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# MESOCOLIC HERNIA: REVIEW OF LITERATURE AND CASE REPORT:

Pediatrics

**Dr Rukmangad Mhapsekar** Associate Professor Department of Surgery, Sumandeep Vidyapeeth University

**Dr Nitaba G Sodha** Junior Resident Department of Pediatrics, Sumandeep Vidyapeeth University

**Dr Vipul Shory** Junior Resident, Department of Surgery, Sumandeep Vidyapeeth University

## ABSTRACT

Internal hernia may be either congenital or acquired. Its incidence has been reported to be 1-2%. Herniation may be persistent or intermittent [10]. Internal hernia is a rare cause of small bowel obstruction with a reported incidence of 0.2-0.9% [10]. The most common type is Para duodenal. Less common types include mesocolic hernia, which occurs following abdominal surgery. We report mesocolic hernias in a young boy, who presented as small bowel obstruction without any prior abdominal surgery.

## KEYWORDS

Mesocolic hernia, internal hernia, intestinal obstruction

**Introduction:**

Internal hernia is a rare cause of intestinal obstruction and is difficult to diagnose preoperatively. [1],[2],[3],[4] The most common type of internal hernia is paraduodenal. Less common types include mesocolic (transmesenteric) hernia, which occurs following abdominal surgery. [5],[6]

**Case Report:**

8 years old male patient was admitted with abdominal pain, fever and vomiting of three days duration. Vomiting was bilious in nature non-projectile. There is history of premature birth at 7th month and patient was admitted in Neonatal intensive care for 1 month. Prior to this episode, he was normal and there was no past history of any abdominal surgery. On general physical examination, the patient was found to be febrile, tachycardiac with heart rate 150/min and tachypnoeic 50/min. Abdominal examination revealed distention, diffused tenderness all over abdomen. Bowel sounds were sluggish.

Investigation revealed total leucocyte counts 16200 with increased neutrophils and leucocytes. Plain abdominal X-ray revealed dilated small bowel loops in the upper abdomen [Figure 1]. Abdominal ultrasonography revealed free fluids in between bowel loops in Right iliac fossa with multiple sub centimetric lymph nodes.

Explorative laparotomy through right transverse revealed haemorr hagic peritoneal fluid with lump in left hypochondriac and epigastric region and gangrenous small bowel was found. On further exploration of lump there was a sac coming from caecal and ascending colon region and contained small bowels. Small bowel was traced proximally up-to duodenojejunal-junction and distally up to illecocaecal junction . A length of the terminal ileum about 25 cm was found to be gangrenous 5 cm up to ileocecal junction and proximal ileum and jejunum was dilated [Figure 2]. There was malrotation of bowel which was derotated after reduction of hernia sac and duodeno-jejunal junction and ileocecal junction was found to be close to each other. Sac of the defect was incised.

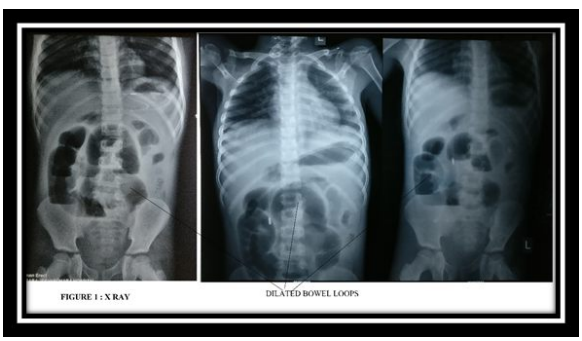


FIGURE 1 : X RAY

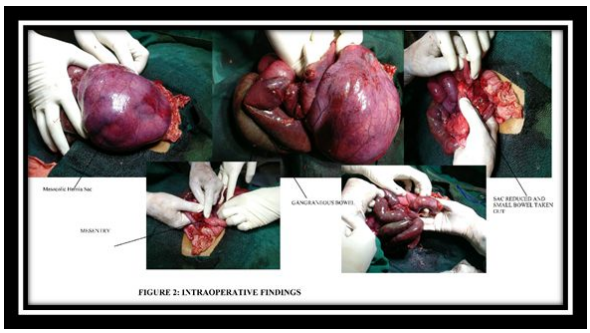


FIGURE 2: INTRAOPERATIVE FINDINGS

The gangrenous segment of the ileum was resected and distal ileum was closed and end proximal ileostomy was done. The abdomen was closed in layers. One units of blood were transfused postoperatively. Ileostomy started functioning from day 2 and Oral liquids was started on day 2. Sutures were removed on the 10th postoperative day. Histopathological examination of the resected specimen revealed a gangrenous terminal ileum. The postoperative period was uneventful and follow-up at1 month the patient is still asymptomatic.

**Discussion:**

Internal hernias are defined as herniation of a viscus, usually the small bowel, through a normal or abnormal aperture within the peritoneal cavity. These hernias may be either congenital or acquired. Its incidence has been reported to be 1-2%. [1],[2],[5][10]This herniation may be persistent or intermittent. Internal hernia is a rare cause of small bowel obstruction [1],[2],[3],[4][10] with a reported incidence of 0.2-0.9%. [2],[3],[4],[5][10] Due to the risk of strangulation of the hernial contents, even small internal hernias are dangerous and may be lethal. More than 50% of internal hernias reported in the literature are paraduodenal. [2],[3],[4],[5][10]

The other types of internal hernias that have been described include mesocolic (transmesenteric), supra- and / or perivesical, intersigmoid, foramen of Winslow and rarely, omental hernias. [3],[4],[5][10] The orifice of the internal hernia may be normal (Winslow's foramen) or abnormal (paraduodenal, ileocaecal etc.) or pathological (orifice formed in a mesentery or omentum) or anomalous. [2],[7][10]

Mesocolic / transmesenteric hernias occur through iatrogenically created defects in the mesentery. These defects include herniation of an abdominal viscus, usually through the small bowel mesentery or transverse mesocolon. These hernias are common following abdo minal surgery, especially Roux-en-Y loop reconstruction, [5],[6],[8][10] which creates a defect in the mesentery. When the small bowel is herniated through a defect in the mesentery or omentum, the herniated bowel is compressed against the abdominal wall.

There is no overlying omental fat in most cases and at most levels of anatomic sections, through the herniated bowel. The herniated bowel

tends to appear clustered and lies outside the colon, a reversal of the normal anatomic arrangement. As a result, the adjacent colon is displaced centrally (e.g., transverse colon displayed dorsally, ascending colon displaced medially) There will be some degree of compression, crowding, displacement and obstruction of both the bowel and blood vessels. The herniated bowel may also twist within the hernial sac, which results in volvulus and a predisposition to bowel ischemia.

Twisting of the mesenteric vessels or the whirl sign or twisting of the bowel itself is diagnostic of volvulus. Engorged blood vessels, mesenteric ascitis and bowel wall thickening suggest bowel ischemia. [5] Internal hernias are difficult to diagnose preoperatively by physical examination, therefore, imaging is relied upon for preoperative diagnosis. Since herniation is often intermittent, the radiographic diagnosis depends on the time of imaging. Plain film radiographic findings are usually nonspecific (normal, partial or complete bowel obstruction); yet upper gastro-intestinal small bowel follow-through, CT scan and occasionally ultrasound may facilitate the diagnosis of identifying isolated bowel-"a bag of bowel" in the hernial sac. [2],[5],[8][10] The most important diagnostic tool is CT, which is accurate in 77% [9] of the cases.

Barium studies and CT examination of these hernias may also show the point of transition where the bowel loops enter or exit the orifice. Angiography reveals an altered course of jejunal vessels as they course along the herniated portion of the bowel. [2],[5] Treatment consists of reduction of hernia by gentle traction and closure of the defect with care not to injure the vessels near the hernial sac margin. [1],[2] In the case of internal hernias, the best course is to correct the defects in the mesentery and the abnormalities of malrotation when incidentally noted. Right mesocolic hernia is repaired by moving the colon to the left after dividing the peritoneal attachments and leaving the small bowel on the right.

Left mesocolic hernia is treated by making an incision where the encapsulated hernial sac fuses with the left mesocolon to release the trapped bowel. [2] Internal hernias, while uncommon, represent an important and under-diagnosed condition. A high index of suspicion with prompt surgical intervention may be the key to the reduction of morbidity and mortality in such patients.

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