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Case Report

Transverse mesocolic internal hernia: a case of acute small bowel obstruction

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ABSTRACT

Internal hernias are a rare but significant cause of acute small bowel obstruction, often presenting diagnostic challenges due to their non-specific clinical manifestations. This case report describes a 74-year-old female with acute small bowel obstruction caused by a transverse mesocolic internal hernia, an uncommon subtype. The patient presented with abdominal pain, bloating, and vomiting, with a history of hypertension, asthma, and diabetes mellitus, but no previous abdominal surgeries. Abdominal tomography revealed signs consistent with small bowel obstruction, and emergency surgery was performed. Intraoperatively, a distal jejunal loop was found trapped in an abnormal mesenteric opening near the splenic flexure and descending colon. The hernia was reduced, and a small perforation in the bowel was repaired. The patient had an uneventful recovery and was discharged on the 10th postoperative day. This case highlights the importance of early diagnosis and surgical intervention in managing internal hernias to prevent complications. Laparotomy remains a viable option in elderly patients with significant comorbidities, although laparoscopic surgery may be considered in selected cases.

Keywords: Internal hernia, Transverse mesocolic type, Small bowel obstruction

INTRODUCTION

Internal hernia is defined as the protrusion of abdominal organs through a congenital or acquired orifice, limited by the peritoneal cavity or retroperitoneal space.[1] Whereas acquired orifices develop following trauma, inflammatory diseases, and prior surgeries, congenital orifices result from inadequate fusion of the peritoneal layers.[2] According to reports, it occurs in up to 5.8% of instances of small bowel obstruction and is less common than 1% in the literature.[3] When it comes to clinical manifestations and imaging findings, internal hernias can be challenging to diagnose with certainty. This case report presents a patient with acute small bowel obstruction due to internal hernia, with no history of previous surgery.

CASE REPORT

A 74-year-old female patient with known hypertension, asthma, and diabetes mellitus diagnoses, but no history of previous surgeries, presented to the emergency department with complaints of abdominal pain, bloating, and vomiting that had been going on for two days and were getting worse. On physical examination, the abdomen was distended and painful. Except for leukocytosis and increased CRP, no specific results were discovered in laboratory tests. Contrast-enhanced abdominal tomography revealed compression of a portion of the small bowel loops in the left quadrant, as well as distension, air-fluid levels, wall thickening, mesenteric vascular distortion, and mesentery edema. These findings were evaluated as acute small bowel obstruction due to

internal hernia, and the patient was taken for emergency surgery (Figures 1, 2).

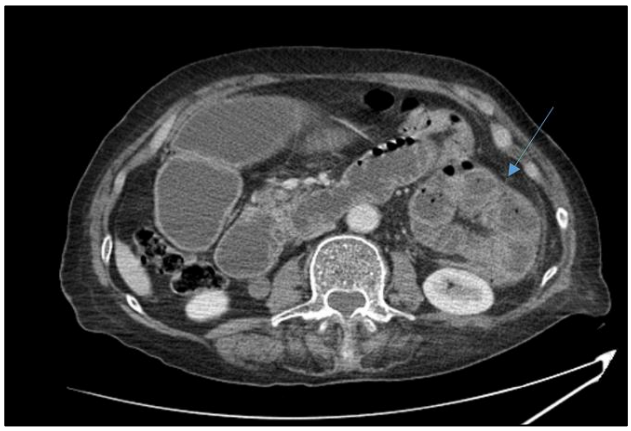

Figure 1: Axial tomography image of herniated segments (blue arrow).

Figure 2: Coronal tomography image of area that could be consistent with the mesenteric defect (blue arrow).

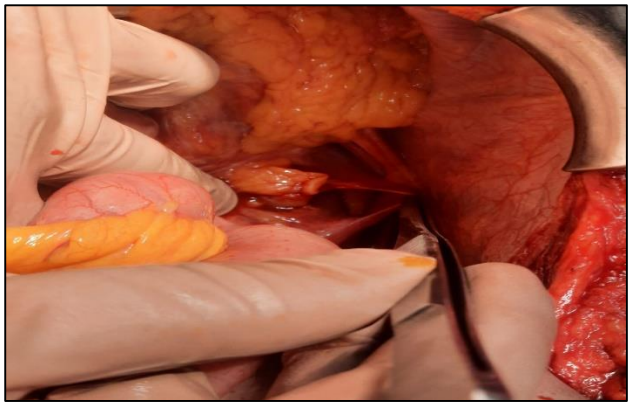

Figure 3: Defect area on mesentery.

During the exploration, it was observed that the distal jejunal loops were trapped in an abnormal opening in the lateral peritoneum at the junction of the splenic flexure and the descending colon, leading to the development of a small bowel obstruction. At the initial assessment, the viability of the intestinal segments was normal, and no necrosis was observed. However, when the hernia was reduced, it was observed that there was an area of perforation measuring 2-3 mm secondary to necrosis on the antimesenteric surface (Figures 3, 4, 5).

Figure 4: Strangulated bowel segment.

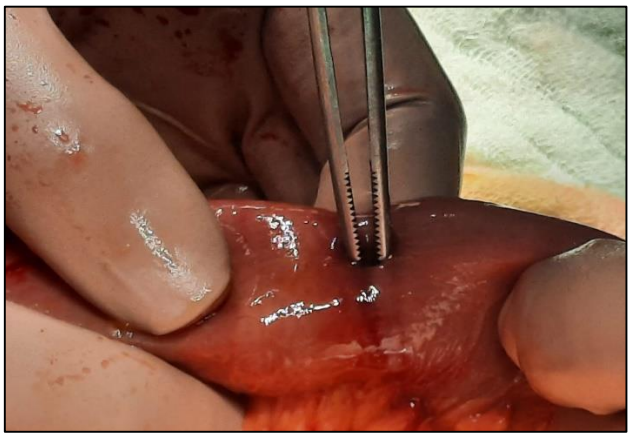

Figure 5: Millimeter-sized perforation point.

The abnormal opening in the peritoneum and the perforated segment of the small intestine were repaired with primary suturation. After the repair, the peristalsis and vitality of the intestinal segments were present. The patient started oral intake on the 7th day and was discharged with recovery on the 10th postoperative day. No complications were observed during the following six-month period.

DISCUSSION

Internal hernias are uncommon in clinical practice and might lead to complications if not diagnosed early on. Other abdominal organs can herniate as well, although the most common one is an intestine hernia. The literature divides hernias into several categories based on their type and location. Meyer's categorization includes paraduodenal, foramen of Winslow, intersigmoid, pericecal, pelvic, supravesical, transmesenteric, and transomental types.[4] In addition, hernia orifices are classified into three types: normal foramen, odd

peritoneal fossa or recess, and aberrant opening in the mesentery.[5] The most frequent variety is paraduodenal hernia, which usually appears in childhood or young adulthood, although transmesocolic hernias, which are uncommon, might cause rapid-onset symptoms, usually at a later age. Our case has been evaluated in accordance with the transverse mesocolon-associated abnormal mesenteric aperture type, which is a rarer type. Clinical findings and symptoms are not specific, and the patient may present with a wide range of symptoms, from mild abdominal pain to severe symptoms of small bowel obstruction.

Internal hernias can often heal spontaneously, so patients may experience intermittent symptoms. This certainly makes it difficult to establish an accurate diagnosis. In our case, it was learned that similar complaints had occurred a few times before and then resolved on their own. It has been reported in the literature that abdominal tomography provides very valuable information for diagnosis.[6]

The type of herniation can be evaluated with tomography, as well as the viability of the affected intestines. In addition, early abdominal imaging contributes to clinical management in cases requiring emergency surgery, such as closed-loop obstruction. The management of internal hernias varies depending on the type of hernia, the viability of the affected bowel segment, and the patient's general clinical condition.

While a simple reduction procedure may be sufficient in some cases, more advanced surgical interventions, such as bowel resection, may be necessary if there is necrosis or perforation. In our case, there was vitality in the bowel segments trapped in the abnormal opening in the mesentery; primary repair of the necrotic perforation area was solely sufficient. This situation highlights how critical early surgical intervention is in preventing complications. The preferred method of surgical intervention generally varies depending on factors such as the patient's overall condition, the type of hernia, and the presence of necrosis. Laparoscopic surgery can be preferred as a minimally invasive option, especially in young and healthy patients, while laparotomy may be a safer approach in older patients with high comorbidities.[7] In our case, a laparotomy was preferred due to the patient's advanced age and existing comorbidities. Through early diagnosis and intervention, appropriate treatment can be administered without the need for bowel resection, as in our case.

CONCLUSION

Internal hernias are a rare but serious cause of acute small bowel obstruction. Our study emphasizes the importance of early diagnosis and treatment of small bowel obstruction due to internal hernia. Early surgical intervention positively affects patient prognosis and helps prevent serious complications.

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REFERENCES

1. Villalona GA, Diefenbach KA, Touloukian RJ. Congenital and acquired mesocolic hernias presenting with small bowel obstruction in childhood and adolescence. J Ped Surg. 2010;2:438-42.
2. Turenkov A, Kelley KM, Boustany M. Internal hernia as cause of small bowel obstruction without history of gastrointestinal surgery. The Am Surg. 2018;84(7):231-2.
3. Newsom BD, Kukora JS. Congenital and acquired internal hernias: unusual causes of small bowel obstruction. Am J Surg. 1986;3:279-85.
4. Meyers MA. "Internal abdominal hernias." Dynamic radiology of the abdomen: normal and pathologic anatomy. 2005;6:711-48.
5. Doishita S, Takeshita T, Uchima Y, Kawasaki M, Shimono T, Yamashita A, et al. Internal hernias in the era of multidetector CT: correlation of imaging and surgical findings. Radiographics. 2016;36(1):88-106.
6. Nobuyuki T, Takehiko G, Yoshimitsu O. CT of internal hernias. Radiographics. 2005;4:997-1015.
7. Poves I, Valverde ES, Companyó SP, Dorcaratto D, Membrilla E, Pons MJ, et al. Results of a laparoscopic approach for the treatment of acute small bowel obstruction due to adhesions and internal hernias. Cirugía Española. 2014;5:336-40.

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