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Case Report .

Midgut Volvulus without Malrotation - A Rare Cause of Small Intestine Obstruction: A Case Report and Review of Literature

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ABSTRACT

Midgut volvulus is one of the rare cause of intestinal obstruction in adults. A 35 year old female presented in emergency with complains of pain in lower and central abdomen for past 3 days. Patient has not passed flatus or stool for past 2 days. History of melena present. 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 200 ml of serous fluid in peritoneal cavity. There was gangrenous dilated small bowel loops which was rotated (volvulus) by more of 360°.The segment was derotated. The gangrenous Peritoneal toileting was done, viability of gut checked and gangrenous segment resected. Jejunostomy and ileal mucous fistula made. segment extended from 120 cm from DJ flexure to ileo-caecal junction. The patient presented to us with acute intestinal obstruction with peritonitis for which she underwent emergency laparotomy. To diagnose this condition, high index of suspicion is needed.

Keywords: Midgut Volvulus, Intestinal Obstruction, Peritonitis, Jejunostomy.

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INTRODUCTION

Midgut volvulus is the most important complication of intestinal malrotation as it leads to ischemia and necrosis commonly present in neonatal period.[1] It is one of the rare cause of intestinal obstruction in adults with incidence of 0.2%.[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.[3] This is a case report of Midgut volvulus in an adult presenting with features of acute intestinal obstruction.

CASE REPORT

A 35 year old female presented in emergency with complains of pain in lower and central abdomen for past 3 days. History of similar episode 4 months back which subsided with medications. Patient has not passed flatus or stool for past 2 days. There is no history of vomiting, fever or jaundice. History of melena present. There is no significant past medical or surgical history. General examination revealed that patient was dehydrated, tachypnoec with tachycardia but, normal blood pressure. Urine output was decreased. Abdominal examination revealed abdominal distension with diffuse guarding and tenderness with maximum point of tenderness present in umbilicus and hypogastrium region. Blood profile shows anemia with hemoglobin 5 gm/dl, TLC 14,400/cu.mm and deranged renal parameters. Other parameters were within normal limits. Ultrasonogram abdomen was inconclusive. X-ray abdomen erect shows dilated small bowel loops with multiple air-fluid levels. CT scan of abdomen showed whirlpool sign suggestive of volvulus.

Patient was resuscitated and prepared for emergency laparotomy after obtaining the informed written consent, explaining the condition, treatment options and its complications. Intraoperative finding showed 200 ml of serous fluid in peritoneal cavity. There was gangrenous dilated small bowel loops which was rotated (volvulus) by more of 360°.The segment was derotated. Caecum and DJ flexure were in their normal position.

The gangrenous segment extended from 120 cm from DJ flexure to ileo-caecal junction. Approximately 5 cm of distal ilium was normal. Peritoneal toileting was done, viability of gut checked and gangrenous segment resected. Jejunostomy and ileal mucous fistula made. During post-operative period patient developed wound infection.

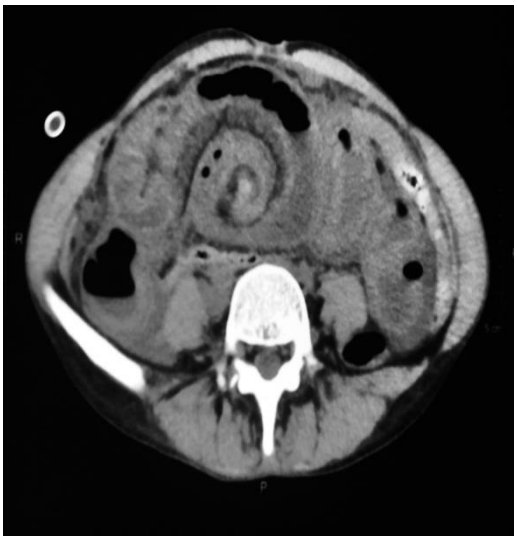

Fig 1: CT Abdomen Showing Whirlpool Sign

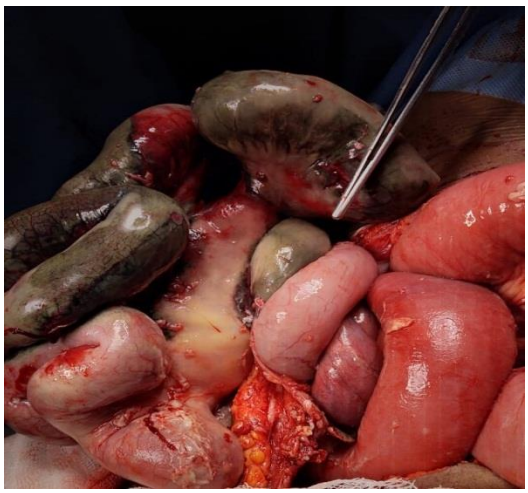

Fig 2: Intraoperative Picture Showing Volvulus and Gangrenous Bowel.

DISCUSSION

Midgut volvulus is one of the rare cause of acute intestinal obstruction. It is usually associated with malrotation of midgut presenting commonly in neonates. The incidence in adult is 0.2%.[2] It can be primary or secondary to diabetic autonomous neuropathy or parasitic infection. Apart from malrotation, mesentric defect can also leads to intestinal volvulus where the midgut is normally rotated. There are two types of mesentric defect. First 'Basilar' type where the entire base of mesentry is affected. The other one is 'Segmental' where only a portion of mesentry 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 intestine due to torsion of mesentric vessels.[3-5] Many adults present with chronic symptoms which may be present for more than six months.[6] 10 to 15% present with acute abdomen with complains of abdominal pain, distension and vomiting.[7,8] Radiological investigations help in diagnosis. Xray abdomen erect may show dilated bowel loops with multiple air-fluid level. CT scan of abdomen shows whirlpool sign. This sign is not specific and maybe present in other conditions like splenic torsion.[9] But CT scan is superior to other investigation modalities as it provides additional information like dilation of gut, wall thickening, gas in the wall of gut, ischemia and gas in portal vein.[3,4] One study has reported the accuracy of upper GI Barium series 100%.[1] Barium study shows typical cork-screw appearance. 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 is equivocal, relook laparotomy is recommended within 24 to 48 hours.[10]

CONCLUSION

We have presented a rare case-report of Midgut volvulus in adult without malrotation. Due to rarity of this condition, very few reported case series mostly in pediatric population are available. The outcome depends upon the severity of presentation.[7,11] The patient presented to us with acute intestinal obstruction with peritonitis for which she underwent emergency laparotomy. To diagnose this condition, high index of suspicion is needed.

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