

## A Rare Case of Midgut Volvulus in Young Adult Female

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**Abstract:** Midgut volvulus is a rare cause of intestinal obstruction in adults. Its presentation is similar to intestinal obstruction caused by other conditions. So delay in the diagnosis of this condition can lead to vascular disaster which causes a poor prognosis in the patient. So early diagnosis and management is necessary to prevent bowel gangrene. We report a case of 23yrs old female who presented with abdominal pain, distension and shock. She underwent emergency laparotomy which revealed midgut volvulus with gangrene of bowel for which she underwent bowel resection and jejuno-transverse anastomosis. Post operatively she was started on total parenteral nutrition to improve the nutritional status of the patient.

**Keywords:** gangrene, bowel, midgut, volvulus, laparotomy.

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### I. Introduction

Midgut volvulus is a rare entity presenting in adults. It is very common in pediatric age groups. Its incidence is about 1:6000 per live births in pediatric age groups. In adults, it is unnoticed and can be detected incidentally in less than 0.5% of the general population. Due to its non-specific presentations it is difficult to diagnose and delay in intervention can lead to increase in morbidity of the patient. One such rare presentation of midgut volvulus in an adult female which was identified during routine emergency investigations and was proceeded with emergency laparotomy and the case study has been presented as follows.

### II. Case Summary

A 23yrs old female presented with chief complaints of abdominal pain and distension for past 1 day with history of obstipation and vomiting (2 episodes). No significant co-morbidities were present in the patient. No h/o Diabetes mellitus, hypertension, ischemic heart disease, tuberculosis, chronic kidney disease or bronchial asthma. No h/o previous surgeries done. No H/O any trauma. Clinical examination revealed that her abdomen was distended, diffuse tenderness was present over all quadrants of abdomen with guarding present. Bowel sounds were absent. Per rectal examination revealed no fecal staining, rectum was roomy and empty. Blood investigations revealed neutrophilia and anemia. B.urea – 34mg/dl; S.creatinine – 1.0mg/dl; S.sodium – 138meq/L; S.potassium – 4.1meq/L; S.amylase – 32IU. Chest X-Ray revealed no air under the diaphragm. X-ray abdomen erect showed dilated bowel loops with multiple air-fluid levels. Ultra-sonogram abdomen and pelvis showed dilated small bowel loops with maximum diameter of 3.7cm with no significant peristalsis and minimum free fluid in the abdomen and other organs were found to be normal. CECT Abdomen and pelvis shows whirlpool appearance of bowel and mesentery around the superior mesenteric artery, with dilated small bowel loops with a possibility of midgut volvulus involving the jejunum and ileum.



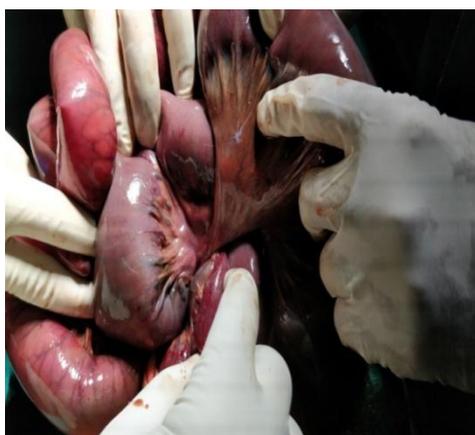
### III. Treatment

Patient was resuscitated initially with IV fluids, ryles tube aspiration , continuous bladder drainage .With obtaining high risk consent from patient attenders patient is taken up for emergency laparotomy. Under ETGA abdomen was opened up by midline laparotomy incision.

INTRA OPERATIVE FINDINGS: Midgut volvulus with dilated small bowel loops with gangrenous changes noted over the jejunum , ileum , ascending colon and pregangrenous changes noted over the proximal one third of the transverse colon. 300mL of foul smelling dark colored fluid present within the peritoneal cavity.

Patient was proceeded with resection of gangrenous bowel loops with primary end to end jejuno-transverse anastomosis done by two layered technique using polyglactin and silk sutures.drains were kept. Complete hemostasis was achieved.

Post operatively she was transfused 2 units of packed red cells, FFP and she was started on total paraenteral nutrition for boosting her nutritional status.



### IV. Discussion

Midgut volvulus is a rare entity, with totally asymptomatic presentation. It is detected in routine work up for evaluation of other diseases or during autopsy.

Clinically symptomatic with 1:6000 live births. It usually presents before one year of age. But presentation can occur in any age groups. Adult presentation <0.5%. It occurs due to anomalies of midgut that undergoes rotation during its embryonic development particularly in stage II midgut rotation.

Midgut volvulus usually presents with bilious vomiting in neonates. In adults it usually presents with features of acute intestinal obstruction. However midgut rotation without volvulus presents with chronic abdominal symptoms such as colicky abdominal pain, vomiting , diarrhoea and constipation. Investigations includes plain radiograph , USG abdomen and pelvis and CT scan. Volvulus can be diagnosed by contrast enhanced upper gastro intestinal screening that shows cork screw configuration of proximal small bowel. In acute symptomatic patients , X ray radiograph is non specific and CT is the diagnostic tool of choice. CT shows whirlpool sign which is defined as the twist of the mesentery of the small bowel seen in horizontal cuts in the CT abdominal films.

Treatment of acute symptomatic midgut volvulus is surgical intervention. Ladds procedure is commonly done. Frankly gangrenous bowel should be resected. Short bowel syndrome is an expected complication after massive resection of the small bowel that has to be anticipated and managed aggressively to prevent post operative morbidity and mortality of the patient.

### V. Conclusion

Though midgut volvulus ia a rare entity in adults, it should be diagnosed and managed as early as possible with a high index of suspicion to prevent vascular compromise of the small bowel. Among conventional imaging techniques , Contrast enhanced CT abdomen is the imaging modality of choice for the diagnosis of midgut volvulus. Nutritional support is a major challenging obstacle that requires a great level of efficient intensive care in the immediate post operative period.

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