Congenital Internal Hernia a Rare Cause of Acute Intestinal Obstruction

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Abstract Internal hernia may either be congenital or acquired. Acquired internal hernias are usually complications of previous abdominal surgery. Congenital internal hernia is a rare entity and it being a cause of small bowel obstruction is still rare. We report a case of congenital internal hernia presenting as acute intestinal obstruction and its surgical management.

Keywords Congenital internal hernia(CIH) · Small bowel obstruction (SBO)

Introduction

Protrusion of the viscera through the peritoneum or mesentery & into a compartment in the abdominal cavity is known as internal hernia. The responsible hernial orifices are usually pre-existing anatomic structures such as foramina, recesses and fossae. Pathologic defects of the mesentery and visceral peritoneum are mostly due to - congenital, surgical, traumatic, inflammatory, circulatory pathology.

Internal hernia is a rare cause of small bowel obstruction. The incidence is only 0.2–0.9 %. This may be Congenital or acquired & may be persistent or intermittent. There is high risk of strangulation of bowel loops. So, internal hernia is very dangerous and lethal condition.

Case Report

A 35 year healthy male presented in the casualty with a 2 days history of central abdominal pain, repeated vomiting and abdominal distension. Prior to this he was perfectly normal with no history of such episode. He had no history of any abdominal surgery

On general examination he was afebrile, normotensive but was dehydrated with reduced urination and had a raised pulse rate of over 90/min. Abdominal examination revealed marked distension that was prominent over the right infraumbilical and iliac region. There was diffuse tenderness with rebound tenderness. Bowel sounds were sluggish.

He had normal total leukocyte count but his differential count showed a leukocytosis. X- RAY abdomen showed multiple air fluid levels. Ultrasonography noted multiple dilated bowel loops with minimal interloop fluid collection. Patient could not afford a CT Abdomen.

He was provisionally diagnosed as a case of acute small gut obstruction due to a band and planned for explorative laparotomy

He was instituted rapid intravenous fluid infusion for correction of fluid and electrolytes. Nasogastric intubation was instituted and antibiotics given.

Explorative laparotomy revealed the following :

- A large sac of size 10×9 cm. was seen occupying infracolic compartment containing multiple loops of ileum (Fig. 1).
- On opening the sac several dilated loops were present
- The loops contained in the hernia sac had passed through a defect posterior to the wide mesenteric band with contained the main vascular pedicles to the the small gutloops (Fig. 2).
- This was a transmesenteric type of internal hernia

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Fig. 1 The internal hernia sac

- There was no malrotation abnormality as the duodenal-jejunal flexure and the Ilio-Caecal junction were found in their normal location
- Since the band was actually a mesenteric root that contained vascular supply to several ilial loops, it was not possible to transect it. Hence we transacted the small bowel loop that passed under it and reanastomosed it over it and closed the defects in the mesentery. The whole length of the small and large gut were inspected for continuity and other defects and finally closure was done after putting a tube drain to the pelvic cavity in the vicinity of the anastomotic site (Fig. 3).

The patient made a delayed recovery with abdominal distension persisting for 5 days and delayed return of bowel movements. His drain was removed on the day he was discharged after he had started taking oral intake regularly.

Discussion

A Congenital Internal Hernia (CIH) results from congenital anomalies of intestinal rotation and peritoneal attachment

Fig. 2 Mesenteric defect through which the hernia occurred. Transmesenteric type of congenital internal hernia

Fig. 3 Transection & reanastomosis of the bowel loop anterior to the mesenteric defect

[1–4]. CIH is classified according to its location in decreasing order of frequency as paraduodenal, transmesenteric, intersigmoid and paravesical hernia. The size of the sac, the length of the incarcerated bowel loops and formation of interloop adhesions all increase with age, explaining the appearance of SBO (SMALL BOWEL OBSTRUCTION) in later life although it is a congenital condition [5]. CIH is, although rare, an important cause of SBO, and its diagnosis is a challenge for physicians. A history of chronic intermittent attacks of vague abdominal cramps without previous surgery may be suggestive of a diagnosis. A plain abdominal radiograph or an USG abdomen apart from suggesting acute intestinal obstruction are not of much help. At present CT has a high diagnostic accuracy not only in detecting SBO but also in defining its severity and aetiology. The latter is determined by meticulous analysis of the transition zone between dilated and collapsed loops allowing for the correct diagnosis of the cause in 73–95 % [6, 7]. The other aetiologies in the differential diagnosis of CIH include Crohn's disease, incarcerated femoral or obturator hernia, an obstructing phytobezoar, gall stone ileus and obstructing neoplasms [8].

Due to increased risk of bowel entrapment within the hernial sac with acute strangulation and bowel infarction even a small CIH is dangerous and awareness of the condition with prompt diagnosis and treatment are necessary.

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