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Case Report

Remenant of vitellointestinal duct with vitelline cyst causing volvulus of small bowel

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ABSTRACT

We report a case of 14 year old male who presented with abdominal pain for 1 day. Our initial clinical suspicion was complicated acute appendicitis, which was later supported by ultrasonogram. His CT abdomen revealed acute intestinal obstruction. Subsequently he was taken up for emergency laparotomy which revealed a fibrous cord like remnant of vitellointestinal duct with a Vitelline cyst causing volvulus of small bowel. The cord along with cyst was excised. The gangrenous bowel was resected and an ostomy was fashioned. Post operative period uneventful and evaluation for any associated congenital malformations revealed none.

Keywords: Vitellointestinal duct, Vitelline cyst, Small bowel volvulus, Congenital anomaly

INTRODUCTION

The omphalomesenteric duct (OMD) is an embryonic structure, which connects the yolk sac to the midgut. Failure of its resorption may result in various anomalies including Meckel's diverticulum, vitelline duct, band of fibrous tissue, sinus tract, a polyp and cyst of umbilicus, enteric fistula or umbilical mass. These anomalies occur in approximately 2% of the population, sometimes they remain silent throughout life, or they might present incidentally with an intraabdominal complication.[1] The complications of a remnant omphalomesenteric duct most frequently manifests during childhood.[2] Here we report a case of small bowel obstruction and gangrene in a 14 year old boy due to persistent vitellointestinal duct.

CASE REPORT

A 14 year old boy presented to the emergency department with complaints of abdominal pain for 1 day and non bilious vomiting 2 episodes. According to the patient the pain was initially severe in right lower quadrants before spreading all over the abdomen. There was no history of congenital malformations or any previous surgeries. Examination revealed warmth, diffuse tenderness and voluntary guarding.

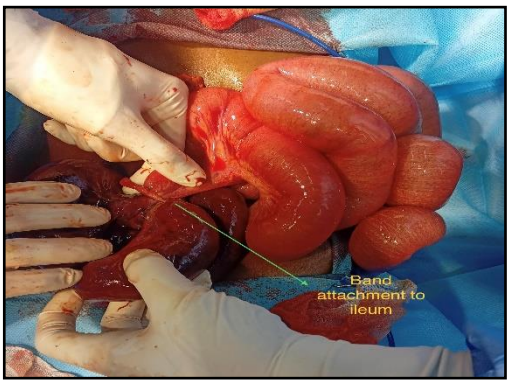

Figure 1: Intraoperative picture of small bowel volvulus.

Ultrasonography findings were suggestive of perforated appendicitis. His CT abdomen revealed Acute intestinal obstruction with transition point at terminal ileum.

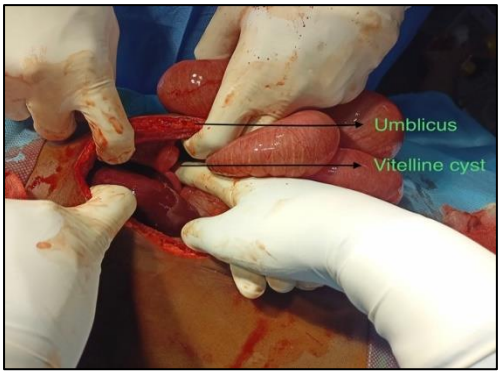

Figure 2: The remnant band attachment to anti mesenteric.

An emergency laparotomy was subsequently performed and the intraoperative findings were consistent with a fibrous band extending from umbilicus to anti mesenteric border of ileum causing volvulus of small bowel. The band also had a cyst near its attachment to umbilicus. The bowel was gangrenous for about 38 cm distal to the point of attachment of the band leaving behind approximately 8 cm of healthy ileum near Ileocecal junction. The gangrenous bowel was resected and ileostomy and mucous fistula was fashioned as increased tension between the bowel ends did not favour anastamosis. Post operative period was uneventful. He was evaluated for congenital malformations. Ostomy reversal done after 8 weeks.

DISCUSSION

Small bowel volvulus (SBV) is defined as the twisting of the small bowel around its mesenteric axis. Typically, SBV is thought to be a diagnosis in newborns, because one-in-500 live births have intestinal malrotation (IM) and approximately 80% of these IM patients will present with SBV within the first month of life. As a result, SBV secondary to IM is most common in children and young adults.[3-6] Whereas small bowel volvulus and obstruction due to a congenital band is a very rare entity. Anomalous congenital bands are rare causes of intestinal obstructions in children. The etiology of anomalous congenital bands has not been elucidated. Anomalous congenital bands were first defined by Touloukian.[7] In the series of Akgür et al the most common band location was between the ascending colon and the terminal ileum in 4 of 8 patients (50%).[8] Of all Omphalomesenteric duct related anomalies, Meckel's diverticulum is the most common, while other anomalies such as a persistent band, enterocystoma (Vitelline cyst) are rare.[9] Surgical excision is the treatment of choice at this situation as our patient presented with an acute life threatening complication of remanant Omphalomesenteric duct.

CONCLUSION

Persistent omphalomesenteric duct constitutes an extremely infrequent cause of small bowel obstruction, with very few cases reported in the literature. It should be taken into consideration, however, in children with acute mechanical small bowel obstruction without any previous history of surgery.

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