Transmesenteric hernia with bowel ischemia in unusual site

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ABSTRACT
An 8-year-old girl presented with distal ileal obstruction secondary to transmesenteric hernia. The ileum just proximal to the herniated loop was ischemic, while the herniated bowel did not show ischemia. The ischemia was due to stretching and torsion of the vessels around the mesenteric defect by the herniated bowel. Such a mechanism has not been reported before.

KEY WORDS: Congenital, internal hernia, mesentery, transmesenteric hernia

INTRODUCTION
Internal herniation of gut into mesenteric defect is a known entity. The herniation may lead to variable degree of vascular compromise to the herniated bowel. Here we present a case where the herniated bowel was normal, instead the part of gut which was supplied by the mesentery containing the defect showed features of ischemia. This kind of unusual site of ischemia is not known.

CASE HISTORY
An 8-year-old girl, who was healthy in the past, presented with colicky, periumbilical abdominal pain of 2 days duration associated with frequent vomiting. Examination revealed low-grade fever, dehydration, abdominal distension and tenderness in the right iliac fossa (RIF). There was leucocytosis, and the abdominal radiograph showed dilated loops of small bowel. An ultrasound of the abdomen showed free fluid in peritoneal cavity. With a provisional diagnosis of perforated appendicitis, a decision for laparoscopic appendicectomy was made.

Laparoscopy revealed sanguinous ascitic fluid with a loop of edematous and congested small bowel in the RIF indicating the presence of bowel strangulation. The dilated loops around this region did not allow further laparoscopic exploration. Laparotomy was done through a right transverse incision at the level of the umbilicus. A loop of ileum, approximately 5 cm in length had herniated through a defect in the mesentery that was located approximately 10 cm from the ileocecal junction (ICJ). The herniated bowel was of normal color. The part of ileum which was supplied by the mesentery containing the defect showed features of ischemia [Figure 1]. The ischemic bowel was approximately 10-12 cm in length and was immediately proximal to the herniated loop of ileum. The mesentery bearing the ischemic bowel segment was also edematous with patches of hemorrhage between its layers [Figure 1].

The herniated bowel was released by gentle stretching of the hernial defect. The color of the ischemic bowel gradually returned after the application of warm packs and its viability was confirmed. The mesenteric defect was 2 cm x 3 cm in size and oval in shape [Figure 2]. The defect was closed with interrupted nonabsorbable
sutures. Postoperative period was uneventful except that the patient had ileus for one week.

**DISCUSSION**

In congenital transmesenteric hernia (TMH) the hernial defect is most often situated in the small bowel mesentery, around 10-15 cm proximal to the ICJ.\(^1\) The defect is usually small, approximately 2 × 3 cm in size. TMH does not have a sac. TMH has been reported mainly in children between 3 and 10 years of age. The preoperative diagnosis of TMH is difficult despite the availability of current imaging techniques.\(^2\) Congenital defects in the mesentery have also been reported in the sigmoid mesocolon and the transverse mesocolon to the left of middle colic artery. Acquired mesenteric defects that occur following surgery may be located in any part of the mesentery.\(^3\)

The strangulation of herniated bowel is a frequent sequel in internal hernias, although in the presented case, the herniated bowel did not show features of strangulation. In this case, the ischemia of the distal ileum possibly resulted from the stretching or torsion of the vessels within the mesentery surrounding the hernia defect; the ischemia could have been further aggravated by the severe distension of this segment that was immediately proximal to the herniated bowel loop. Ischemia of the bowel containing the mesenteric defect has not been reported before.

**REFERENCES**


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