

Intestinal obstruction due to anomalous congenital band

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ABSTRACT

Intestinal obstruction caused by an anomalous congenital band is very rare in adults and children. ACBs (Anomalous congenital band) are bands that have no identifiable embryological or acquired basis. We report an unusual case of intestinal obstruction in a 23 year old male patient who was found to have an ACB forming a loop around the jejunum (Fig-1) and causing closed loop obstruction. This band was arising from the treitz ligamentum and looping around the jejunum, ending at the root of mesentery. This band was in addition, causing compression of blood supply to the proximal jejunum.

KEY WORDS: Congenital band, Intestinal Obstruction, Abdominal Pain.

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INTRODUCTION

Congenital bands cause 3% of all intestinal obstruction and almost always lead to small bowel obstruction.¹ In adults, obstruction due to bands is even rarer. These bands are associated with intestinal malrotation, usually causing duodenal compression and are fibrous in nature.² ACBs (Anomalous congenital band), as in our case, are not associated with malrotation and contain blood vessels. These bands may represent a congenital mesenteric anomaly.³

CASE REPORT

A 23 year old male patient presented to Emergency department with 48 hours history of abdominal pain which initially started at his umbilical region and later radiated to his right iliac fossa. He had associated symptoms of nausea and loss of appetite. There

was no history suggestive of renal colic, urine infection. He had no significant past illnesses and had not undergone any abdominal surgery. He had central abdominal distention with tenderness in right iliac fossa and bowel sounds were tympanic. There was no palpable lump or rebound tenderness. The hernial orifices were normal. Per rectal examination was non contributory. Laboratory investigations showed mild leucocytosis at 12×10^3 (normal range $7 \times 10^3 - 10 \times 10^3$), Neutrophil 8×10^3 (normal range $1.8 \times 10^3 - 7 \times 10^3$).

Urine analysis was negative. Abdominal radiograph (erect and supine) revealed a few dilated small bowel loops with no significant air fluid level. With this clinical status, we decided to operate the patient with the diagnosis of acute abdomen. We started with a paramedian incision below the umbilicus at the lower right site. Intraabdominally we observed 300cc fluid which was serous and reactional. We aspirated this fluid and continued the exploration to find the cause of this reactive fluid. Appendix was normal. We saw that there was an ACB forming a loop around the jejunum (Fig-1) and causing closed loop obstruction. This band was arising from the treitz ligamentum and looping around the jejunum, ending at the root of mesentery. This band was in addition, causing compression of blood supply to the proximal jejunum. (Fig-2) No sign of ischemic bowel was noted. There was no associated intestinal malrotation. The band was ligated and divided. Histopatho-

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Fig-1: ACB forming a loop around the jejunum.

logical examination revealed a fibrotic band containing blood vessels. Post operatively his symptoms settled and he was discharged with no complications.

DISCUSSION

Congenital bands are a rare cause of intestinal obstruction in infancy and childhood. Their occurrence in adults is an extremely rare condition.^{3,4} Touloukian was the first to describe about congenital bands causing small bowel obstruction in significant detail.^{3,5} Its localization excluded known embryogenic remnants, such as vitelline arteries or veins or omphalomesenteric ducts or mesourachus. The most likely explanation is described by Akgur et al³, is that this band originated from a mesenteric anomaly. At about the 28th day of intrauterine life, transiently, the dorsal and ventral mesenteries divide the peritoneal cavity into right and left halves, but the ventral mesentery soon disappears, except around the liver and in front of the stomach.^{6,7}

As the intestines assume their final positions, their mesenteries are pressed against the posterior abdominal wall. Akgur et al³ reported eight children of ACB, which was the largest series of children. A single thick band with blood vessels was found to be the cause of obstruction at laparotomy. One of the terminations of this band was attached to the terminal ileum or to the terminal ileum mesentery in all patients. The other end of the band was attached to the ascending colon in four cases, the Treitz' ligament in two cases, and the right lobe of the liver in two children.³ Lin et al⁸ have reported a band extending from the iliac fossa to the sigmoid mesocolon, while Itagaki et al⁹ reported the presence of a jejuno-jejuno congenital band.¹⁰

Patients usually present with symptoms of intestinal obstruction, and despite the availability and wide use of modern imaging techniques, preoperative diagnosis is very difficult to establish. Plain films are nonspecific. Ultrasound scan might provide details



Fig-2: This band was in addition, causing compression of blood supply to the proximal jej.

of localized distended intestinal loops or indirect signs of peritonitis, but it is not specific while barium-contrast gastrointestinal series may provide clues to narrow the differential diagnosis. A CT scan of abdomen is also unlikely to detect a band. A diagnostic laparoscopy is a valuable aid to diagnosis and definitive management.¹¹

In conclusion, this case demonstrates that an anomalous congenital band could be included in the differential diagnosis of intestinal obstruction. This clinical situation requires early surgical intervention that will be diagnostic and therapeutic.

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Authors Contribution:

Selim Sozen conceived, designed and did statistical analysis & editing of manuscript.
Mustafa Keceli, Umit Erkan Vurdem did data collection and manuscript writing.
Selim Sozen, Omer Topuz did review and final approval of manuscript.