



SMALL BOWEL STRANGULATION IN A CASE OF PRIMARY INTERNAL HERNIA- A RARE CASE REPORT

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ABSTRACT

INTRODUCTION: An internal hernia (IH) is a protrusion of intestines or other abdominal organs through a normal or abnormal orifice in the peritoneum or mesentery, occasionally leading to strangulation or incarceration. IH has a reported autopsy incidence of 0.2 to 0.9% and is the cause of small bowel obstruction in 0.6 to 5.8% of the cases. **CASE DISCUSSION:** 20 year old male patient presented with generalised abdominal pain, non -passage of stools and flatus and on examination guarding and board like rigidity with tender lower abdominal swelling noted. On Erect X ray abdomen multiple air fluids level noted. On exploratory laparotomy coiled loops of gangrenous ileum was noted. Loop of ileum was passing through the transmesenteric defect and which was noted to be the cause for strangulation. **CONCLUSION:** Internal hernias are rare but an important cause of intestinal obstruction given the high mortality associated if left untreated, nevertheless still often underdiagnosed. Primary internal hernias should be kept in the differential diagnosis of acute intestinal obstruction in adults with no previous history of surgery or trauma as it was seen with our case. Since physical examination findings are nonspecific clinical suspicion along with emergency CT plays an important role in the preoperative diagnosis of IH.

KEYWORDS :Primary internal hernia, acute intestinal obstruction, Transmesenteric defect.

INTRODUCTION

An internal hernia (IH) is a protrusion of intestines or other abdominal organs through a normal or abnormal orifice in the peritoneum or mesentery, occasionally leading to strangulation or incarceration. Internal hernias (IH) are a rare cause of acute abdomen and intestinal obstruction in adults. IH has a reported autopsy incidence of 0.2 to 0.9% and is the cause of small bowel obstruction in 0.6 to 5.8% of the cases¹. However, if strangulated and left untreated, internal hernias have an overall mortality greater than 50%². Preoperative suspicion and diagnosis in an emergency setting are difficult due to rarity of the entity, nonspecific clinical presentation, and limited utility of imaging in cases of acute intestinal obstruction³.

CASE REPORT

A 20 year old male patient with no past history of laparotomy/trauma presented with complaints of generalised abdominal pain since 5 days, non-passage of stools and flatus since 4 days and 3 days respectively. Pain was initially at periumbilical region later progressed to whole abdomen. He was admitted in local hospital for 3 days and managed conservatively. As his symptoms aggravated he was referred to our institution for further management. There was no similar attacks in the past.

On general examination, patient was alert, conscious and cooperative. Moderately built and nourished. Pulse- 110 bpm. BP- 100/70 mm of Hg. Tongue- dry. On abdominal examination, Inspection- scaphoid abdomen with lower abdominal globular swelling measuring approximately 6-7 inches. On palpation, guarding and board like rigidity present. 6 x 3 inches tender spherical swelling with raised local temperature noted in hypogastrium and part of right iliac fossa. Rest of the systemic examination was normal. On DRE, no significant findings noted.

On investigation, erect X ray abdomen AP view was done. On which multiple air fluids with dilated bowel loops were noted.



Fig.1: Erect X ray abdomen AP view (digital)

After proper resuscitation with IV fluids, one dose of parenteral antibiotics, IV analgesics, nasogastric tube insertion and urinary catheterization patient was posted for emergency exploratory laparotomy.

Intra-operative findings: haemorrhagic peritoneal fluid noted, coiled loops of gangrenous ileum was noted. Loop of ileum was passing through the transmesenteric defect and which was noted to be the cause for strangulation. Around 45-50 cm of ileum was found to be affected with distal margin 6-7 cm from ileo-caecal junction. Affected bowel loop was resected and double barrel ileostomy done.



Fig.2.A: Intra op finding of coiled loop of ileum.

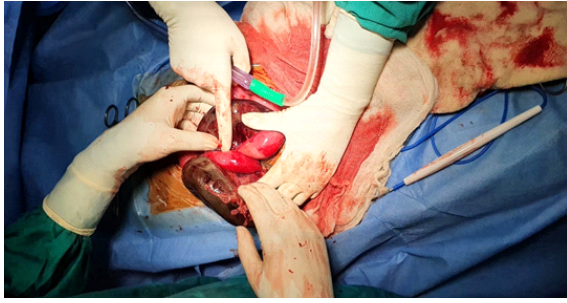


Fig.2: Intra-op findings of loop entering through transmesenteric defect.

Post-operative events were uneventful. Patient was started on oral diet on POD-1. Surgical wound was clean. Patient was educated about stoma care. Patient was discharged on POD-5. Patient was advised for proper follow up.

DISCUSSION

Internal hernias are either congenital or acquired, the latter constituting the majority. Important causes of acquired internal herniation in adults are previous abdominal surgery, trauma, peritoneal inflammation, or ischemic changes⁴. Primary or congenital internal hernias in adults are extremely rare. Congenital internal abdominal hernias (CIAH) are either retroperitoneal or formed from congenital anomalous openings lacking a true peritoneal sac. Retroperitoneal hernias are further classified by Ghahremani into paraduodenal (30–53% of CIAH), foramen of Winslow (6%–10%), periceal (10%–15%), intersigmoid (4%–8%), pelvic and paravesical hernias (6%), whereas hernias formed from congenital anomalous openings can be categorized as transmesenteric (8%–10%), broad ligament (4–7%), or transomental hernias (1–4%)⁵.

In our case we noted ileal bowel loop passing through transmesenteric defect leading to coiling of bowel loop and ultimately leading to strangulation as he presented to us in late stage.

Patients may be asymptomatic or may present with clinical symptoms associated with small bowel obstruction as it is the most commonly herniated organ. It might progress to acute abdomen as seen with bowel ischemia and bowel wall perforation. Symptom severity relates to duration and reducibility of the hernia and the presence or absence of incarceration and strangulation. Symptoms of intestinal obstruction in CIAH in adults are similar to that of other causes of small bowel obstruction like acute onset of abdominal pain, tenderness, nausea, vomiting, and abnormal bowel sounds. Clinical presentation is nonspecific posing a diagnostic challenge preoperatively. Hence it can lead to diagnostic delays and the resultant increase in rates of ischemia, gangrene, and bowel resection.

Computed tomography (CT) plays an important role in the evaluation of intestinal obstruction and acute abdomen¹. Both radiographs and ultrasonography (23% detection rate) are poor in detecting the aetiology of intestinal obstruction. Multidetector CT can identify the specific site and severity of obstruction⁶. CT features of IH include observation of a sac like mass or cluster of dilated small bowel loops at an abnormal anatomic location in the presence of small bowel obstruction and observation of an engorged, stretched, or displaced mesenteric vascular pedicle and of converging vessels at the hernia orifice⁷. It also detects complications such as ischemia, necrosis, or perforation and inflammatory changes⁸. CT scan is thus a valuable tool in the early diagnosis and planning of surgical exploration in patients with IH.

But most of the cases of IH are often diagnosed by exploratory laparotomy performed for acute intestinal obstruction. As in our case we diagnosed on exploratory laparotomy as most of the places in India as no access for emergency CT. Timely surgical intervention based on clinical suspicion and/or CT scan findings is warranted for the management of IH presenting with intestinal obstruction².

Reduction of the strangulated intestinal segment should be done as early as possible to prevent intestinal ischemia, necrosis, and perforation and thereby reducing resection rate⁹. Hernia defects should be closed with non-absorbable sutures in order to prevent recurrence of internal herniation through the same orifices in the future. Recently laparoscopic technique has also been found to be useful for diagnosis and treatment of intestinal obstruction^{1,2}.

CONCLUSION

Internal hernias are rare but an important cause of intestinal obstruction given the high mortality associated if left untreated, nevertheless still often underdiagnosed. Primary internal hernias should be kept in the differential diagnosis of acute intestinal obstruction in adults with no previous history of surgery or trauma as it was seen with our case. Since physical examination findings are nonspecific clinical suspicion along with emergency CT plays an important role in the preoperative diagnosis of IH.

Early surgical intervention is crucial in preventing associated morbidity and mortality.

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