CASE REPORT

Laparoscopic treatment of intestinal obstruction caused by an uncommon congenital band

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SUMMARY

Congenital bands represent a rare cause of small bowel obstruction. We report a case of intestinal obstruction caused by an uncommon form of congenital band in a 16-year-old girl. The diagnosis was strongly evoked preoperatively by CT scan and the intestinal obstruction was successfully treated using a laparoscopic approach.

BACKGROUND

Bowel obstruction in the virgin abdomen is uncommon and often leads to a diagnostic challenge for radiologists and surgeons.¹ We report a case of small bowel obstruction caused by a congenital band in which the proximal seat of the band on the jejunum explained the unusual clinical presentation and the delayed diagnosis

CASE PRESENTATION

A 16-year-old girl with no history of abdominal surgery or trauma, treated since early childhood for sickle-cell anaemia using hydroxycarbamide, reported repeated and copious vomiting for 2 weeks. Physical examination showed no fever and no marked signs of dehydration, and an abdominal examination was unremarkable.

Figure 1 Coronal abdominal CT scan showing massive dilation of the stomach (hash) and of the proximal jejunal loops (asterisk).

Figure 2 Axial abdominal CT scan showing dilation of the proximal jejunal loops upstream of a beak-shaped cut-off (arrow).

INVESTIGATIONS

Laboratory tests showed renal failure (creatinine 347 $\mu\text{mol/L}$ and urea 26.6 mmol/L) with no significant electrolyte abnormalities. The haemoglobin level was 10.7 g/dL.

Plain abdominal radiographs showed neither fluid levels nor dilated loops, whereas CT showed massive dilation of the stomach, duodenum and proximal jejunal loops (figure 1) with a beak-shaped cut-off beyond which the jejunum was flat (figure 2).

DIFFERENTIAL DIAGNOSIS

In the absence of radiological evidence of another obstructive cause, two diagnoses were evoked: internal hernia and congenital band.

Figure 3 Intraoperative image showing strangulation of a jejunal loop by the congenital band (white arrow) running from the wall of the transverse colon (black arrow) to the root of the mesentery (asterisk).

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Figure 4 After reduction of the incarcerated bowel, no sign of ischaemia was noted in the constriction ring (arrow) or in the jejunal loop.

TREATMENT

After initial treatment with intravenous fluid and nasogastric suction, the patient was operated on using a laparoscopic approach. Operative exploration found strangulation of a jejunal loop, 30 cm beyond the ligament of Treitz, by a thick band with blood vessels in it, running from the wall of the transverse colon to the root of the mesentery (figure 3). No sign of ischaemia was noted after performing the reduction of the incarcerated bowel loop (figure 4). The congenital band was ligated and resected. The examination of the remaining abdominal cavity was unremarkable.

OUTCOME AND FOLLOW-UP

The postoperative course was uneventful.

DISCUSSION

We reported a rare case of intestinal obstruction caused by an uncommon form of congenital band, which was strongly evoked preoperatively by imaging and successfully treated using a laparoscopic approach. In this case, the association of congenital band with sickle-cell anaemia was coincidental. However, this association could have caused serious consequences because dehydration induced by intestinal obstruction promotes the occurrence of vaso-occlusive crisis.

Congenital bands have been the result of abnormal adhesion of the peritoneal folds during embryogenesis.² They are responsible for 7–12% of intestinal obstruction in patients with a virgin abdomen and without a strangulated parietal hernia.¹ Apart from Ladd bands, which arise from the caecum to the posterior peritoneum leading to compression of the second or the third duodenal portions, the other sites of obstruction have

most often been located in the terminal ileum.^{2 3} Compression of the jejunum by a congenital band, as in our case, has rarely been reported.^{4–6} In the reported cases, the diagnosis of intestinal obstruction by congenital band was usually made intraoperatively,^{2 3} which was likely due to low rates of CT usage. Although CT did not show the congenital band in our case, it was decisive to evoke the diagnosis by showing the beak-shaped cut-off in the proximal jejunum without evidence of another obstructive cause. However, definitive diagnosis can be made only by surgical exploration. Laparoscopy, which was rarely used in the reported cases,² allowed us to treat the occlusion in a relatively simple manner while preserving the abdominal wall and fertility, with undeniable aesthetic advantages, in a 16-year-old girl.

Learning points

- The diagnosis of intestinal obstruction by congenital band should be considered whenever the obstruction occurs in a virgin abdomen.
- Abdominal CT scan should be widely performed in case of obstruction in the virgin abdomen because it can lead to the diagnosis.
- A laparoscopic approach is feasible and should be used whenever possible.

Contributors CD had full access to all the data in the study, and takes responsibility for the integrity of the data and the accuracy of the data analysis. HJ and CD were responsible for study concept and design. HJ and MK were responsible for acquisition of the data. HJ and AG contributed to analysis and interpretation of the data. HJ Drafted the manuscript. CD was responsible for critical revision of the manuscript for important intellectual content.

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REFERENCES

- 1 McCloy C, Brown TC, Bolton JS, *et al.* The etiology of intestinal obstruction in patients without prior laparotomy or hernia. *Am Surg* 1998;64:19–22.
- 2 Habib E, Elhadad A. Small bowel obstruction by a congenital band in 16 adults. *Ann Chir* 2003;128:94–7.
- 3 Akgür FM, Tanyel FC, Büyükpamukçu N, *et al.* Anomalous congenital bands causing intestinal obstruction in children. *J Pediatr Surg* 1992;27:471–3.
- 4 Liu C, Wu TC, Tsai HL, *et al.* Obstruction of the proximal jejunum by an anomalous congenital band—a case report. *J Pediatr Surg* 2005;40:E27–9.
- 5 Attaallah W, Mokhtare S, Özden G, *et al.* Intestinal obstruction due to congenital mesenteric band in an adult patient. *Turk J Gastroenterol* 2013;24:356–8.
- 6 Sarkar D, Gongidi P, Presenza T, *et al.* Intestinal obstruction from congenital bands at the proximal jejunum: a case report and literature review. *J Clin Imaging Sci* 2012;2:78.

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