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Case Report

Transomental Hernia through the Greater Omentum

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Abstract

Introduction: Internal hernia is a protrusion of small bowel through intraperitoneal defect, even though it is relatively a rare condition, it is highly associated with morbidity and mortality and exploratory laparotomy found to be a diagnostic and life-saving management.

Case Presentation: The patient presented to emergency department as a case of acute abdomen. Based on series of investigations the preoperative diagnosis was intestinal obstruction. Intraoperative diagnosis was found to be transomental hernia with 50 cm of small bowel ischemia. Bowel resection with side-to-side anastomosis was done, followed by resection of omental defects.

Discussion: Despite the high rate of morbidity and mortality associated with internal hernia, an accurate preoperative diagnosis is challenging. However, lack of omental fat between the loops and the anterior abdominal wall found to be the most specific sign in computed tomography (CT) for diagnosing transomental hernia. The management of internal hernia is operative, with resection and anastomosis for the associated devitalized bowel.

Conclusion: Early surgical intervention is mandatory in the presence of clinical suspicion of internal hernia to avoid bowel ischemia and to provide a better prognosis.

Keywords: *Intestinal Obstruction; Computed Tomography (CT); Transomental Hernia; Omentum*

Introduction

Intestinal obstruction can be rarely due to internal hernia leading to high morbidity and mortality rate as it can cause strangulation, bowel ischemia and gangrene [1]. Internal hernia is a protrusion of small bowel through intraperitoneal defect and it represents less than 1% of all cases of acute intestinal obstruction [2]. Even with advanced radiological investigations, the diagnosis of this condition remains challenging. Exploratory laparotomy is a diagnostic and life-saving procedure in such cases [2,3].

Here is a case of 59-year-old male, medically and surgically free, pushed to operating theater as a case of acute intestinal obstruction. Intraoperatively, he found to have internal hernia into a congenital omental defect.

Case Presentation

This is a case of a 59-year-old Saudi male, medically and surgically free, presented as a case of intestinal obstruction. The patient presented to emergency department complaining of generalized abdominal pain with mild distension for 8 hours, associated with nausea, vomiting, anorexia, and obstipation. The abdominal pain started as colicky in nature, then in the last hour converted to constant and dull vague in nature. No history of previous abdominal surgery or similar presentation. On physical examination, the patient was dehydrated, in pain, and not jaundiced nor cyanosed. Vital signs: heart rate 130 beat/min, temp 38°C, blood pressure 110/60 mmHg. The abdomen was mildly distended with generalized tenderness.

All laboratory tests were within normal range (Table 1). Contrast-enhanced CT scan of abdomen and pelvis showing mild abdomen bowel dilatation with swirling involving the distal jejunum with fecalization of the proximal segment associated with surrounding mesenteric edema, free fluid, and fat stranding. Also, bowel wall thickening and non-enchantment finding consistent with closed loop small obstruction with possible ischemia. No intra-abdominal free air.

Test	Result	Normal Range	Test	Result	Normal Range
WBC count	4.65 x 10^3/uL	4.5 - 11	RBC	4.71 x 10^6/uL	3.5 - 6
Haemoglobin	13.3 g/dL	14 - 20	HCT	39%	40 - 54
MCV	82.8 fl	75 - 95	MCH	28.2 pg	27 - 32
MCHC	34.1 g/dL	32 - 36	Potassium	4 mmol/L	3.5 - 5.1
Platelet Count	346 x 10^3/uL	(150 - 450) x 10^3	Sodium	136 mmol/L	137 - 145
Lactic acid	1.5 mmol/L	0.5 - 2.2	Serum Creatinine	78 umol.L	61.9 - 114.9
ALT	18 U/L	7-55	AST	34.9 U/L	15 - 37

Table 1: *Laboratory tests and results.*

Based on investigation results, the patient was diagnosed as a case of intestinal obstruction for operative management. Under general anaesthesia, through an upper midline laparotomy incision, a loop of ischemic bowel trapped in a congenital defect within the greater omentum was found (Figure 1). This defect was stretched out and the bowel released. The trapped bowel was about 50 cm in length, and it was necrotic. The decision was to do resection of the ischemic segment of bowel with performing side to side anastomosis (Figure 2). On exploring the greater omentum, another defect was found, resection of this part was undertaken to prevent recurrence. Mass closure of the abdomen was done after placement of two draining tubes, one at the anastomosis site and the other was placed in the pelvis.

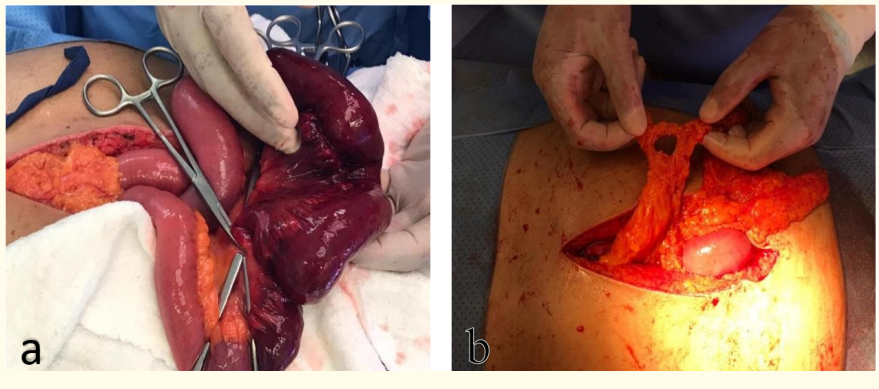

Figure 1: *a. Loop of ischemic bowel trapped in the great omentum defect. b. The defect of the greater omentum.*

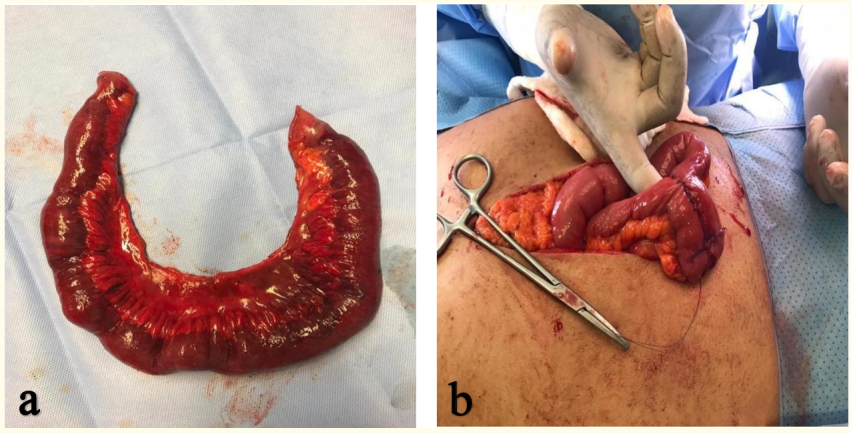

Figure 1: *a. Loop of ischemic bowel trapped in the great omentum defect. b. The defect of the greater omentum.*

Post-operatively, the patient was kept on NPO for 24 hours, IV fluid, and IV broad spectrum antibiotics. Then started on diet gradually. The patient stayed in the hospital for 3 days, then discharged home on oral analgesia and antibiotics. After 2 weeks, the patient was seen at the general surgery clinic where stitches were removed, and the patient found to be in a good health condition.

Discussion

One of the leading causes of intestinal obstruction is internal hernia (IH). In general, IH is a rare entity that accounts for 5.8%, transomental hernia (TOH) is a type of IH represents 1 - 4% only [5]. TOH can be acquired or congenital. Patient's history of previous surgery, trauma, infection, or pregnancy are suggestive theories of the leading cause. Nevertheless, most are attributed to congenital abnormalities [1,2,5]. In our case, the patient has none of the mentioned causes, thus the cause was considered congenital.

The presentation may vary from mild symptoms, chronic or recurrent abdominal pain to acute severe abdominal pain due to strangulated or gangrenous bowel. This mandate early and rapid diagnosis and intervention to decrease the morbidity and mortality [4].

Reaching to an accurate preoperative diagnosis sometimes is difficult due to the lack of particular radiological signs and low sensitivity of radiological modalities [1]. Narjis., *et al*. noted the finding of small bowel obstruction signs such as nonspecific central, small air-fluid level or abnormal position of air-fluid may indicates the abnormal herniation of the small bowel [6]. Another case by Blachar., *et al*. stated that lack of omental fat between the loops and the anterior abdominal wall might be the most helpful findings in computed tomography (CT) for diagnosing TOH [7]. Mesenteric vessels abnormalities such as twisting, engorgement or stretching of the vessel can provide an important clue [8]. In our case, CT finding was suggestive for closed loop small bowel obstruction with possible ischemia.

Management of TOH is surgical, either by laparotomy or laparoscopic [2]. A Proper approach provides good outcomes, that is done by reducing the herniated bowel loop, resection/anastomoses of devitalized bowel, closure of omental defect to avoid recurrence [1]. If the greater omentum found to be pathological, total omentectomy performed [2]. As in this case, necrotic bowel was found herniating through the defect, resection and anastomoses performed with opening of the defect.

Conclusion

Preoperative diagnosis of IOH remains a challenge. High clinical suspicion should be raised in patient presents with signs and symptoms of small bowel obstruction despite the fact that IOH is a rare entity. This mandate early surgical intervention to avoid bowel ischemia and to provide good clinical outcomes.

Bibliography

1. Koranne MS and Banker A. "Congenital Trans-Mesenteric Importance of a Timely Intervention". *Surgery of Journal* 6.2 (2020): 98-100.
2. Tidjane A., *et al*. "A spontaneous transomental hernia through the greater omentum". *The Pan African Medical Journal* 20 (2015): 384.
3. Vallumsetla R and Govind Rao N. "Congenital transmesenteric internal hernia - A case report with literature review". *The Indian Journal of Surgery* 72.3 (2010): 268-270.
4. Inukai K., *et al*. Two patients with spontaneous transomental hernia treated with laparoscopic surgery: a review 4 (2018): rjy070.
5. Suwa K., *et al*. Internal hernia through a peritoneal defect in the pouch of Douglas: Report of a case 4.1 (2013): 115-117.
6. Narjis Y., *et al*. "An unusual cause of small bowel obstruction: "The swiss cheese transomental hernia"" (2022).
7. Blachar A., *et al*. "Internal hernia: clinical and imaging findings in 17 patients with emphasis on CT criteria". *Radiology* 218.1 (2001): 68-74.
8. Martin L., *et al*. "Review of Internal Hernias: Radiographic and Clinical Findings". *American Journal of Roentgenology* 186 (2006): 703-717.

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