Paraduodenal Hernia - a Case Report

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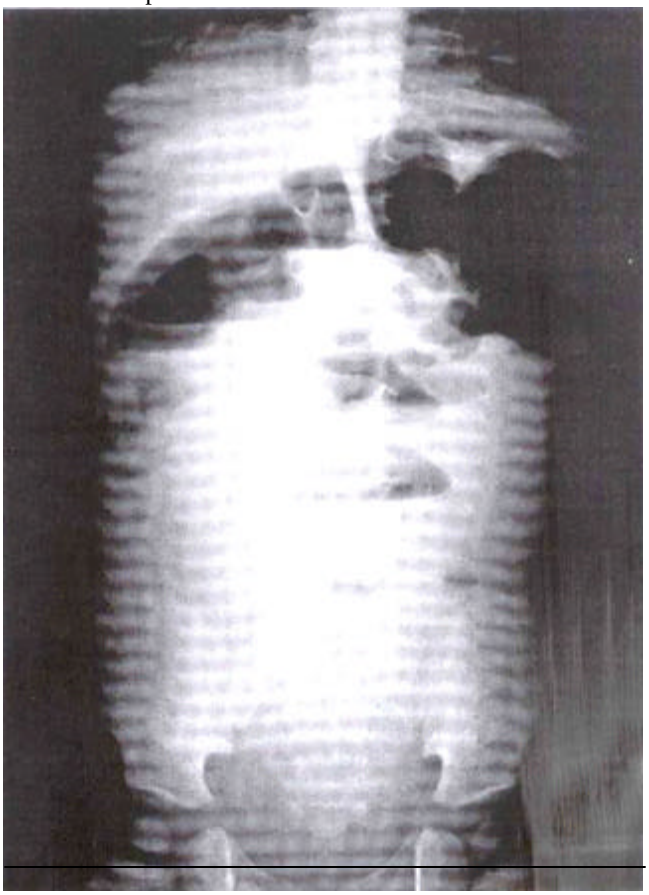
Introduction

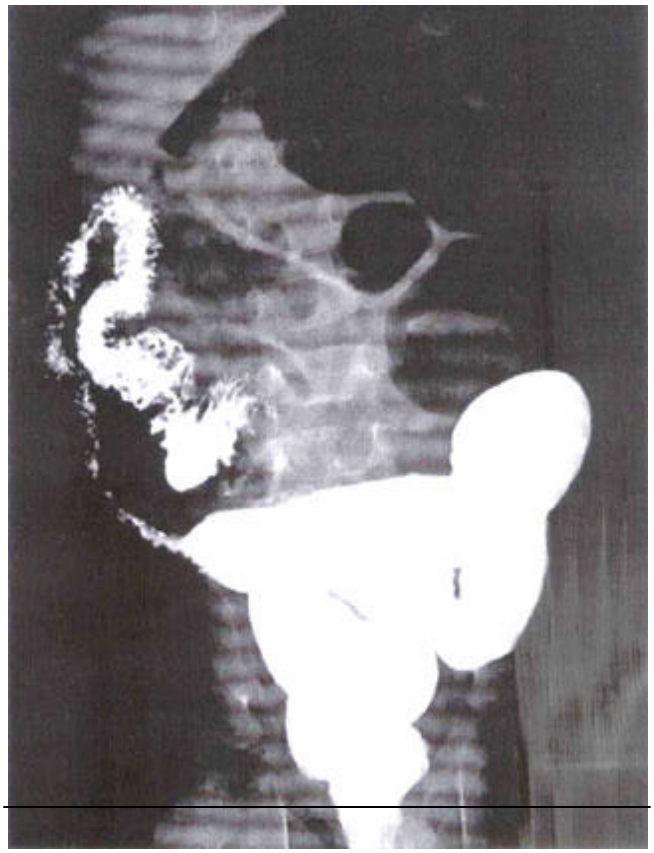
Internal hernias, herniation of a segment of intestine into an intraperitoneal fossa, are uncommon causes of intestinal obstruction and are difficult to diagnose pre-operatively.[1] We report a case of one and a half year old male infant presenting with para-duodenal internal herniation of small bowel.

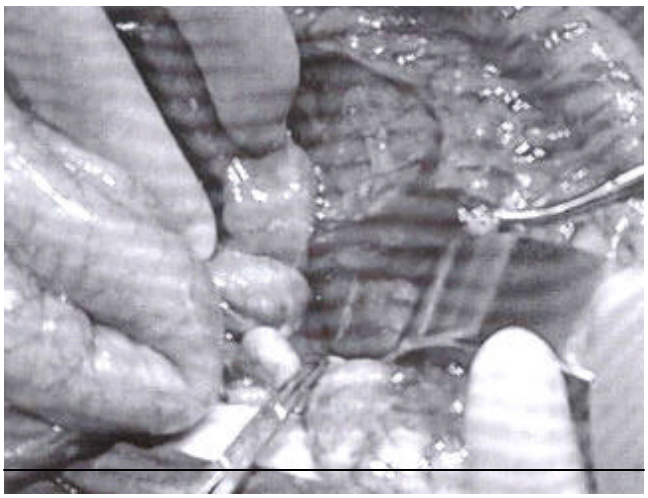
Case Report

We report a case of a one-year-old boy who presented to the emergency room with 36-hour history of abdominal pain and vomiting, progressing from non-bilious to bilious and ultimately faeculent. There was also history of constipation and abdominal distension. Prior to this episode, the child was well with no co-morbid conditions.

Examination revealed a listless, tachycardic and dehydrated infant with distended abdomen, which was tense and tender. The plain abdominal X-ray was consistent with intestinal obstruction (Figure 1). The provisional diagnosis of intussusception was made. After initial resuscitation a contrast enema was done, which showed downward displacement of transverse colon with distended small bowel loops (Figure 2). There was partial hold-up of contrast in mid-transverse colon (Figure 3). Exploratory laprotomy for mechanical bowel obstruction was planned. On exploration there was serosanginous peritoneal fluid,







with stretched out collapsed transverse colon. Small bowel was seen herniating through the mesentery of transverse colon, which was stretched on it (Figure 3). After reduction of small bowel, the defect was identified to be in left paraduodenal space. Bowel was reduced which was congested but viable and than the defect was repaired with vicryl, taking care of the vessels at the mouth of the defect .

Discussion

Internal hernias are uncommon and rarely diagnosed pre-operatively. Internal abdominal hernias are defined as the herniation of a viscus through an intraperitoneal orifice or aperture within the confines of the peritoneal cavity.[1] Incidence has been variably reported to be 1- 2%.[1-3]

The hernias may be discovered as incidental findings at the time of laprotomy or autopsy, or they may give rise to chronic dyspeptic symptoms. It may present as complication in the form of bowel obstruction, strangulation or perforation. Internal hernia is an un-common cause of bowel obstruction with a reported incidence of 0.2-0.9%.[2]

The orifice of the internal hernia may be normal (Winslow's foramen) or abnormal (Para-duodenal, Ileocecal etc) or pathological (orifice formed in a mesentery or omentum) or anomalis orifice.[4]

More than 50% of internal hernias reported in the literature have been paraduodenal.[2] Seventy-five percent of para-duodenal hernias occur on the left, while 25% occur on the right.[2,3,5,6] They originate at the fossa of Landzert which is just lateral to the fourth segment of the duodenum and behind the IMV and ascending left colic artery.[5,7] Right paraduodenal hernias protrude into the ascending mesocolon, involving the fossa of Waldeyer, behind the SMA and inferior to the third portion of the duodenum.[6]

The paraduodenal hernias are more common in males (M:F ratio 3:1).[5] The average age at diagnosis is 38.5 years with clinical presentation often due to chronic, intermittent, postparandial abdominal pain.[5] An accurate incidence of paraduodenal hernias in infancy and childhood is unknown, but quite rare.

Left paraduodenal hernias are a rare cause of abdominal pain or obstruction. However, because there is high associated mortality (20%)[3,8], prompt and accurate diagnosis is essential, which determines the clinical outcome. Because internal hernias are not detectable on physical examination, imaging is relied upon for pre-operative diagnosis.[7,9] Since, herniation is often intermittent, the radiographic diagnosis therefore depends on the time of imaging. Plain film radiographic findings are usually nonspecific (normal, partial or complete bowel obstruction); yet, UGI-small bowel follow-through, CT scan and occasionally ultrasound (the latter not in our case) may make the diagnosis by identifying isolated bowel, "a bag of bowel", in the hernia sac.[9]

Radiographically, left paraduodenal hernias present as an ovoid conglomeration of jejunal loops in the left upper quadrant, often displacing the stomach superiorly and the transverse colon inferiorly.[2,3] Right paraduodenal hernias are similarly ovoid but are located on the right, displacing the ascending colon anterolaterally. 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 the jejunal vessels as they course along the herniated portion of bowel.[2]

Treatment is based on reduction of the hernia and closure of the defect with care not to injure the vessels near the hernial sac margin.[6] With internal hernias, the best course is to correct the defects in the mesentery and the abnormalities of malrotation when incidentally noted. Right mesocolic herniation is repaired by moving the colon to the left after dividing the peritoneal attachments and leaving the small bowel on the right. Left mesocolic herniation is treated by making an incision where the encapsulated hernia sac fuses with the left mesocolon to release the trapped bowel.[3]

References

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