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CASE REPORT

Congenital transmesenteric internal hernia - A case report with literature review

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Abstract Congenital transmesenteric internal hernia is a rare condition presenting as recurrent pain abdomen or acute intestinal obstruction. Preoperative diagnosis of internal hernia is very rare. Early intervention and surgical correction goes a long way in preventing high morbidity and mortality associated with cases of internal hernia. We report a case of congenital transmesenteric intra-abdominal hernia presented as acute abdomen with timely surgical intervention in the form of emergency laparotomy with untwisting and reduction of small bowel herniated through large congenital terminal ileal mesenteric defect and repair of mesenteric defect.

Keywords Congenital transmesenteric internal hernia · Congenital internal hernia · Mesenteric defect · Transmesenteric hernia

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Introduction

Congenital transmesenteric internal hernia is a very rare but definite acute surgical condition requiring early diagnosis and Exploratory Laparotomy to prevent lethal complications. In almost all cases presentation is acute intestinal obstruction or recurrent pain abdomen due to mesenteric ischemia without definite clinical symptoms or signs. Almost all reported cases are diagnosed intraoperatively. We report a case of congenital transmesenteric internal hernia presenting as acute abdomen treated by detorsion and reduction of bowel herniated through congenital large oval Ileal mesenteric defect and closure/repair of that defect in terminal ileal mesentery.

Case report

A 13-year-old-girl from Hyderabad was admitted in our ESI Hospital Sanathnagar, Hyderabad with severe colicky pain in the umbilical region of abdomen of 1 day duration and 4 times vomiting. History of an episode of pain abdomen which lasted for 1 day 1 year back. There was no history of abdominal trauma or any abdominal surgery in the past.

On examination temperature was normal, pulse rate 90/mt, BP 90/70 mmHg, Heart and Lungs were clinically normal. Abdominal findings were distension in the umbilical region with tenderness in umbilical region and right iliac fossa with exaggerated bowel sounds. Plain X-ray abdomen revealed few gas distended bowel loops. Blood counts revealed WBC count of 13,000 with neutrophil leucocytosis of 90%. Preoperative provisional diagnosis was? Acute appendicitis/acute intestinal obstruction and decided for Exploratory Laparotomy. Ryles tube passed, I.V fluids and parenteral antibiotics Injection Ampiclox, Metrogyl were

given. Exploratory Laparotomy done within 12 hours of admission.

Surgical procedure

Abdomen explored with Mid-Midline incision, serous fluid aspirated and small bowel mass was found on right side of abdomen. We corrected the small bowel mass by untwisting of bowel and herniated small bowel brought out through the defect. To our utter surprise a large oval defect of 14 × 11 cm size seen in terminal ileal mesentery about 15 cm proximal to ileocaecal junction (Fig. 1). Vascular arcade was seen all around the defect very near to the free edge. Terminal ileum was congested with few enlarged mesenteric lymph nodes. Ileum was viable with acceptable color and peristalsis after detorsion and reduction of internal hernia. Hence repair of mesenteric defect with 2‘0 Silk interrupted sutures (Fig. 2) and Appendicectomy was done. There was no other anomaly or signs of malrotation in the abdominal cavity.

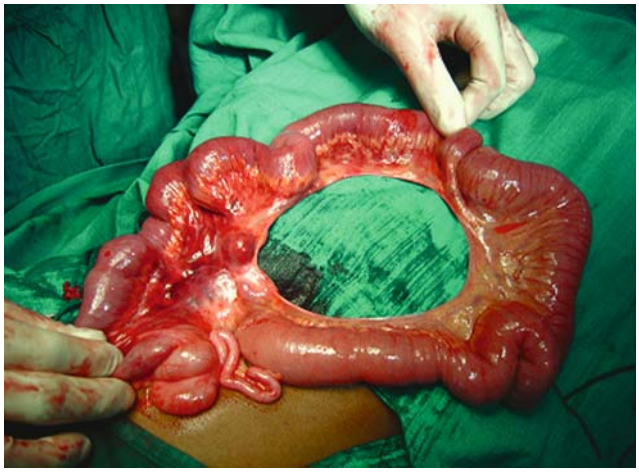

Fig. 1 Large congenital oval 14 × 11 cm mesenteric defect in ileal mesentery

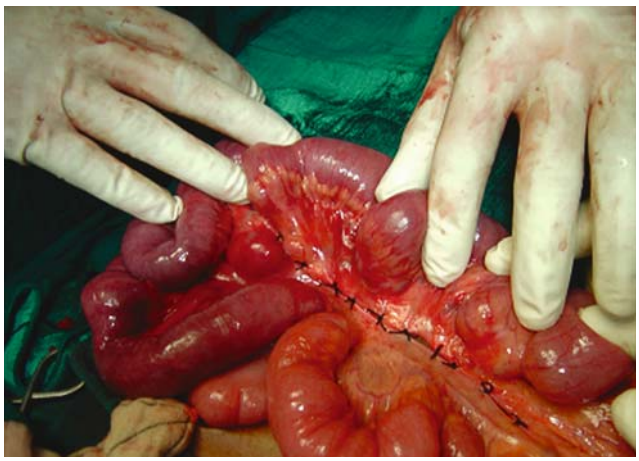

Fig. 2 Repair of congenital mesenteric defect with interrupted 2’0 silk sutures

As early surgical intervention was undertaken there was no gangrene of bowel, resection was avoided and lethal complications of gangrene bowel prevented.

Postoperatively oral fluids were given on 1st postoperative day.

Recovery was uneventful. Sutures removal and discharge done on 7th postoperative day.

Discussion

An Internal hernia is defined as protrusion of viscera through normal or abnormal, peritoneal or mesenteric orifice within the boundaries of peritoneal cavity [1].

Transmesenteric hernia is a protrusion of viscera through a defect in mesentery of small bowel, transverse colon or sigmoid colon. Congenital internal hernia (CIH) although rare, is an important cause of small bowel obstruction (SBO) and its diagnosis is a challenge to both surgeons and radiologists. CIHs usually published as case reports rather than case series.

In 1836 Rokitansky reported first instance of transmesenteric internal hernia in an autopsy. Incidence of mesenteric defects is about 0.5% in all autopsies. Of all Intestinal obstruction cases internal hernias account for 0.5–3% cases.

Congenital mesenteric defect

Generally it is located in the mesentery of terminal Ileum 15 cm from Ileocaecal valve as in our case. Treves field an area in the mesentery relatively bloodless between last ileal artery and Ileocolic artery is known as Bloodless fold of Treves [2]. Congenital mesenteric defects usually occur in this thin and avascular mesentery (Fig. 3).

Investigations

A plain X-ray abdomen may reveal the presence of air and fluid levels in cases of SBO.

Barium study – when it is done in the pain free interval, it may not show any abnormality. The likelihood of radiological diagnosis of an internal hernia is maximized by conducting a study during a symptomatic period rather than at a time spontaneous reduction may have occurred.

In few reported cases CT abdomen has shown proximal dilated bowel loops and cluster of thickened incarcerated bowel loops and congested mesenteric vascular pedicle [3].

Arteriography

Arteriography performed in the evaluation of recurrent pain

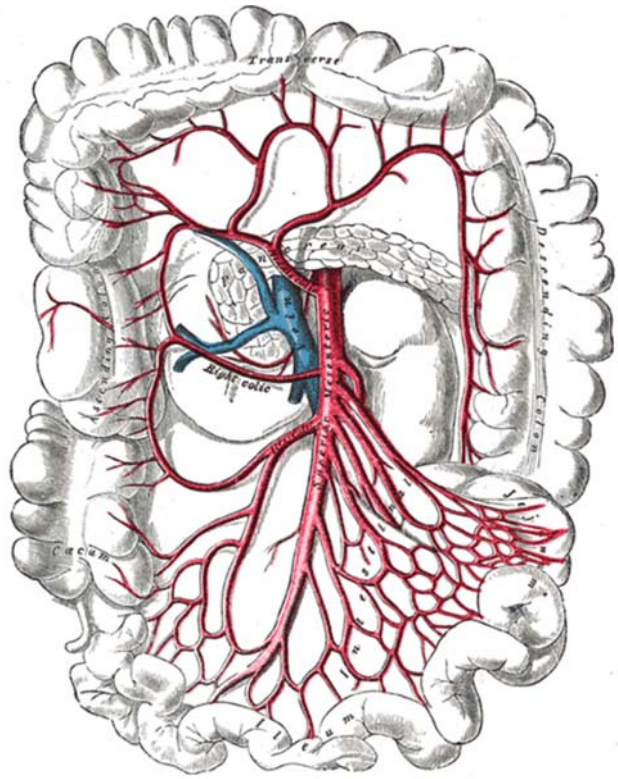

Fig. 3 Showing thin avascular area in the mesentery-Treves field

abdomen may show abrupt change in the course of superior mesenteric artery and ileal branches suggesting the presence of transmesenteric hernia [4].

In most of the reported cases diagnosis of Internal Hernia was not made preoperatively. CT abdomen and Arteriography findings of the cases were retrospectively studied in postoperative period and findings were suggestive of Internal Hernia.

Peculiarity of Congenital Transmesenteric Internal Hernias is the absence of a limiting hernial sac [5], large herniating bowel loops, volvulus of herniated bowel and bowel gangrene on both sides of mesenteric defect.

An intact abdomen with SBO–CIH should be suspected in patients presenting with recurrent pain abdomen or SBO without any history of previous abdominal surgery or trauma. As strangulation of bowel is early with high morbidity and mortality, early diagnosis and Exploratory Laparotomy should be the gold standard to prevent lethal complications in congenital transmesenteric intraabdominal hernias.

Conflict of interest The authors do not have any disclosable interest.

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