

# Axial Torsion of a Massive Meckel's Diverticulum causing Ileal Gangrene

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## ABSTRACT

*Meckel's diverticulum (MD) is a common congenital gastrointestinal anomaly prevalent in around 2% of the population causing complications in 4% of patients. Axial torsion of MD is a rare complication. Gangrene of MD and ileum secondary to axial torsion, is an extremely rare phenomenon. Presenting here a case of gangrenous MD of size 22cmx10cm, with axial torsion at its base due to vascular meso-diverticular band which not only strangulated the Meckel's diverticulum causing gangrene but also strangulated the terminal ileum causing its gangrene too.*

*Key words* Meckel's diverticulum, Mesodiverticular band, Ileal gangrene, Axial torsion.

## INTRODUCTION:

Intestinal obstruction due to Meckel's diverticulum is the most common presentation in adult and is the second most common presentation in children.<sup>1,2</sup> Factors pre-disposing patients to axial torsion of Meckel's diverticulum include the presence of mesodiverticular bands, a narrow base, excessive length, and associated neoplastic growth or inflammation of the diverticulum.<sup>3</sup> Gangrene of MD and part of ileum secondary to axial torsion, is an extremely rare phenomenon.<sup>4</sup>

## CASE REPORT:

A 20-year-old man presented to the ER with diffuse abdominal pain and vomiting for 4 days. Pain was initially dull aching and mild. Pain was primarily in right iliac region but became diffuse and severe over the past two days. He also gave history of obstipation for two days and abdominal distension for one day. He had fever for one day. On examination, patient had tachycardia with heart rate of 120 beats per minute, febrile with temperature of 102° F. He was dehydrated. Abdominal examination revealed a distended abdomen, diffusely tender, more in the lower abdomen. Bowel sounds were absent. Clinical diagnosis of acute intestinal obstruction was made. His leukocyte count were 20,000/mm<sup>3</sup>, with 85% neutrophils. Abdominal x-ray

revealed multiple air fluid levels. Large bowel was not visualized on x-rays. Ultrasound of the abdomen revealed mass in right iliac region with absent small bowel peristalsis.

Patient was started on intravenous fluids and antibiotics. He was taken up for surgery after adequate hydration. There was a gangrenous MD of 22cmx10cm, around a feet from the ileo-caecal junction. There was axial torsion of the MD at its base due to vascular mesodiverticular band. The band was identified, ligated and excised. Approximately, 20 cm of the terminal ileum was also gangrenous. Distal ileum was twisted around the band thus causing strangulation (Fig I, II). Patient underwent resection anastomosis and had an uneventful recovery.

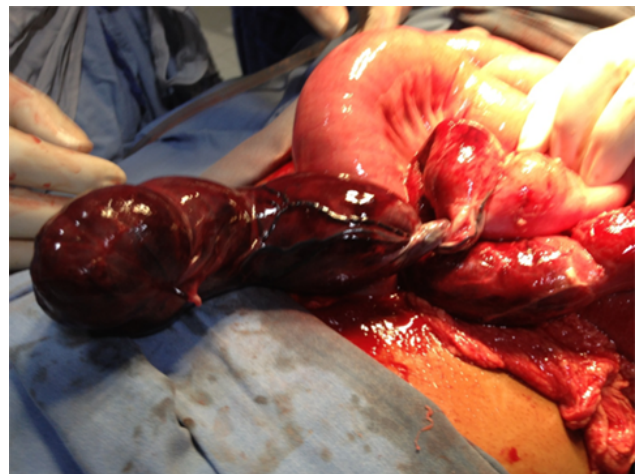


Fig I: Gangrenous Meckel's diverticulum with meso-diverticular band.

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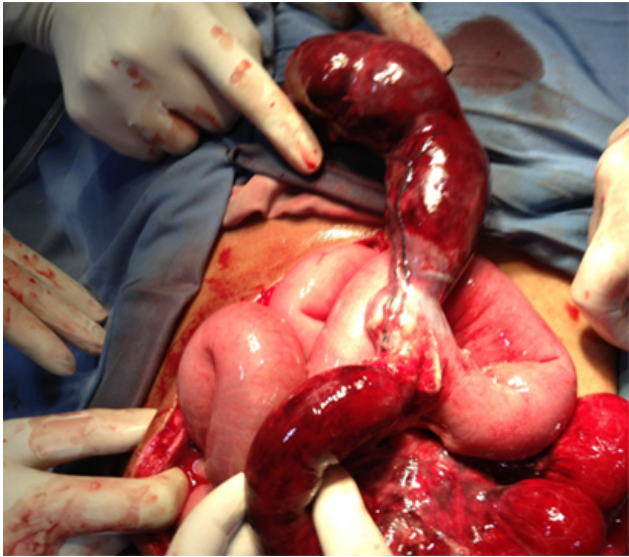


Fig II: Gangrenous MD and ileum secondary to axial torsion.

#### DISCUSSION:

Meckel's diverticulum is the most common congenital gastrointestinal anomaly. Intestinal obstruction due to Meckel's diverticulum is the most common presentation in adult. Band extending between the diverticulum and the base of the mesentery, forming a loop in which a part of ileum may get stuck causing obstruction, is one such situations. Axial torsion of MD is a rare complication. Gangrene of MD, secondary to axial torsion, is an extremely rare phenomenon.<sup>5</sup> Our patient not only had gangrene of MD but almost 20 cm of ileum also became gangrenous due to axial torsion. In such cases, the patient typically presents with the features of small bowel obstruction. Our patient also had identical symptoms. Prompt surgical intervention prevented further complications and patient had an uneventful recovery.

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