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**Case Report**

# Torsed gangrenous Meckel's diverticulum resulting in acute small bowel obstruction: a case report

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## ABSTRACT

Meckel's diverticulum is the most frequent congenital anomaly of the gastrointestinal tract, with a prevalence of about 2%. Although often asymptomatic, it may lead to complications such as bleeding, obstruction, or inflammation. Torsion of the diverticulum is exceptionally rare and may present with features of acute intestinal obstruction. We describe the case of a young male who presented with signs of small bowel obstruction. Exploratory laparotomy revealed a twisted, gangrenous Meckel's diverticulum causing acute obstruction of the ileum. Resection of the affected ileal segment with double barrel ileostomy was performed, ileostomy closure done after 3 months and the patient made an uneventful recovery. Although rare, torsion of Meckel's diverticulum should be considered as a possible cause of intestinal obstruction. Timely recognition and surgical intervention are crucial for a favourable outcome.

**Keywords:** Meckel's diverticulum, Intestinal obstruction, Exploratory laparotomy, Gangrenous Meckel's diverticulum

## INTRODUCTION

Meckel's diverticulum arises from incomplete obliteration of the vitellointestinal duct and is a true diverticulum containing all layers of the intestinal wall. It is present in nearly 2% of the population, but only a minority develop complications, estimated at 4–6%.[1] Common complications include hemorrhage, obstruction, and diverticulitis.[2] Torsion of the diverticulum is particularly uncommon, accounting for less than 0.5% of symptomatic cases.[3,4] A case of torsed gangrenous Meckel's diverticulum presenting with acute small bowel obstruction was reported.

## CASE REPORT

A 10-year-old male presented with a 3-day history of abdominal pain, distension, bilious vomiting, and failure to pass stools. On admission, he was tachycardic with diffuse abdominal tenderness and exaggerated bowel sounds. Laboratory investigations showed leukocytosis (15,000/mm3). Ultrasound whole abdomen suggestive of subacute intestinal obstruction with dilated bowel loops with mild hepatosplenomegaly.

Plain abdominal digital X-ray erect view revealed multiple air–fluid levels. Contrast-enhanced computed tomography was not done due to unstable vitals and acute abdomen. Patients was resuscitated adequately and urgent exploratory laparotomy was performed.

At laparotomy distended small bowel loops with gangrenous patch was seen (Figure 1) and gangrenous Meckel's diverticulum (7×2 cm) (Figure 2) was found twisted at its base, with an associated fibrous band leading to obstruction of the adjacent ileum. The affected ileal segment around 2 feet, including the diverticulum, was resected and double barrel ileostomy was performed. The postoperative period was uneventful. Histopathological examination confirmed a Meckel's diverticulum with transmural necrosis. Ileostomy closure was done after 3 months and patient responded well throughout the recovery period.

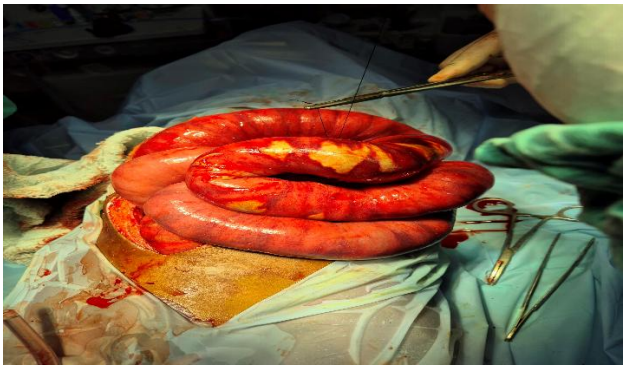

**Figure 1: Intraoperative dilated small bowel with multiple gangrenous patches.**

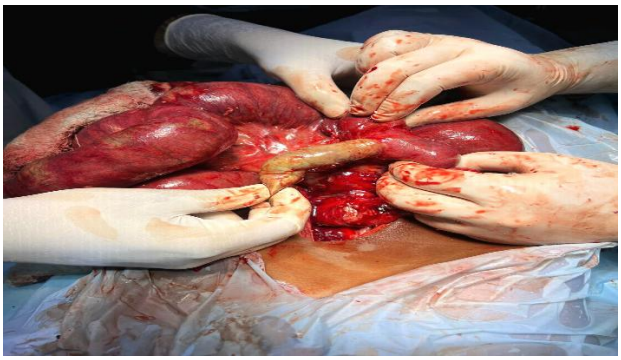

**Figure 2: Showing gangrenous Meckel's diverticulum with small bowel showing gangrenous changes proximal to it.**

## DISCUSSION

Although Meckel's diverticulum is relatively common, its torsion is rarely encountered.[3,4] The condition is usually associated with a long diverticulum or the presence of fibrous bands that predispose it to twist on its axis. Clinically, patients present with features of acute intestinal obstruction, which are often indistinguishable from other etiologies.[5]

Cross-sectional imaging may demonstrate a blind-ending, non-enhancing intestinal structure with a whirl sign of twisted mesentery; however, a definitive diagnosis is usually made intraoperatively.[6]

Management is surgical. While simple diverticulectomy is sufficient in cases with a narrow base and healthy adjacent ileum, segmental ileal resection with anastomosis is required when the base is broad or the bowel is ischemic or gangrenous.[7] A literature review showing total of 19 cases have been documented in the English literature where small bowel obstruction resulted from axial torsion of Meckel's diverticulum.[8] In my case Meckel's diverticulum torsion causing small bowel obstruction with gangrene of Meckel's diverticulum and transmural gangrenous patches in ileum. Patient managed by laparotomy and resection and double barrel ileostomy and ileostomy closure was performed 3 months later. So torsion of Meckel's diverticulum causing small bowel obstruction are rare. Early recognition and prompt surgical intervention are essential to prevent complications such as perforation and sepsis.

## CONCLUSION

Torsion of Meckel's diverticulum is a rare but potentially life-threatening cause of intestinal obstruction. Surgeons should remain aware of this entity, particularly when managing young patients with acute small bowel obstruction of uncertain origin.

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