



Case Report

Congenital Transmesenteric Internal Strangulated Hernia: A Case Report and Review of Literature

Mohammad Fazelul Rahman Shoeb, Siddalingeshwar V. M.

Assistant Professor, Dept. of General Surgery, P.E.S. Institute of Medical Science and Research, Kuppam, India.

Corresponding Author: Mohammad Fazelul Rahman Shoeb

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ABSTRACT

Transmesenteric hernias have bimodal distribution and occur in both pediatric and adult patients. In the adult population, the cause is iatrogenic, traumatic, or inflammatory. We report an extremely rare case of congenital transmesenteric hernia in a middle aged female. A 27 yr old female patient presented with acute intestinal obstruction and septicaemia, without any previous history of surgery. Explorative laparotomy revealed gangrenous bowel herniating through congenital defect in mesentery. Resection, end to end anastomosis of bowel and repair of defect in mesentery was done. The postoperative period was uneventful and she was discharged seven day after surgery. Hence, it is important to consider the possibility of transmesenteric hernia in patients with signs and symptoms of intestinal obstruction, even in cases with no previous surgery.

Keywords: Hernia, strangulated hernia, intestinal obstruction, internal abdominal hernia, transmesenteric hernia,

INTRODUCTION

The definition of an internal hernia is the protrusion of intestines or other abdominal organs through a mesenteric or peritoneal fossa, occasionally leading to strangulation or incarceration, and is a rare form of both hernia and small bowel obstruction. ^[1]

The incidence of internal hernia is less than 1%, and transmesenteric hernia is a particularly rare type of internal hernia. ^[2] The overall mortality is more than 50% in cases with strangulated small bowel obstruction. ^[3] In adults, transmesenteric hernias are most often caused by previous surgical procedures, abdominal trauma or

intraperitoneal inflammation, and transmesenteric hernia in a person without a surgical history is extremely rare. We report such a case of transmesenteric hernia with strangulated intestinal obstruction.

CASE REPORT

A 27 yr old female patient presented with complaints of colicky pain abdomen, constipation, distension of abdomen since two days. On examination she was febrile, pulse rate was 120/min, blood pressure was 90/60 mm of Hg, and respiratory rate was 28/min. Abdomen was distended, tender with rebound tenderness and visible peristalsis. Bowel sounds were sluggish. Per

rectal examination was normal. There was no history of surgery in the past. Plain X-ray of abdomen and ultrasound abdomen showed dilated small bowel loops (Figure.1). Laboratory investigations revealed leukocytosis with total count

16,370 cells/cumm, predominantly neutrophils, serum albumin –3 gm/dl, serum potassium –3.4 mmol/L, serum creatinine – 0.7 mg/dl. A clinical diagnosis of acute intestinal obstruction with strangulation was made.



Fig 1



fig 2



fig 3

Figure legends:

Figure 1. X-ray of erect abdomen showing multiple air fluid levels.

Figure 2. Congenital mesenteric defect (shown by large arrow) and Ischemic changes of small bowel (shown by smaller arrow).

Figure 3. Gangrene of small bowel (shown by smaller smaller arrow) and mesenteric defect (shown by larger arrow)

At laparotomy, 20 cm of gangrenous ileum located 50 cm from ileo-cecal junction herniating through congenital defect in mesentery was noted (Figure 2 & 3). The hernia was reduced, small bowel resected and primary end to end anastomosis performed. Mesenteric defect was sutured and closed. Post operative recovery was uneventful. She was discharged from hospital seven days later.

DISCUSSION

An internal hernia is a protrusion of viscera through a defect or aperture, either mesenteric or peritoneal, and may be either congenital or acquired. Most internal hernias are paraduodenal (53%) and are acquired postoperatively, resulting from incomplete closure of surgically created mesenteric defects. [2] There are other several many types based on their location, as traditionally described by Meyers. These consist of pericecal (13%), foramen of Winslow-related (8%), transmesenteric and transmesocolic (8%), intersigmoid (6%), and

retroanastomotic (5%), with the overall incidence of internal hernia being 0.2%-0.9%. [3]

A transmesenteric hernia is a form of internal hernia through a congenital defect in the mesentery. Despite the congenital nature of transmesenteric hernia they can present at any age, though they are more common in the paediatric population. [4] The pathogenesis of mesenteric defects is uncertain with one popular hypothesis suggesting the cause may be prenatal intestinal ischaemia and subsequent thinning of the mesenteric leaves, because prenatal intestinal ischaemia is associated with bowel atresia in 5.5% of the paediatric population. [5] Alternatively a genetic aetiology has been suggested given the association between transmesenteric hernia and other anomalies including cystic fibrosis and Hirschsprung disease. [2]

Only 13 adult case reports (male:female ratio 5:8) of bowel obstruction secondary to congenital mesenteric defects have been documented in published

literature, one of which was diagnosed at autopsy, and four of which were documented to have developed bowel ischaemia. [4,6-12] Subgroup analysis of 10 of these adult case reports reveals an age range of 19–68 years, a mean age of 33 years and a wide spectrum of clinical presentations ranging from diarrhoea and vomiting with the patient not appearing ‘particularly ill’ and non-specific abdominal signs to severe abdominal pain, shock and unexpected death. [4-11]

Internal abdominal hernias present a nonspecific and intermittent clinical presentation, like some cases can be asymptomatic, or can cause discomfort ranging from constant vague epigastric pain to intermittent colicky periumbilical pain, while additional symptoms include nausea and vomiting, therefore presurgical diagnosis is rare. [2,13]

The most important diagnostic method is abdominal CT. It has been suggested that the two findings of a peripherally located small bowel, and lack of omental fat between the loops and the anterior abdominal wall, might be the most helpful CT signs, with an overall sensitivity of 85% and 92% for each respective finding. [14,15] Observation of the clustering of small bowel loops and an abnormality in the mesenteric vessels are helpful findings on abdominal CT.

Surgical repositioning of the strangulated bowel segment as early as possible is the therapy of choice, as delay can lead to gangrenous bowel and a rise in resection rates and mortality. [1,16-18]

CONCLUSION

Congenital internal hernias are an atypical cause of small bowel obstruction, but this pathology should be considered in the diagnostic work-up of patients with acute onset of symptoms, who present with no palpable external hernias. A CT scan is

helpful in diagnosing internal hernias, but the examination may still leave the surgeon uncertain in some cases. An operation is the only initiative that reveals the true cause of obstruction, emphasizing the importance of early laparotomy in avoiding ischaemia and necessity to resect.

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