



Congenital Bands: A Rare Cause Of Adult Intestinal Obstruction

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Abstract

Acute Intestinal obstruction is one of the commonest surgical emergencies encountered. Various causes are responsible for this of which post operative adhesions are most common. Congenital bands form one of the rarer causes. In a previously operated patient for exploratory laparotomy congenital bands are rare to find as either they should have been divided at that time. Here we would like to report such rarer surgical entity encountered at our institute.

CaseHistory

25 years old male presented with complaints of pain in abdomen, nausea with bilious vomiting and constipation for 3-4 days presented to the casualty. Patient complained of sudden onset severe colicky abdominal pain predominant in peri-umbilical region associated with 3-4 episodes of bilious vomiting. He also complained of obstipation since last 4 days. Patient had a history of previous abdominal surgery for vehicular accident about 15-20 yrs back when he had undergone exploratory laparotomy for hemo-peritoneum however the details of the surgery could not be obtained.

On examination, patient was mildly febrile with a temp 98.8°F, pulse of 92 beats/min and Blood pressure of 128/76 mm Hg. He had an abdominal distension with diffuse tenderness in all abdominal quadrants with epigastrium and umbilical region showing guarding. Rectal examination was normal. Healed midline laparotomy scar was unremarkable. Laboratory investigations revealed neutrophilic leucocytosis and raised ESR.



Figure 1: Narrowing of segment of Jejunum due to Congenital Band

Erect abdominal X-ray revealed multiple air-fluid levels s/o small intestinal obstruction. USG of abdomen suggested the similar findings with dilatation of small bowel loops with minimal inter bowel free fluid. Upon failure of conservative treatment patient was subjected to exploratory laparotomy. In most cases, adhesions are usual occurrence in a previously operated patient presenting with intestinal obstruction. However a congenital vascular band was found causing a closed loop in which a part of small bowel was entrapped.

The band was vascularized by one of the branches of the superior mesenteric artery. The band extended from the jejunum to the root of the mesentery at the level of the second lumbar vertebrae. No signs of ischemia bowel were noted. At the superior end, band had caused narrowing in a jejunal segment resulting in a stricture formation. Strictureplasty was performed for the same. Appendix was also found to be trapped in the band and hence was removed in view of possible inflammation. The band was ligated at both ends and divided between ligatures. Postoperative outcome was uneventful and the patient was discharged on the seventh postoperative day. At follow up after 3 months

patient is healthy. He has been advised to follow up every 3 monthly.

Discussion



Figure 2: Congenital band engulfing appendix



Figure 3: Congenital band running from anti-mesenteric border

Intestinal obstruction is a mechanical or functional obstruction of the intestines, preventing the normal transit of the products of digestion. It can occur at any level distal to the duodenum of the small intestine and is a medical emergency at times. The condition is often treated conservatively over a period of 2–5 days with the patient's progress regularly monitored by an assigned physician. Surgical procedures are performed on failure of conservative methods or in life threatening cases wherein patients present with a complete obstruction with vascular compromise with or without septicemic shock.

Acute small bowel obstruction is one of the commonest emergencies presenting to the surgical department. Adhesions are by far the most frequent causes followed by hernias, tumors, intussusception, volvulus, foreign bodies, strictures, inflammatory bowel disease etc...Obstruction by a congenital band is usually observed in childhood and rarely seen in adults. Congenital bands cause 3% of all intestinal obstruction and almost always lead to small bowel obstruction. In adults, obstruction due to bands is even rarer. 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 therapeutic¹ congenital bands can be located at various locations intraperitoneally such as those running between ascending colon and terminal ileum followed by ligament of Treitz and terminal ileum; between the right lobe of liver and terminal ileum; and between the right lobe of liver and ascending colon;² from the iliac fossa to the sigmoid mesocolon³ bands starting from jejunum and running to the mesentery are however rare. These bands are thought to be the anomalies of the mesentery and are considered along with the other causes of congenital obstruction mainly in children such as duodenal atresia, malrotation, superior mesentery artery syndrome, enteric duplications as well as several other entities. Ladd's bands is a typical example of a anomalous congenital band, it is a fibrous peritoneal tissue which extends from caecum and extend to the posterior peritoneum and/or sub-hepatic region. Ladd's bands result in compression of the 2nd or 3rd duodenal portions, which leads to intestinal obstruction⁴

Patients usually present in a classical manner of acute intestinal obstruction with symptoms of pain in abdomen, distension, vomiting and constipation in different compositions and hence are difficult to

diagnose preoperatively. Ultrasonography and contrast enhanced computed tomography of abdomen and pelvic studies may provide the interim details like location of obstruction and distended bowel loops. These investigations may even help excluding other major diagnosis but none can point out at bands. Plain X rays are not useful except for confirming small bowel obstruction⁵ Diagnostic laparoscopy can be useful for diagnosis as well as treatment of congenital bands and can very well distinguish between bands and adhesions⁶ Treatment in most cases is surgical and mainly involves releasing of the bands. Stricture and/or bowel narrowing with or without vascular compromise needs to be dealt with accordingly.

Summary

Hence acute small bowel obstruction diagnosed to be at the level of duodenum or jejunum especially when barium upper GI studies show normal duodenal rotation and duodeno-jejunal fixation anomalous congenital bands should be considered as a differential diagnosis.⁷ In the present case in spite of previous history of laparotomy where adhesions were thought to be the cause of obstruction, congenital bands were found to be the one causing it which possibly have been missed during previous laparotomy making it a rare occurrence.

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