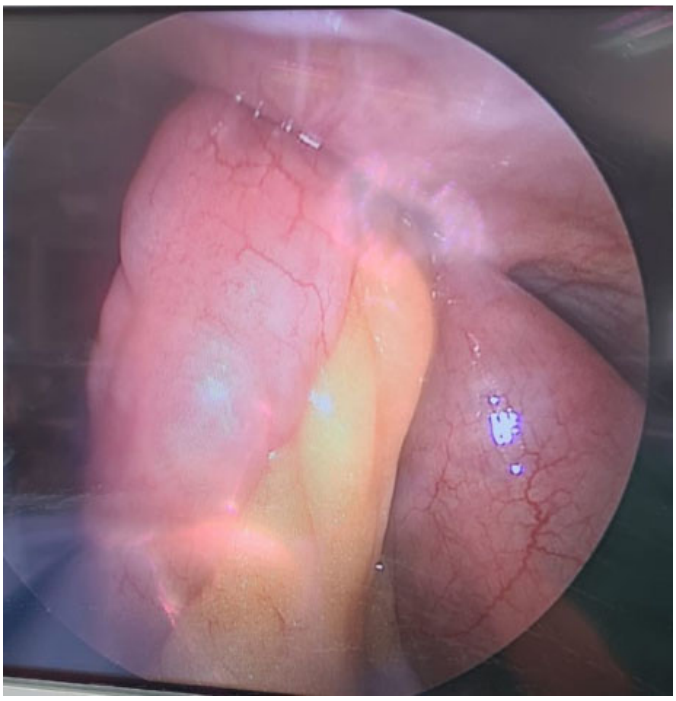

Figure 2: Intra-operative finding (anti-mesenteric border herniating through a 12 mm port site with normal small bowel loop).

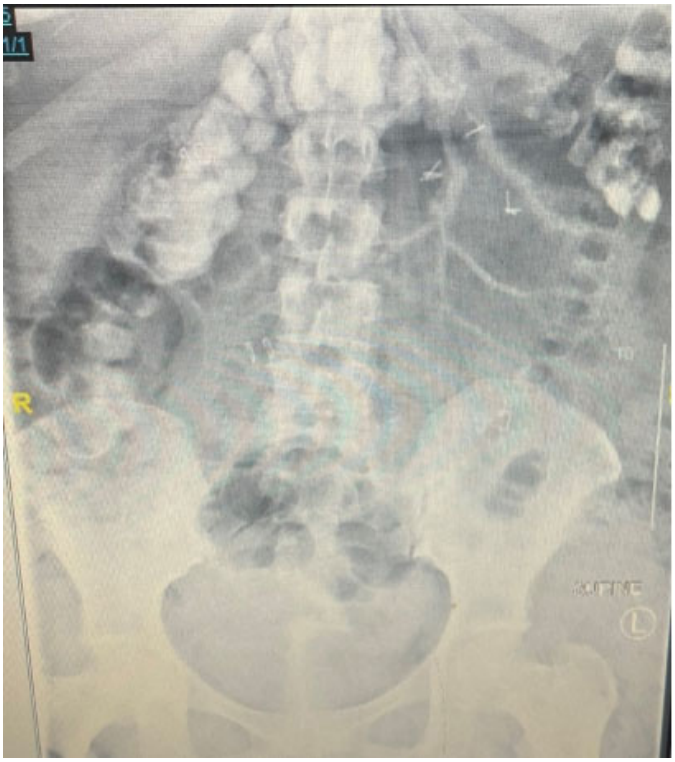

Figure 1: Abdominal X-ray showed dilated small bowel loops.

DISCUSSION

Gastric bypass surgery is known to have different complications, including leak, internal hernia. However, port site hernia is not very common to develop. In addition, Richter's hernia is further less common and not usually expected after this type of surgery. There are few cases reported for this complication after different laparoscopic procedures [7, 9, 10]. Among all causes of ESBO, abdominal wall and internal hernias were more common in bariatric surgery in comparison to non-bariatric surgery (23% versus 8%) [2].

Multiple factors are involved in the pathogenesis of trocar site hernias; large trocar size, incomplete closure of fascia at the trocar site, midline trocars, stretching the port site for organ retrieval, the effect of a partial vacuum during port withdrawal, obesity, poor nutrition, and surgical site infection are common factors related to the development of trocar site hernias.

The most frequent presenting symptoms are nausea, vomiting, distention, failure to pass flatus, and abdominal pain, but usually, symptoms start late [11]. It is very crucial to predict it as post-operative complication and eliminate it from the differential diagnosis list [1, 2, 7, 11]. The diagnosis can be made by abdominal X-ray looking for bowel loops and air-fluid levels and computed tomography (CT) scan. Recently, ultrasound also used for diagnosis of small bowel obstruction due to its wide availability, low cost, and high precision reported [12].

Most patients who present with small bowel obstruction should be provided a trial of conservative management using standard and widely practiced algorithms that include bowel rest with nothing through the mouth status, nasogastric decompression, and serial

clinical, laboratory, and imaging evaluations. These practices are associated with success rates of 50–73% and low morbidity and mortality. The operative management depends on the bowel status and patient clinical situation [1, 2, 8, 11]. Surgical option for management of ESBO is the choice if conservative management failed. Different types of hernia repair can be used including primary repair or mesh repair which associated with less recurrent rate [13].

Unlike incarcerated abdominal wall hernia, incarcerated and even strangulated, internal hernia is not amenable to diagnosis by physical examination nor imaging modalities such as CT scan. The failure rate to diagnose such complications can be high, reaching 66% of these cases [2, 14–16]. However, this can be frequently done laparoscopically with a high success rate and lower morbidity, mortality, and length of stay [2, 17–19].

CONCLUSION

We presented a middle-aged lady with uncomplicated post-laparoscopic gastric bypass Richter's port site hernia. Although it is not very common due to delayed presentation, high suspicion of post-laparoscopic Richter's port site hernia should be in the surgeons' minds to prevent serious complications. However, more studies are needed to develop a clear-cut way to search for the relation of symptoms to the time.

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Author Contributions

Hamad Alkanhal – Conception of the work, Design of the work, Acquisition of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Marya Alsuhaibani – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy

or integrity of any part of the work are appropriately investigated and resolved

Bander Ali – Conception of the work, Analysis of data, Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Guarantor of Submission
The corresponding author is the guarantor of submission.

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Written informed consent was obtained from the patient for publication of this article.

Conflict of Interest
Authors declare no conflict of interest.

Data Availability
All relevant data are within the paper and its Supporting Information files.