



A RARE CASE OF PERFORATED GASTROINTESTINAL STROMAL TUMOUR OF ANOMALOUS MECKEL'S DIVERTICULUM IN A NONROTATED GUT ANATOMY

Surgery

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ABSTRACT

The clinical presentation of congenital abnormalities in adult life is a rare since they usually appear condition since they usually make their appearance in early childhood. A combination of two different congenital deformities is even more infrequent, which a fact that might complicate the differential diagnosis of acute abdomen. This study aims The aim of this study is to present a detailed case report on the infrequent exceptionally rare occurrence of a perforated Meckel's/Meckel's diverticulum in a patient with nonrotation of the gut, further complicated by a postoperative biopsy revealing a spindle cell tumour/tumor. The objectives are to describe the clinical presentation, diagnostic challenges, surgical intervention, postoperative management, and histopathological findings, and to review relevant literature to highlight the complexity and rarity of this case.

KEYWORDS

INTRODUCTION

Intestinal malrotation is malrotation is a spectrum of congenital mid-gut abnormalities due to failure of proper rotation of the gut around the superior mesenteric artery (SMA). Meckel's/Meckel's diverticulum is another congenital abnormality representing that represents the remnant of the omphalomesenteric duct at the antimesentri can time senteric border of the distal ileum^{1,2,3}. Usually, the concurrence of these abnormalities is rare, and most importantly, its presentation in an adult is worth mentioning. Here, we described a case of concurrent intestinal malrotation with Meckel's/Meckel's diverticulum , which presented presenting as an emergency in an adult.

Case Report

A 58-year-old/58 yr male came to emergency with c/o lower abdomen pain for the past six/6 days. The patient has not/Not passed flatus or stools for the two days/2days. No h/o fever/ trauma /decreased decrease urine output / jaundice / melena / haematochezia / breathlessness. The patient has no surgical history.

Examination Revealed

- PR 128bpm, RR 28cyc/min.
- The patient/Patient looked toxic , and not comfortable at rest.
- Generalised distension of abdomen with umbilicus flushed to surface.
- Tenderness in Umbilicus, Hypogastrium, RIF and LIF.
- Guarding of Hypogastrium, RIF and LIF +
- On percussion- Liver dullness was obliterated.



Figure 1 X-ray of abdomen erect and supine revealed hollow viscus perforation.

An X-ray/Xray revealed **air under the right hemidiaphragm** and dilated large bowel loops, which were suspicious on the left alone. A and CT revealed/revealed pneumoperitoneum due to hollow viscus perforation. Hence,, thehence patient was shifted for emergency laparotomy.

Intraoperative Findings

A feculent/Feculent aspirate of 500 mL was removed. All large bowel loops were present to the left with caecum & appendix. Small bowel loops were present to the right. Transverse colon not clearly identified.

Indicating Nonrotated/non Rotated Gut

Meckel's/Meckels diverticulum is at about 3 feet from the IC junction with a hard perforated mass of 2x4cm in the antimesenteric border.



Figure 2 Small bowel present on right side of abdominal cavity and large bowel present on left side of abdominal cavity nonrotation of gut.



Figure 2 Meckel's diverticulum with perforated mass [left and right images]

Hence, we resected/proceeded with resection of the perforated segment with a 1cm margin and four-layered/4 layered ileoileal end-to-end anastomosis.



Figure 3 Ileoileal anastomosis



Figure 4 Resected specimen.

Post Op Hpe:

Spindle Cell - gastro intestinal stromal tumour with mitotic count of 6/50, cd117+

CONTACT NO. -	PROCEEDURE DONE - SURGERY BY LAMINATORY WITH RESECTION OF PERFORATED SEGMENT AND ANASTOMOSIS	DATE/TIME OF PROCEDURE 06.11.2024 12AM
CLINICAL DIAGNOSIS PERFORMED MECKEL'S DIVERTICULUM	STATUS OF REPORT - INTERIM	DATE/TIME OF REPORTING 05.11.2024 11.36AM
NATURE OF SPECIMEN - SMALL BIOPSY	SITE - STOMACH AT BODY, POSTERIOR WALL	DATE/TIME OF REPORTING 05.11.2024 11.36AM

DLEJ Section studied from both resected ends show small bowel mucosa with congestion.

MECKEL'S DIVERTICULUM WITH IMPRESSION: SPINDLE CELL NEOPLASM-POSSIBILITY OF GASTROINTESTINAL STROMAL TUMOR IS CONSIDERED.

The patient Patient was discharged on postoperativePost operative day 11 after a negative metastatic workup and referred for medical oncology for Imatinib treatment

DISCUSSION

Meckel's diverticulum is recognized as the most common congenital anomaly of the gastrointestinal tract occurring in 2% of the population⁴. It represents a remnant of the omphalomesenteric duct which connects the yolk sac to the midgut through the umbilical cord. Failure of the duct to close results in a diverticulum in 90% of cases, which can be found on the antimesenteric border of the distal small bowel, typically 100 cm from the ileocecal valve⁴. These diverticula are typically asymptomatic however can present with complications such as diverticulitis, haemorrhage, intussusception, obstruction or neoplasm⁴. Ectopic mucosa (most commonly gastric, found in 62%, but occasionally pancreatic or a combination) may be found on histological examination⁴. On CT, Meckel's diverticulum is typically seen as a blind-ending fluid filled structure in continuity with the antimesenteric border of the terminal ileum. In our case it present with gastrointestinal stromal tumour with perforation it's very rare, no cases reported till now.

Normal rotation of gut

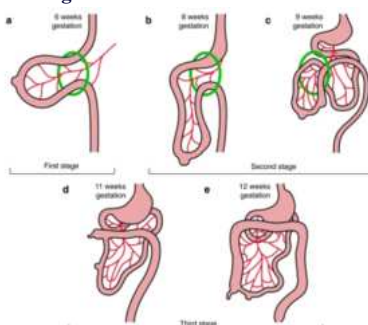


Figure 5 Normal gut rotation at different stages⁵.

Nonrotation Of Gut

The midgut develops between the 5th-10th weeks in the fetus⁴. During this time the midgut tube herniates outside the peritoneal cavity. It subsequently returns to the cavity a sequential manner that involves rotation of the midgut tube. However, in nonrotation, a large umbilical ring defect allows for the small bowel to descend altogether. Figure 6 Nonrotation of gut (Adapted from www.quizlet.com) The result is that the small bowel occupies the right peritoneal cavity and the colon is displaced to the left.

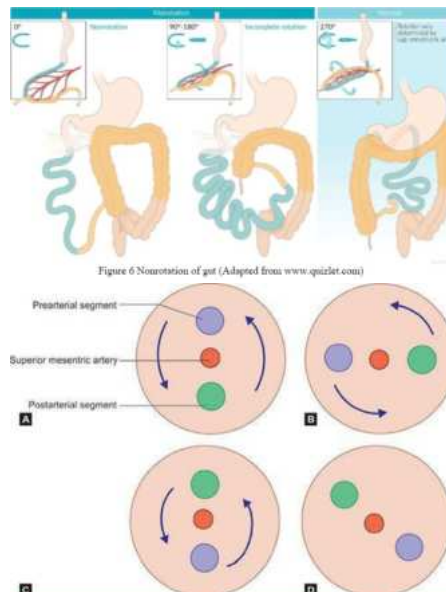


Figure 7 Rotation of midgut A) explanation during development periarterial segment and post arterial segment in umbilicus B) Undergo 90 degree anti-clock wise rotation C and D) 180 degrees anti-clock wise rotation and in total 270 degree rotation.

Gist In Meckels Diverticulum

Figure 8 Spindle cell in histology Perforated GIST is considered to have a **high risk** of recurrence as per NIH. **Metastatic** workup involved CECT abdomen and chest, to look for liver and lung metastasis. Adjuvant treatment involves IMATINIB 400mg/day for 3 three-year period of resistance to CKIT or DOG 1, and SDH positive -> Sunitinib/ Regorafenib.

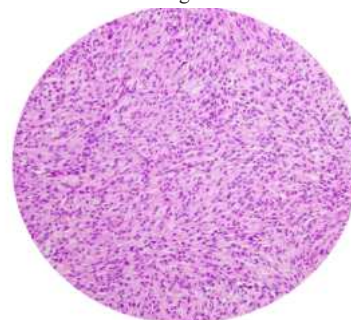


Figure 8 Spindle cell in histology

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