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CLINICAL IMAGES

Omphalomesenteric cyst and patent urachus in a 29-year-old male

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Small bowel obstructions are commonly caused by bowel adhesions from previous intra-abdominal surgeries.[1] Bowel obstructions in adults that are caused by the presence of vestigial embryonic structures are unusual.[2] Omphalomesenteric duct and urachus are primitive embryonic structures, which normally involute between the 5th and 12th week of gestation.[3 4] Failure to involute leads to anomalies such as patent ducts and omphalomesenteric cysts.[2 5-7]

Omphalomesenteric duct remnants are present in at least 2% of the population.[2] Among the urachal remnants, a patent urachus is less common, only accounting for 15% of the cases.[8] Simultaneous occurrence of both remnants is rare.[5] Diagnostic imaging, such as ultrasonography, is usually performed to facilitate planning for subsequent management of patients who present with chronic symptoms related to the persistence of these remnants.[9] Computed tomography may also be done to determine the location, size and patency of ducts and cysts, while voiding cystourethrograms can be used to determine bladder wall involvement.[8] However, among undiagnosed patients who present with acute bowel obstruction, the presence of these remnants is usually established intraoperatively during exploratory laparotomy. The approach to treatment involves excision of the remnants and appropriate surgical management of the bowel obstruction.[1 2 5 6 10 11] Prognosis is often good with uneventful postoperative recovery.[1 2 5]

A 29-year-old male came to our emergency room complaining of generalized, vague abdominal pain, gradual abdominal distension, post-prandial vomiting of previously eaten food, obstipation, and fever within 48 hours before consultation. The patient did not report any history of weight loss or gastrointestinal symptoms prior to the onset of the present problem. On physical examination, the patient was tachycardic and showed signs of an acute abdomen. Digital rectal examination showed an empty rectal vault, with no masses or bleeding noted.

Laboratory findings revealed leukocytosis at 18.3 x 103/μL and normal serum electrolyte levels. Upright and supine abdominal x-rays showed dilated bowel loops with thickened serosa and multiple air-fluid levels (Figure 1A, 1B). We did an exploratory laparotomy with a working diagnosis of complete intestinal obstruction. Intraoperatively, we noted torsion of the ileum (Figure 1C) around a band, which runs from the ileum approximately 80 cm from the ileocecal valve, to the umbilicus. The band, an omphalomesenteric remnant, contains a cyst measuring 10 x 4.7 x 3 cm. (Figure 1D). We also noted a patent urachus inferior to the omphalomesenteric remnant, connecting the bladder to the umbilicus (Figure 1E). We detorted the bowels manually, resected the portion of the ileum where the omphalomesenteric remnant was attached, and did a double-barrel ileostomy. We excised the urachal remnant and performed cystorrhaphy and umbilicoplasty. The patient had an unremarkable postoperative recovery. Ileal anastomosis was planned to take place around 6 weeks postoperatively.

Given the unexpected intraoperative findings of persistent embryonic structures, we asked the patient postoperatively about history of related symptoms. The patient denied of recurrent urinary tract infections in the past, but he claimed to have intermittent umbilical wetness with non-foul-smelling discharge, which spontaneously resolved after a few years, when he was a teenager.

Omphalomesenteric remnants can be a cause of intestinal obstruction in adults with no previous history of surgery. A history of symptoms related to the presence of the remnants is rarely elicited preoperatively. Excision of the remnants with appropriate repair of affected structures and adequate management of the intestinal obstruction usually resolves the problem.

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Patient consent
Obtained

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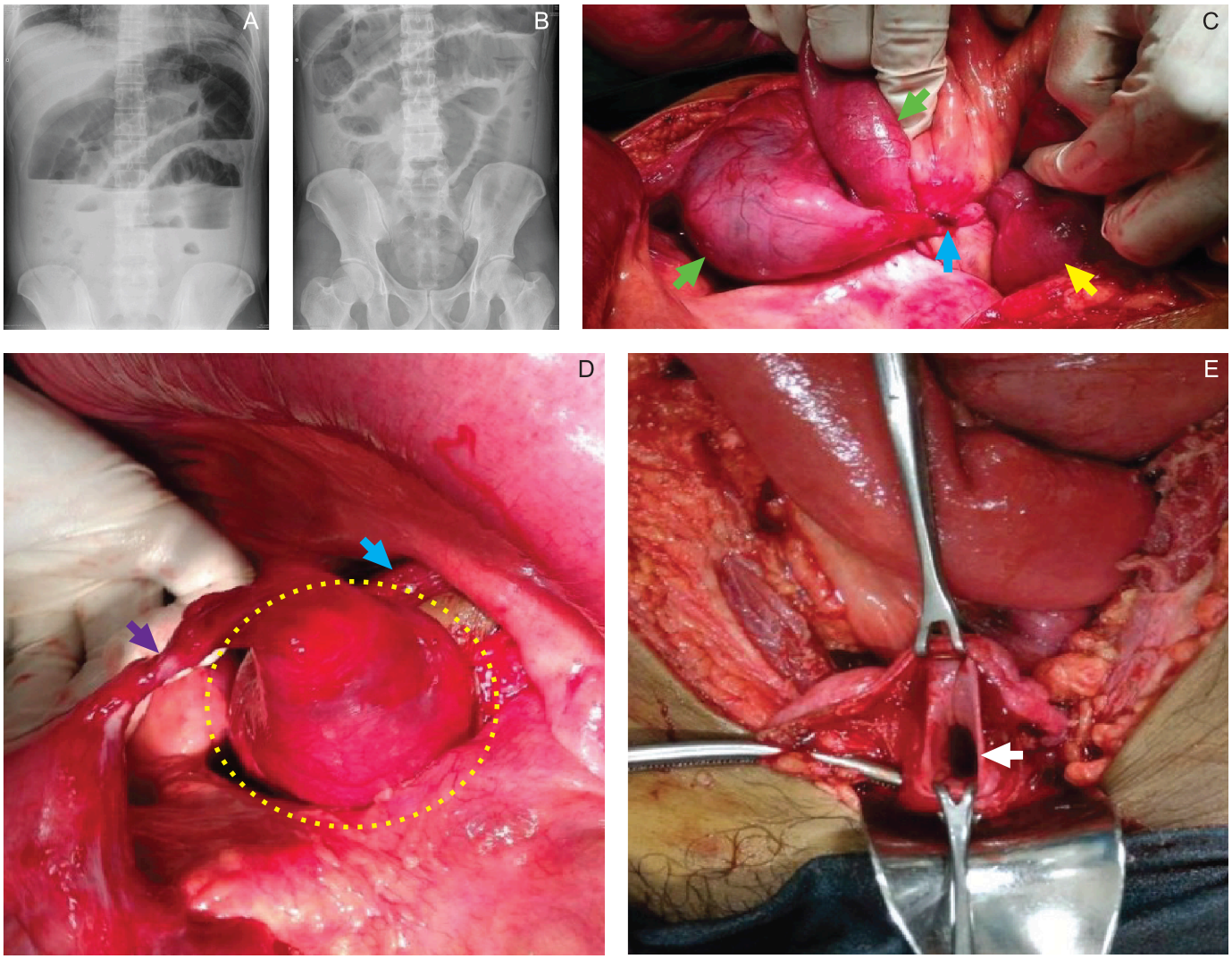

Figure 1 Upright (A) and supine (B) x-rays showing intestinal obstruction. Torsion (C: blue arrow) of the ileum (C: green arrows) around an omphalomesenteric remnant (C: yellow arrow). Omphalomesenteric remnant containing a cyst measuring 10 x 4.7 x 3 cm (D: yellow ring) and bands connected to the ileum (D: purple arrow) and abdominal wall (D: blue arrow). Opening at the urinary bladder apex (E: white arrow) after excision of patent urachus.

Competing interests
None declared

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