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CASE REPORT

Adult transmesenteric hernia: report of two cases

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Abstract Transmesenteric hernia is a rare cause of bowel obstruction in adults. We herein describe two cases that occurred in adult women, ages 27 and 19. Both cases presented with abdominal pain without muscular defense signs. Computed tomography of both cases showed features of small bowel obstruction by an internal hernia. A laparotomy showed mesenteric defects of the mesentery of the ileum in the former case and the mesentery of the transverse colon in the latter case, with a herniating ileum. The involved small bowel was viable in both cases, and the bowel was pulled out of the mesenteric defect without resection. The mesenteric defects were then successfully repaired.

Keywords Internal hernia · Mesenteric defect · Intestinal obstruction

Introduction

Internal hernias are a rare cause of small bowel obstruction [1, 2]. Common sites of internal hernias are paraduodenal (50%), supravesical or perivesical, intersigmoid, the foramen of Winslow, the omentum, acquired mesenteric defects, and congenital mesenteric defects [3–7]. Patients with a mesenteric defect can present with intestinal obstruction at any age. Most of the documented cases of mesenteric defects as a cause of internal hernia are in the pediatric population, and these cases are speculated to be congenital [8, 9]. We herein present two cases of previously asymptomatic 27- and 19-year-old women with mesenteric defects that caused small bowel obstruction by an internal hernia.

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Case report

Two otherwise healthy 27-year-old (case A) and 19-year-old (case B) women presented with severe abdominal pain. Their pain was acute in onset, continuous, and associated with episodes of vomiting in both cases. They had no other comorbid conditions and had not undergone any operations in the past. Abdominal examination did not reveal muscular defense in either case. The results of laboratory investigations were normal except for elevations in the white blood cell count (9,600 cells/mm^3 in case A and 12,900 cells/mm^3 in case B). Computed tomography (CT) scans of both cases revealed closed loops of obstructed small bowel, suggesting an internal hernia without significant ascites or free air (Fig. 1a–c). The CT scan of case B revealed increased wall thickness of the involved intestine and an increase in mesenteric density (Fig. 1b). Laparotomy of case A showed that 10 cm of the proximal ileum had herniated through a defect of the mesentery of the distal ileum (Fig. 2a, b). The laparotomy of case B showed that 40 cm of ileum had herniated through a defect of the mesentery of the transverse colon (Fig. 2c, d). The involved intestines were viable (Fig. 2a, c) and were pulled out of the mesenteric defects without resection in both cases. The mesenteric defects were then successfully closed. Both patients recovered uneventfully.

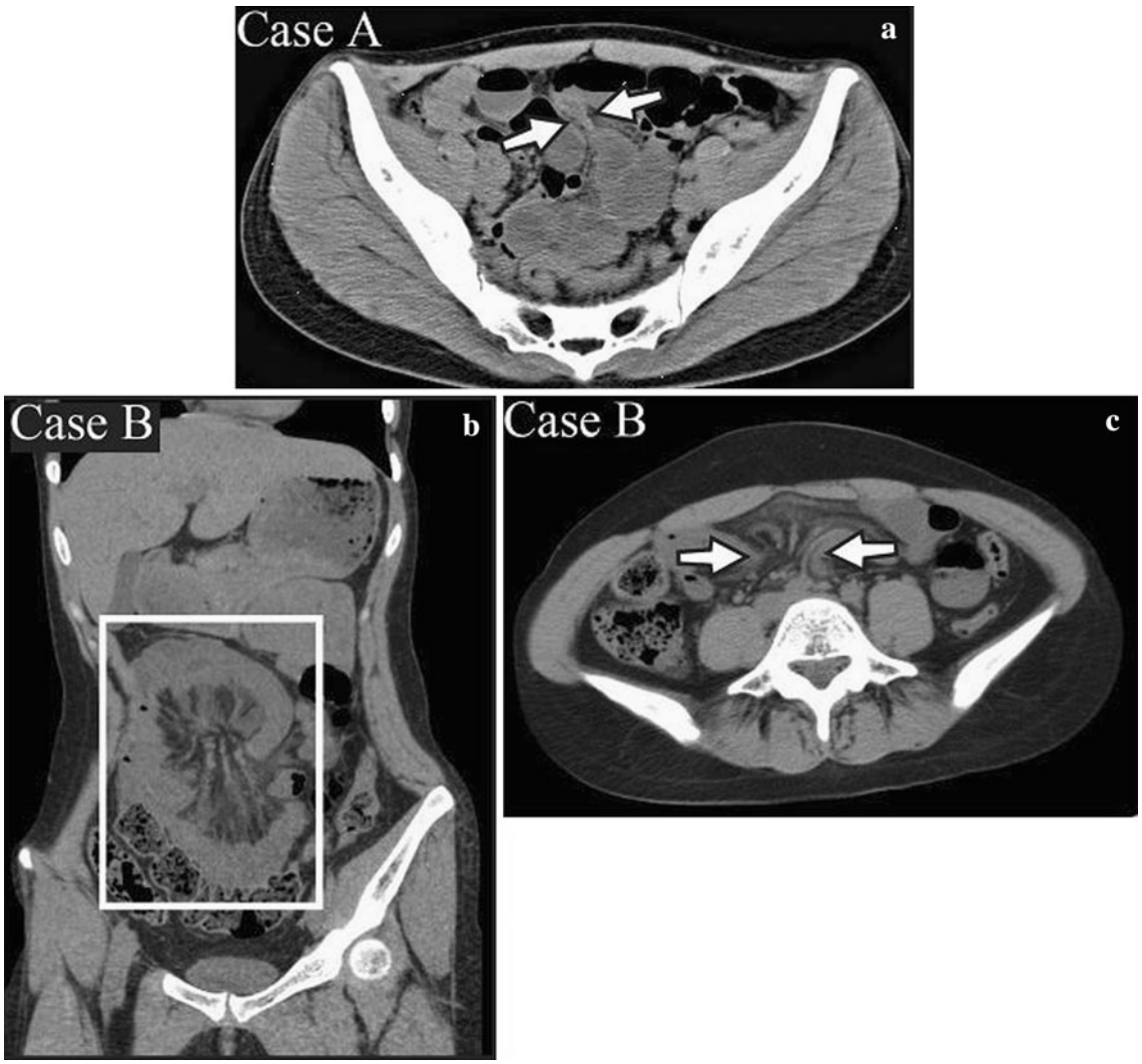

Fig. 1 Preoperative computed tomography. **a** *White arrows* indicate the involved small intestine of case A. **b** *White box* indicates the involved small intestine of case B. There was increased wall thickness of the involved intestine and an increase in the mesenteric density. **c** *White arrows* indicate that the mesentery of the involved small intestine of case B was strangulated

Discussion

In about 0.2–0.9% of cases of small bowel obstruction, the obstruction is the result of an internal herniation [1]. A transmesenteric hernia is a type of internal hernia [1, 5, 10]. Mesenteric defects are an established cause of internal herniation in nonoperated abdomens and provide a potential site for intestinal incarceration or strangulation. Congenital mesenteric defects most often occur in the small bowel mesentery and less commonly in the colonic mesentery. Most of these cases have been reported in infants or children, often with an associated intraabdominal anomaly [9, 11, 12]. Murphy found that of the 11 infants presenting with herniation through a mesenteric defect of the small intestine, 10 had an associated anomaly, the most common being intestinal atresia [6]. In adults, defects are most commonly acquired as a result of either blunt abdominal trauma or surgical manipulation of the bowel and mesentery. We are aware of only three adult female cases in the literature of internal hernia caused by congenital mesenteric defects [1, 12, 13]. These three patients ranged from 23 to 38 years of age. Mesenteric defects were observed in the small intestinal region in all cases, and two of them were giant defects [1, 12]. In the present cases, because the patients had not undergone any operations or experienced abdominal injuries in the past, the mesenteric defects were speculated to be congenital. The locations of the mesenteric defects in our two cases were in the region of the distal ileum and transverse colon. The most common location of mesenteric defects is in the region of the small bowel (70% of cases), with 53% of these being in the ileocecal area of the mesentery [10].

Mesenteric defects present with a spectrum of clinical features, from being asymptomatic to being a cause of

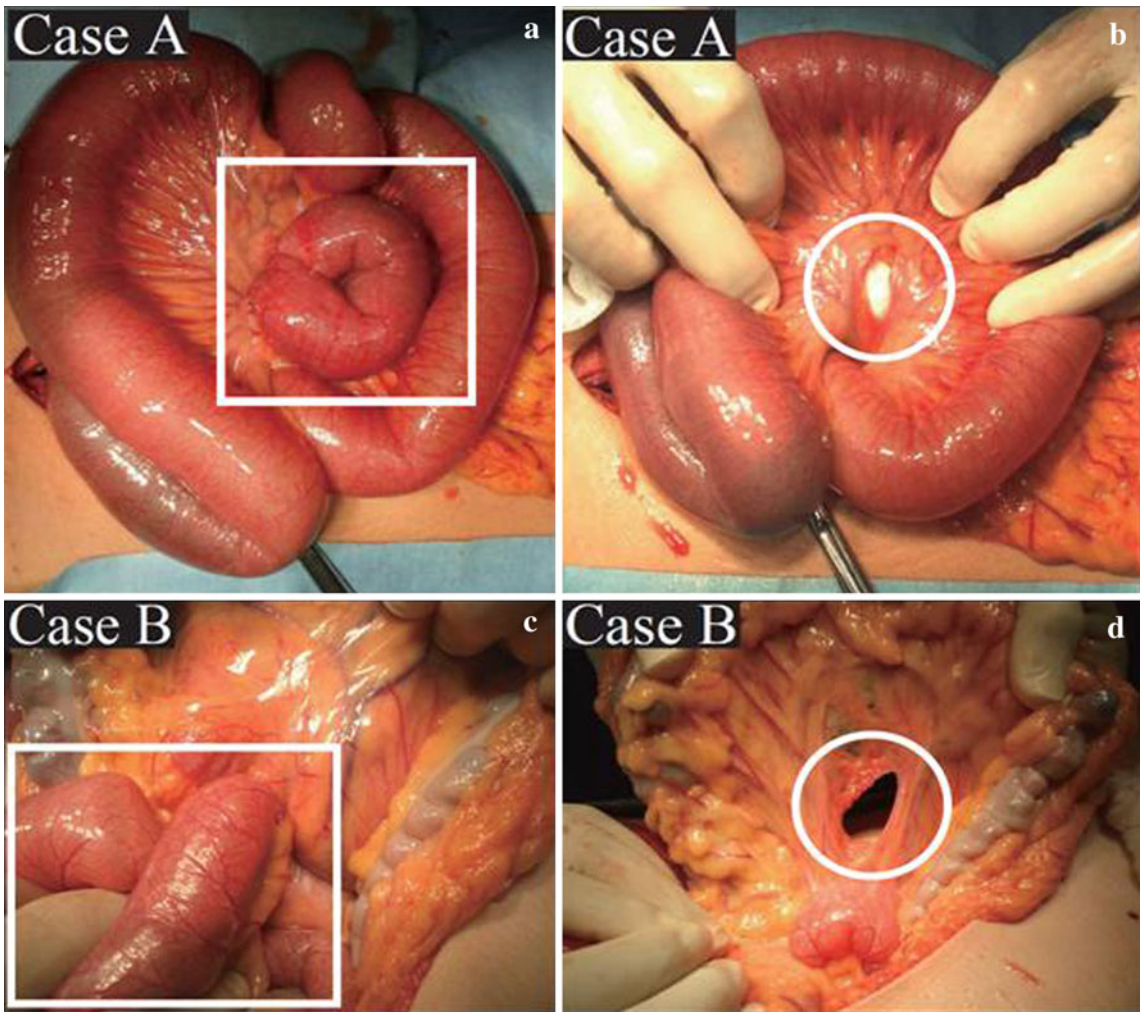

Fig. 2 Intraoperative findings. **a** *White box* indicates a closed loop of the involved small intestine of case A. The involved intestine was viable. **b** *White circle* indicates a defect in the mesentery of the ileum in case A. **c** *White box* indicates the involved viable small intestine of case B. **d** *White circle* indicates a defect of the mesentery of the transverse colon in case B

unexpected death. Byard and Wick [13] autopsied two patients for unexpected death and found bowel herniation through congenital mesenteric defects to be the cause of death in both.

A high index of suspicion for congenital mesenteric defects is warranted in patients who present with features of intestinal obstruction in the absence of an obvious external hernia or previous abdominal surgery. Surgical management consists of a timely laparotomy, a reduction of the hernia, closure of the defect, and if the involved bowel is nonviable, resection of the devitalized bowel.

Conflict of interest None of the authors has any conflict of interest.

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