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# MECKEL'S DIVERTICULUM PRESENTING AS RARE CAUSE OF INTESTINAL OBSTRUCTION: CASE REPORT

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**Abstract**

***Introduciton:*** *Meckel's diverticulum is the most common congenital anomaly involving the small intestine. In adulthood, the most common picture of presentation is intestinal obstruction, most commonly due to intussusception, and other causes. However rarely presents with a stricture. Hereby we report a case of Meckel's diverticulum with stricture of the small bowel.*

***Case Presentation:*** *26-year-old Female patient with acute small bowel obstruction. CT finding were supportive of intestinal obstruction, and on laparotomy she was diagnosed Meckel's diverticulum with stricture of the ilium.*

***Discussion:*** *Meckel's diverticulum remains as an uncommon cause of intestinal obstruction and needs a low threshold to make a diagnosis, as it's commonly presents with intestinal obstruction which is indistinguishable from other etiolgies.*

***Conclusion:*** *Stricture is an uncommon cause of intestinal obstruction in case of Meckel's diverticulum. Surgical resection of stricture remains the only definitive treatment for such patient.*

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## INTRODUCTION:

Meckel's diverticulum is the most common congenital anomaly involving the small intestine. [1, 2] Embryologically, it's caused by incomplete obliteration of the proximal portion of the omphalomesenteric duct in the 7th week of gestation. [2] Meckel's diverticulum is commonly referred to by the "rule of 2s", found in 2% of the population, two-inch blind segment of bowel, two feet away from the ileocecal valve, and often containing two ectopic tissues, gastric and/or pancreatic [1-5]. Most patients with Meckel's diverticulum are asymptomatic, but can present with rectal bleeding, melena and/or hematochezia, and Meckel's diverticulitis, intestinal obstruction, volvulus, and intussusception. [6]

Herein, we present a case of Meckel's diverticulum with a stricture of the ilium leading to intestinal obstruction. To best of our knowledge, Meckel's diverticulum is only rarely described with a stricture in present literature.

## CASE REPORT:

26-year-old Saudi Female patient presented to the ER complaining of abdominal pain and constipation. The pain is severe and felt throughout the abdomen, started 6days prior to her presentation, dull in character, not radiating, felt all day, relived by vomiting with no exacerbating factors. She has no medical or surgical history. She is not a smoker and does not drink alcohol. Her family history was unremarkable. She was not on any medication. On examination: Pale, looking female cooperative and normal state of mind, oriented to time, place and person, pulse rate: 88, blood pressure: 136/70 Hgmm, respiratory rate: 20, and temperature: 37c. Abdominal examination: mild distension, generalized abdominal tenderness, and on per rectum examination, stool was felt with normal color.

Her hemoglobin was 10.8 g/dl, Hematocrit was 34.8% and her WBC were 11.9 Imaging was done for the patient and on CT there was mild to moderate dilatation of small bowel with transition zone in the distal ileum in the pelvis at midline at which there is sudden complete collapse with no obvious lesion (Figure 1 and 2). There is no free fluid. There is no free air. There was no significant lymph node enlargement. There was no bowel wall thickening or pneumatosis intestinalis.

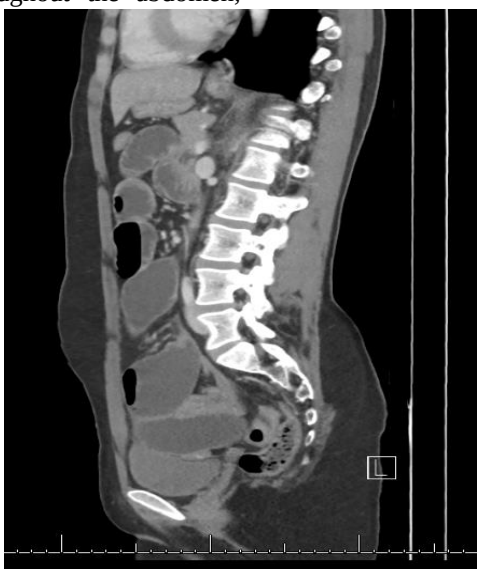

Fig. 1: Sagittal CT scan

Patient was diagnosed initially with Small bowel obstruction and was treated conservatively with intravenous fluids and was kept nil per os.

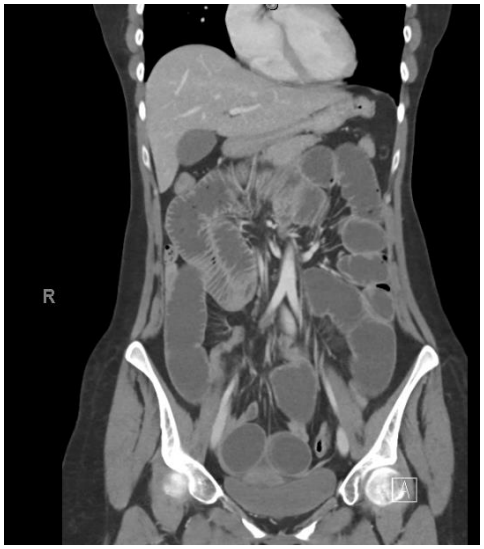


Fig. 2: Abdominal Coronal CT scan with moderate dilatation of small bowel with transition zone in the distal ileum in the pelvis at midline

However, the patient did not improve and therefore was referred for operation.

Lower abdominal midline incision was done, the small bowel was explored from duodenojejunal junction to ileocecal valve. Meckel's diverticulum was found, 50 cm from ileocecal junction and stricture area 3 cm distal to the diverticulum. Blood tinges free fluid in the pelvis was also detected. Segmental bowel resection and side to side anastomoses was done.

During the patient's course in the hospital, the patient developed surgical site infection on day 5 and was cultured and treated with antibiotics as seen fit.

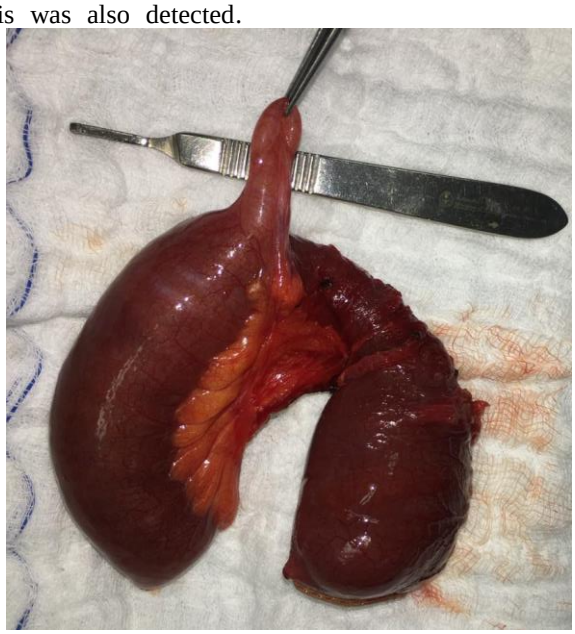

Fig. 3: Resected Small bowel Showing meckel's diverticulum with stricture in the bowel

## DISCUSSION:

Meckel's diverticulum represents a common congenital disorder involving the small intestine. Embryonically, it's the remnants of the omphalomesenteric duct.

Meckel's diverticulum usually remains asymptomatic until found incidentally or becomes complicated. Bleeding is the most common presentation in infancy as reported by **J. Lequet** et al, which is usually due to gastric mucosa secreting acid leading to ulceration and thus bleeding. [3, 6] In adulthood, it commonly presents as intestinal obstruction caused by intussusception, the main cause in most cases. [1] Of note, intestinal obstruction represents 40% of symptomatic cases in adulthood. [1] Other causes intestinal obstruction in Meckel's diverticulum include volvulus of the diverticulum, volvulus due to acquired peritoneal adhesion, and Littre's hernia, defined as presence of Meckel's diverticulum in the sac of an inguinal hernia. Stricture secondary to chronic diverticulitis has been only rarely described in literature.

Meckel's diverticulum with stricture presenting as ilial stricture presents a rare cause of incomplete bowel obstruction, only three other case reports in the literature till date. In all three reports, all have presented in similar fashion as our case, as incomplete bowel obstruction [3, 4].

Diagnosing Meckel's diverticulum in adults is difficult and requires low threshold for detecting the main etiology. Multiple modalities has also been reported as tools used for diagnosis of Meckel's diverticulum. In recent literature, abdominal CT has been the primary modality for the diagnosis of Meckel's diverticulum. Meckel's diverticulum appearance vary in conventional CT images. However, Meckel's diverticulum may not appear on CT scan as in our case and the only finding would be a collapsed bowel loop. Moreover, laparascopy has also been reported as a modality for the diagnosis of Meckel's diverticulum, however, due to invasive nature it's not commonly used as the intial modality.
Management of Meckel's diverticulum is surgical resection of the bowel. [2] Laparoscopic resection has also been reported as a safe option in place of laporatomy. [2]

## CONCLUSION:

In summary, we report a rare female adult case of stricture associated with Meckel's diverticulum that was successfully treated by exploratory laparotomy and bowel resection.

## CONFLICT OF INTEREST:

We report no conflict of interest.

## INFORMED CONSENT:

Informed consent was obtained the patient included in the study.

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