Congenital band of the vitelline artery remnant as a cause of chronic lower abdominal pain in an adult: Case report

Omer Jalil*, Rami Radwan, Ashraf Rasheed, Michael R. Nett

Department of Minimally Invasive Surgery, Royal Gwent Hospital, Newport NP20 2UB, United Kingdom

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ABSTRACT

INTRODUCTION: Intraabdominal bands of the vitelline vessel remnant are the rarest form of congenital meso diverticula bands which may or may not be associated with Meckel's diverticulum. In the majority of cases they cause an acute abdominal disease such as intestinal obstruction, especially in children.

PRESENTATION OF CASE: We report a case of a 64 year old gentleman who experienced recurrent episodes of abdominal distension and bloating over two years. Computed tomography of his abdomen, colonoscopy, and barium follow through were all normal. Diagnostic laparoscopy revealed a single band adhesion stretching between the distal ileal mesentery and the anterior abdominal wall near the umbilicus.

DISCUSSION: Congenital vascular bands are established causes of acute intestinal obstruction especially in children but are relatively uncommon. Their role in chronic abdominal pain is rare and diagnosis is difficult preoperatively. Pain in the patient was most likely due to recurrent partial twisting and untwisting of the bowel around the band.

CONCLUSION: This case not only highlights an unusual cause of chronic abdominal pain, but also the effectiveness of laparoscopy as a diagnostic tool in such patients.

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1. Case report

A 64 year old patient presented with recurrent symptoms of abdominal distension, bloating and pain following meals, typical of partial bowel obstruction in the preceding two years. The pain described was colicky and intermittent across the lower abdomen mainly in the right lower quadrant. He also described gradual weight loss over that period. There was no significant past medical history. He was admitted twice to acute surgical ward but the pain settled conservatively. General physical and abdominal examination was unremarkable. Routine blood tests including inflammatory markers and plain abdominal radiographs were unremarkable. He was further subjected to a myriad of tests for the evaluation of the pain, which included computed tomographic scan of the abdomen, colonoscopy and barium follow through, all of which did not show any abnormality or any evidence of bowel obstruction. Gastroscopy showed incidental finding of a large hiatus hernia with a segment of Barrett’s oesophagus that was confirmed with biopsy. pH manometry revealed DeMeester score of 168.

The patient underwent laparoscopic repair of the hiatus hernia and at the same time diagnostic laparoscopy of the lower abdomen and pelvis was carried out for the chronic pain. Diagnostic laparoscopy revealed a single band adhesion stretching between the distal ileal mesentery and the anterior abdominal wall near the umbilicus. There was no other pathology identified on diagnostic laparoscopy. The band was divided but had the appearance of blood vessel (Fig. 1). The band was therefore clipped and cut between the lig clips and the portion sent for histology which showed a patent vitello-intestinal artery remnant. The patient was seen postoperatively in the outpatient clinic after 12 weeks with complete resolution of his chronic abdominal pain.

2. Discussion

This case report describes the unique finding of a congenital vitello-intestinal remnant band extending from the umbilicus to anti mesenteric border of the ileum and causing chronic abdominal pain due to intermittent twisting of the bowel around it. 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 midgit 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

* Corresponding author. Tel.: +44 01633 234234.
E-mail address: oj786@hotmail.com (O. Jalil).

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and represent a major diagnostic challenge to surgeons. The use of laparoscopy in patients with ill-defined chronic abdominal pain is not well defined. However various cohort studies have proved diagnostic laparoscopy to be a safe and effective tool in the management of patients with chronic abdominal pain. It can positively identify pathology in 65–85% cases of chronic abdominal pain. Common findings include adhesions followed by appendiceal pathology, hernias, gall bladder pathology and endometriosis. It also improves the outcome in the majority of patients as it allows surgeons to treat any abdominal pathology with long term pain relief in approximately 70% of cases.

3. Conclusion

This case report highlights an unusual cause of chronic abdominal pain in an adult. Isolated congenital vascular bands of vitelline artery remnant are rare but it is important to be aware of such bands, recognizing and ligating them. This case also shows that Laparoscopy can be an effective diagnostic and therapeutic modality in the management of patients with chronic abdominal pain.

Conflict of interest statement

None.

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None.

Ethical approval

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contributions

Omer Jalil – Writing. Rami Radwan – Writing.
Ashraf Rasheed – Writing/Editing.
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