CASE REPORT

Left Paramesocolic Hernia Presenting as Post Appendicectomy Abdominal Cocoon

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We describe a rare case of left mesocolic hernia presenting as post appendicectomy intestinal obstruction in a girl. Laparotomy confirmed partial peritoneal encapsulation of upper small bowel due to herniation of jejunal loops into the left mesocolic hernia sac. Reduction of contents, resection of the sac and repair of the defect concluded the procedure uneventfully.

Key words: *Abdominal cocoon, Internal hernia, Intestinal obstruction, Mesocolic hernia, Peritoneal encapsulation.*

Paramesocolic hernia, previously known as paraduodenal hernia, is a rare cause of intestinal obstruction in children(1). Despite the congenital nature, diagnosis is usually in adulthood, with a mean age of 38 years(2). We report a case in which it presented with small bowel obstruction in the postoperative period following appendicectomy confusing with prolonged ileus, and simulated abdominal cocoon intraoperatively.

CASE REPORT

A 15-year-old girl presented with acute central abdominal pain of 12 hours duration radiating to right iliac fossa associated with non-bilious vomiting. On physical examination she was unwell, and had tachycardia, low-grade fever, and localized tenderness and guarding in right iliac fossa. This was accompanied by leucocytosis, neutrophilic shift and CRP of 65. A diagnosis of acute appendicitis was established.

During surgery, she had acutely inflamed gangrenous non-perforated appendix with localized pus. Appendicectomy was carried out and she was commenced on triple antibiotics. Her immediate postoperative period was uneventful. She was started on oral feeds on the following day which she tolerated. On day 4 well she started having dark green bilious vomiting and colicky upper abdominal pain. On examination, abdomen was soft and non-tender with upper abdominal fullness. Plain abdominal *X*-ray showed few air filled small bowel loops suggestive of ileus/obstruction (***Fig.*1**). Nasogastric tube was inserted which drained an average of over 1.5 liters of dark green bilious aspirates daily over the next 3 days. In between she was passing feces in small amounts. Her postoperative blood counts were within normal limits. Abdominal ultrasound scan suggested rim of free fluid and an ill defined mass. She continued to have large bilious aspirates. A possibility of early postoperative adhesions was considered.

An exploratory laparotomy was undertaken on day 7 post-appendicectomy. At exploration, a rim of

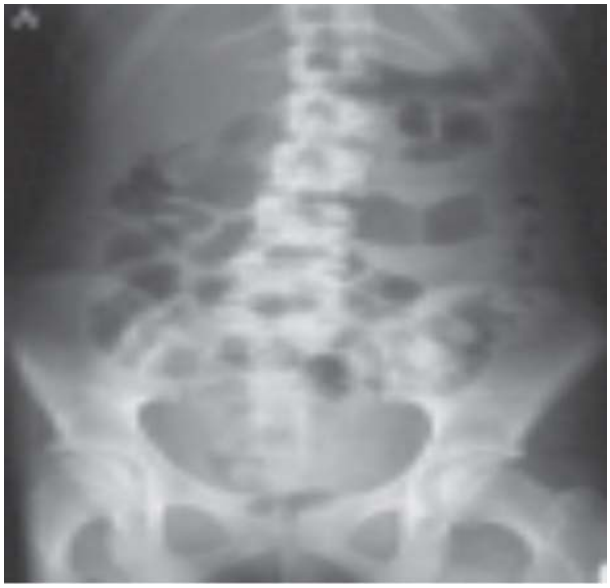

FIG. 1. *Pre treatment plain abdominal films. Note dilated upper small bowel loops typical of abdominal cocoon.*

serosangunous fluid was seen with normal postoperative cecum and collapsed terminal ileal loops in lower abdomen and pelvis, with no evidence of adhesions. Further exploration revealed herniation of upper small bowel loops into a hernial sac in the transverse mesocolon through a defect medial to the inferior mesenteric vein, in the form of partial abdominal encapsulation forming abdominal cocoon (***Fig.* 2**). A left paramesocolic hernia with intestinal obstruction was diagnosed. All obstructed small bowel loops were reduced from the hernial sac into the peritoneal cavity through an extremely open treitz orifice. The bowel was viable and there were no adhesions. Sac was completely everted and excised preserving inferior mesenteric vein. The Treitz arch forming the defect was closed using perivenous adventitia and the inferior mesenteric vessels were attached to the posterior peritoneum.

She made an uneventful recovery and was completely asymptomatic at follow-up twelve months later.

DISCUSSION

The paramesocolic hernias (PMH) are unfamiliar complex variety of intra-abdominal congenital internal hernias. Andrews in 1923(3) classified them into right (RPMH) or left (LPMH) hernia, depending

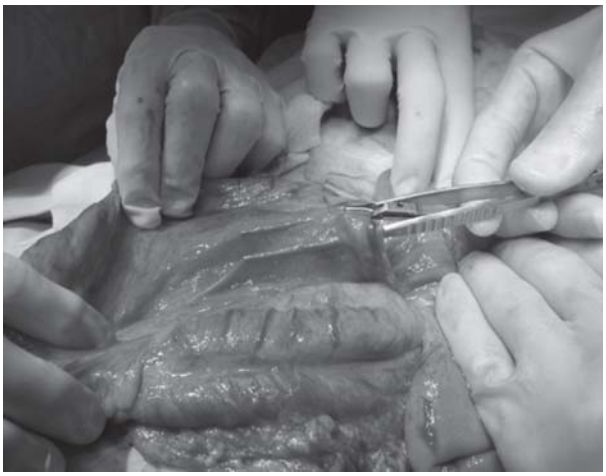

FIG. 2. *Intraoperative photograph showing left paramesocolic hernial sac located left in transverse mesocolon with inferior mesenteric vein passing above it.*

on embryological origin and anatomic features. They result from abnormal rotation and fixation of the midgut as an intraperitoneal internal congenital hernia. RPMH results from absence of rotation of prearterial segment of the small bowel anterior to the superior mesenteric vessels. In LPMH the entire intestine rotates normally but there is failure of fixation of left mesocolon to posterior abdominal wall in normal fashion(3).

Internal hernias account for 1% of intestinal obstructions, half of them being PMH. They are more common in males. LPMH is three times commoner than RPMH in both sexes. It presents potential risk for entrapment, incarceration, obstruction and strangulation. Our case was very similar to peritoneal encapsulation, which in itself is a distinct entity and with which it can be confused(4,5).

Plain abdominal radiograph and ultrasound scan may be inconclusive and contrast studies and computerised tomography may show encapsulation of small bowel on one side of the abdomen(6). Doppler and MRI may be useful in some cases. Post appendicectomy presentation has been reported in one more case(7). High index of suspicion, appropriate timing and early surgical intervention is crucial in such a case.

LPMH is technically more demanding and inferior mesenteric vessels must be spared. Even in

cases of acute strangulation due to constriction at the neck, an incision is made to the right of the vein, allowing reduction of the bowel. Most of the reported cases have done reduction and repair of the hernia leaving the hernial sac intact. We feel that the excision of sac is possible and it allows better fixation of the peritoneum to the posterior abdominal wall reducing chances of recurrence. An alternative is simply to enlarge the mesocolic space by mobilizing the left colon and opening the neck of the sac sufficiently so that the chances of strangulation are avoided.

Operative mortality can exceed 20 % especially in strangulation and gangrene(8). Over 50% of PMH will develop intestinal obstruction and its attendant co morbidity and, therefore, incidentally found hernia must be repaired.

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