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General Surgery

MIDGUT VOLVULUS WITHOUT MALROTATION - A RARE CAUSE OF OBSTRUCTION IN ADULTS

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ABSTRACT Midgut volvulus is one of the rare cause of sub acute intestinal obstruction in adults. A 50 year old male presented in emergency with complains of pain all over the abdomen since 10 days. Associated with vomiting of food particles since 10days. X-ray abdomen erect shows dilated small bowel loops with multiple air-fluid levels. CT scan of abdomen showed whirlpool sign suggestive of volvulus. Intraoperative finding showed, nearly 4 twists of jejunal segment in anti-clock wise direction with diverticulum at 40cms proximal to the ileo-caecal junction .The segment was de-rotated in clockwise direction. The diverticulum is resected and end to end ileal anastamosis was done.

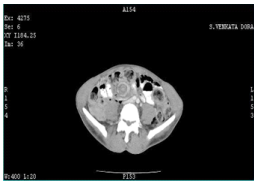
KEYWORDS :

INTRODUCTION

Primary midgut volvulus is defined as torsion of a segment of small bowel at the mesentery basis without any evident underlying cause[1].Intestinal malrotation is described as abnormal positioning of the bowel loops within the peritoneal cavity in the intrauterine life[2]. It is caused by defective rotation of primitive intestinal loop around the axis of SMA during embryogenesis[3] that results in abnormal short mesenteric root which predisposes small bowel to twist around it and lead to in midgut volvulus [4]. It is one of the rare cause of intestinal obstruction in adults with incidence of 0.2%. It is the rotation of the mesentery around the axis of mesenteric vessels. It may be primary or secondary to parasitic infections and diabetes related autonomous neuropathy. This is a case report of Midgut volvulus without malrotation in an adult presenting with features of sub-acute intestinal obstruction.

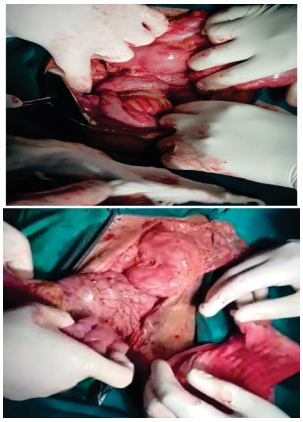
CASE REPORT

- A 50 year old male presented to emergency with chief complaints of pain all over the abdomen for past 10days. No history of similar episode in the past.
- History of 6 episodes of vomitings in last 10days, vomitus consists of food paticles.
- Not passing stools since two days, he underwent cholecystectomy 5years ago, no other significant medical or surgical history.
- General examination revealed that patient was dehydrated and tachypnoec with tachycardia but with normal blood pressure, ueine output was decreased.
- Abdominal examination revealed distention of abdomen with guarding and tenderness, maximum tenderness in upper quadrants of the abdomen.
- Ultrasound abdomen was inconclusive, X-ray erect abdomen showing multiple air-fluid levels, CT showed whirlpool sign suggestive of volvulus.
- Patient resuscitated and prepared for emergency laparotomy after obtaining informed consent, explaining the condition and treatment options and its complications.
- Intra-operatively showed nealy 4 twists of jejunal segment in anti-clock wise direction along with the mesentery and SMA as the axis.
- With diverticulum at 40cms proximal to the ileo-cecal junction.
- The twisted jejunal segment was de-rotated in clockwise direction, diverticulum is resected and end to end anastomosis was done.



Picture showing WHIRLPOOL sign on CT of the abdomen.

INTRA OPERATIVE PICS:



DISCUSSION

A midgut malrotation is very rare and its incidence has been reported to be between 0.0001% and 0.1% [5]. Apart from malrotation, mesenteric defect can also leads to intestinal volvulus where the midgut is normally rotated.There are two types of mesenteric defect, first id BASILAR TYPE where the entire base of mesentery is affected, the other is SEGMENTAL where only a portion is involved. The treatment of basilar defect is intestinal fixation while segmental type requires the resection of affected portion. Midgut volvulus can lead to gangrene and necrosis of the intestine due to torsion of mesenteric vessels, many adults present with chronic symptoms which may be present for more than six months. 10% to 15% present with acute abdomen with complaints of abdominal pain, distention and vomiting.

Radiological investigations help in diagnosis of the condition, X-ray erect abdomen shows dilated bowel loops with multiple air-fluid levels, CT shows whirlpool sign[6]. The sign is not specific and maybe present in other conditions like splenic torsion, but CT scan is superior to other investigation modalities as it provides additional information like dilation of gut, wall thickening, gas in the gut wall, ischemia and gas in portal vein.

Barium study shows typical cork-screw appearance[7].

The surgical management of intestinal malrotation was first described by William Ladd in 1936 and this remains the mainstay of treatment[8]. The treatment of this condition depends upon presentation, in adults with presentation as acute abdomen are treated by resuscitation followed by laparotomy. If frank gangrene is obvious the involved section is resected if viability id equivocal relook laparotomy is recommended within in 24 to 48 hours.

CONCLUSION

We have presented a rare case-report of midgut volvulus in adult without malrotation. Due to the rarity of this condition, very few reported case series mostly in paediatric population are available. The outcome depends on the severity of the presentation and duration of the complaint. The patient presented to us with acute intestinal obstruction without peritonitis for which he underwent laparotomy. To diagnose this condition high index of suspicion id needed.

REFERENCES

1. Tamura J, Kuniyoshi N, Maruwaka S, Shiroma J, Miyagi S, Orita H, et al. "Whirl sign" of primary small bowel volvulus. West J Emerg Med. 2014;15:359–360. pmid:25035728 View Article PubMed/NCBI Google Scholar
2. Applegate K.E., Anderson J.M., Klatte E.C. Intestinal malrotation in children: a problem-solving approach to the upper gastrointestinal series. Radiographics. 2006;26(5):1485–1500. [PubMed]
3. Epelman M. The whirlpool sign. Radiology. 2006;240(3):910–911. [PubMed]
4. Peterson C.M., Anderson J.S., Hara A.K., Carenza J.W., Menias C.O. Volvulus of the gastrointestinal tract: appearances at multimodality imaging. Radiographics. 2009;29(5):1281–1293. [PubMed]
5. Von Flue M, Herzog U, Ackermann C, et al: Acute and chronic presentation of intestinal nonrotation in adult. Dis Colon Rectum. 1994, 37: 192-198. 10.1007/BF02047549.
6. Kris J, Epelman M (2018) Midgut Volvulus: The Whirlpool and Corkscrew Signs. Clin Med Img Lib 4:119. doi.org/10.23937/2474-3682/1510119
7. Koberlein G, DiSantis D (2015) The "corkscrew" sign. Abdom Imaging 40: 3344-3345.
8. Ladd WE: Surgical diseases of the alimentary tract in infants. N Engl J Med. 1936, 215: 705-708. 10.1056/NEJM193610152151604