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A Case of Bowel Obstruction due to Gangrenous Meckel's Diverticulum

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Abstract: ***A 16-year-old male was admitted with complaints of abdominal pain, vomiting six episodes in the past 2 days, and abdominal distention for the past 1 day. On examination, the abdomen was soft and distended with diffuse tenderness Bowel sounds are absent. An X-ray of the erect abdomen showed dilated bowel loops with multiple air fluid levels noted. The diagnosis was made as a small bowel obstruction and the plan for emergency laparotomy was made. The abdomen is opened with a midline incision. A total of 200ml of toxic fluid was drained. An adhesive band formed between Meckel's diverticulum and around the small bowel is attached to the peritoneum at umbilical level. The ileum and jejunum dilated. Gangrenous meckel's diverticulum of size 12 cm in length, 4 cm in breadth, and 60 cm from the ileocecal junction noted. Resection of Meckel's diverticulum including 15cms of ileum done and end-to-end ileo-ileal anastomosis done. The abdomen is closed after keeping bilateral flank drains. The postoperative period was uneventful. The drain was removed on the ninth day, and the patient was discharged on the fifteenth POD after suture removal.***

Keywords: Obstruction; Gangrenous meckel's diverticulum, end to end anastomosis

1. Introduction

1.1. Case Scenario

A 16-year-old male was admitted with chief complaints of abdominal pain for 2 days, vomiting for 6 episodes for 2 days, constipation for 1 day, and abdominal distention for 1 day.

Per abdomen examination: soft, distended, diffuse tenderness, no guarding, no rigidity, bowel sounds absent.

Per rectum examination: Normal, empty rectumVitals were stable; an X-ray of the erect abdomen showed multiple dilated loops. (Figure-1)

The case is diagnosed as intestinal obstruction and is planned for emergency laparotomy. On exploration, about 200ml of toxic fluid drained intraperitoneally. The ileum and jejunum were found to be dilated. An adhesive band formed between the end of Meckel's diverticulum and the small bowel is attached to the peritoneum at umbilical level. Meckel's diverticulum of size 12 cm in length, 4 cm in breadth, and 60 cm from the ileocecal junction was found to be gangrenous

Figure 1: X ray of erect abdomen shows dilated bowel loops

1.2 Procedure:

Resection of the ileum up to 15 cm along with gangrenous Meckel's diverticulum was done, ileo-ileal end-to-end anastomosis was done, and the rest of the bowel was found to be normal.

1.3. Gross: 15 cms of ileum with gangrenous meckel's diverticulum found. (Figure 2)

The post-operative period was uneventful.

The oral diet began on the sixth POD and was discharged on the 15th POD.

Figure 2: Intraoperative image of gangrenous Meckel's Diverticulum

2. Discussion

Gangrenous meckel's diverticulum is a rare condition. Meckel's diverticulum was first described by Johann Meckel in 1809. It is situated at the antimesentric border of the ileum, 45–60 cm proximal to the ileocecal valve. It occurs due to incomplete closure of the omphalomesenteric or vitelline duct. It occurs most commonly in children. Mostly, it is detected incidentally on laparotomy. It follows the rule of 2; found in 2% of the population, 2 feet from the ileocecal valve, 2 inches in length, has 2 types of heterotrophic mucosa Gastric mucosa [1] is more common than pancreatic mucosa.

Clinical features: In children, it is mostly asymptomatic. Early vomiting, haemorrhage[2] passing currant jelly stools, pain in the abdomen, abdomen distention if obstruction occurs.

In children, it may cause anaemia[3] ,volvulus of the small intestine, intussusception, small bowel obstruction, incarceration of diverticulum in inguinal hernia[Littre hernia], perforation, and rarely vesicodiverticular fistula [4].

In adults, it causes diverticulitis. Neuroendocrine tumours[5], adenocarcinoma, and lymphoma may occur. A 99m Tc pertechnetate scan [6] is used to make the diagnosis, which is taken up by mucus-secreting cells of the gastric mucosa and ectopic gastric tissue [7] in the diverticulum.

Differential diagnosis: acute appendicitis [8], mesenteric lymphadenitis [9].

Management is: -divetriculecomy[9] if wide-base or segmental bowel resection is noted; anastomosis if haemorrhage is noted.

Ethics Statements
Patient and guardian consent for publication obtained

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