Research Paper

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Congenital band: A rare cause of intestinal obstruction in adults

Medical Science

KEYWORDS :

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ABSTRACT

Introduction: Congenital bands are a rare cause of intestinal obstruction in infancy and child-hood. Their occurrence in adults is an extremely rare condition[1,2]. We hereby report a case of congenital band leading to intestinal obstruction in 32 year old male. Case report: A 32 years old male, presented with symptoms of intestinal obstruction. Plain X-ray abdomen erect view showed dilated bowel loop. Sonography showed fluid collection be-tween bowel loops. CECT (contrast-enhanced computed tomography) abdomen showed di-lated jejunal loop. Exploratory laparotomy revealed a congenital band extending from base of mesentery to anti-mesenteric border of jejunum and appendix. The band was divided and appendicectomy performed. Histopathological examination revealed a fibrotic band contain-ing blood vessels. Postoperative period was uneventful. Conclusion: Congenital band is a rare entity however it should be included in the differential diagnosis of intestinal obstruction even in older individuals with no history of trauma or sur-gery.

Case Report

Introduction:

Congenital bands are a rare cause of intestinal obstruction in infancy and childhood. Their occurrence in adults is an extremely rare condition[1,2]. We hereby report a case of congenital band leading to intestinal obstruction in 32 year old male.

Case report: A 32 years old male, known alcoholic presented with periumblical colicky pain of 12 hour duration. It was non radiating and decreased on banding forward. There was no history of abdominal trauma or surgery. Patient reported a similar episode one and a half year back which was managed conservatively. Per abdomen examination revealed peri-umblical tenderness and guarding. Rectal examination revealed empty rectum. Blood investigations showed slightly increased leucocyte count. Plain X-ray abdomen erect view showed a dilated small bowel loop. Sonography showed fluid collection between bowel loops. CECT abdomen showed dilated jejunal loop (Fig.1).

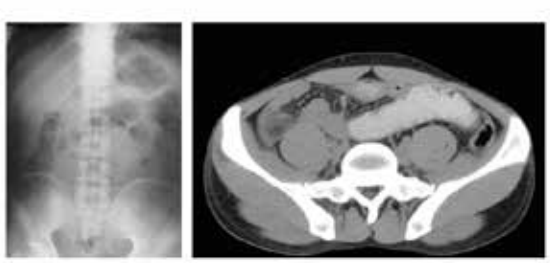
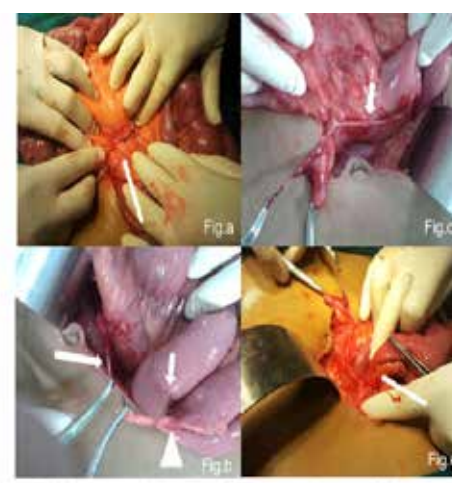


Fig. 1: X-ray abdomen erect view showing dilated small bowel loop. CECT abdomen showing dilated jejunal loop

Exploratory laparotomy was performed and congenital bands extending from base of mesentery to anti-mesenteric border of jejunum and appendix was found. The band was attached to the proximal jejunum running under the peritoneum of the anterior mesentery, winding around the left attachment of the base of mesentery, continuing underneath the peritoneum of the posterior leaf of the mesentery and finally attached to the Ileo-cecal junction close to the mesentery. It formed a loop and was entrapping the jejunum; causing compression of the jejunal loop (Fig.2). Bowel vitality was maintained. The band was divided and appendicectomy performed. Histopathological examination revealed a fibrotic band containing blood vessels (Fig 3). Postoperative period was uneventful.



Discussion:

Congenital band is a rare cause of intestinal obstruction in older individuals. It is usually found in childhood. The condition can present as chronic[1] as well acute abdomen[3]. It can lead to compression or entrapment of the bowel leading intestinal obstruction[1,3]. If not attended timely it can lead to intestinal strangulation and necrosis and can be life threatening[4].

It is difficult to diagnose the condition preoperatively. X-ray abdomen and sonography can reveal findings suggestive of intestinal obstruction. Upper gastro-intestinal barium examination and CECT scan can be effectively used to rule out other causes of bowel obstruction[5]. Pre-operative Investigations can point to the site and level of obstruction: Jejunal loop obstruction in our case but it is difficult to diagnose a congenital band. There have been anecdotal reports of congenital bands being diagnosed on ultrasonography though [6].

It is important to understand that it is a mechanical obstruction which is not going to get resolved by conservative management and has to be treated expeditiously to prevent bowel ischemia and related comorbidities. Surgery is the treatment of choice and it is usually both diagnostic as well as therapeutic. Surgical management consists of division of the congenital band to relieve intestinal obstruction which can be safely and effectively performed by laparotomy or laparoscopically[3]. Aggressive surgical intervention is important so as to avoid intestinal strangulation[5]. Exploratory laparotomy usually reveals a single vascular band[1]. Recently Kostic et al reported a case with two congenital bands[7]. Various locations have been sited in literature. It can extend from the ascending colon to terminal ileum, terminal ileum to ligament of treitz, right lobe of liver to ascending colon or terminal ileum and from jejunum to jejunum[1]. The aberrant band can also extend from root of mesentery to the jejunum. Three such cases have been reported including ours[8,9].

This case report describes the unique finding of a congenital vitello-intestinal remnant band extending from base of mesentry to antimesentric border of jejunum and appendix causing abdominal pain due to entanglement of the bowel. Embryologically, the omphalomesenteric tract contains three structures: the vitelline duct, vein, and artery. In the very early stages of development, the yolk Sac serves as a primary source of nourishment for the rapidly growing foetus. Vitellointestinal duct (V.I.D) or omphalomesenteric duct (O.M.D) connects the yolk sac with the primitive midgut of foetus and it passes through the umbilicus. Yolk sac being a highly vascularised organ receives many direct vitelline arteries from the primitive aorta. As VID involutes during 5–7 weeks of intrauterine life so do the vitelline arteries. The proximal extent of the artery on the right forms the superior mesenteric artery. Failure of complete obliteration of VID can result in remnants. Meckel's diverticulum (MD) is by far the most common anomaly of omphalomesenteric tract. It is the most common congenital anomaly of the gastrointestinal tract. Remnants and anomalies of the vitelline circulation are less common and have been reported in 8–15% of cases of Meckel's diverticulum[10]. Their remnants manifest as peritoneum covered fibrous bands usually attached at its two extremities coursing from the ileal branch of superior mesenteric artery to a Meckel's diverticulum (it is then termed a mesodiverticular band) or to the anterior abdominal wall at the umbilicus. These bands may be completely patent, segmentally patent, or not patent[11]. In the absence of Meckel's diverticulum, it is very difficult to differentiate between a vitelline duct remnant and a vitelline artery remnant as they appear identical at first glance. Careful examination of the band itself and the small bowel mesentery from which it seems to arise will give a clue. If a portion of the band can be seen coursing over the bowel to the mesentery, one can assume that the obstructing band is a vascular rather than a duct remnant. Congenital vascular bands are established causes of acute intestinal obstruction especially in children but are relatively uncommon and difficult to diagnose preoperatively. Our case describes a rare case of a remnant of vitelline artery in the absence of Meckel's diverticulum causing intestinal obstruction.

Conclusion: Congenital band is a rare entity however it should be included in the differential diagnosis of intestinal obstruction even in older individuals with no history of trauma or surgery and when CT scan does not show any intestinal malrotation.

Fig. 3: Histopathological examination revealed a fibrotic band containing blood vessels

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