CASE REPORT

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Meckel's Diverticulum Presenting as Small Intestinal Obstruction

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Abstract

Meckel's Diverticulum is seen in 2% of the population. It can present variably with hemorrhage, gangrene, perforation, intussusception, ulceration and intestinal obstruction. Sometimes patients present with pain right iliac fossa mimicking acute appendicitis. In those patients with bleeding abnormal gastric mucosal ulcer should be ruled out.

Here we report a 49 yr old lady with pain abdomen. She had persistent vomiting and no stool passage. On examination there were absent bowel sounds and exploratory laparotomy revealed gangrenous perforated Meckel's Diverticulum. So it was excised and intestinal repair was performed. Intestinal obstruction is commonest cause of Meckel's diverticulum in adults.[1]

Keywords: Meckel's Diverticulum, Small bowel obstruction, Gangrene, Perforation.

Introduction

2% of the general population has Meckel's diverticulum since birth as an anomaly. The vitelline or omphalo-mesenteric duct in its most proximal portion having obliteration leads to its formation.[2] There are multiple complications of Meckel's diverticulum such as blood in stool, absolute constipation, ulcer inflammation and black discoloration.[3] Our report is of gangrene and perforation of Meckel's diverticulum that is a rare complication.

Case Presentation

A 49 years lady landed in the emergency department with severe pain abdomen, swelling, vomiting and absolute constipation for 3 days. On clinical examination abdomen was tense, distended with generalized tenderness abdomen. Bowel sounds were hyper-dynamic. Guarding was present in right hemi-abdomen. Her abdominal erect x rays had air fluid levels showing small bowel obstruction. On ultrasound abdomen dilated fluid filled gut loops with inter-loop fluid was seen. Digital rectal examination was unremarkable. All labs were normal except raised leucocytes. Emergency exploratory laparotomy was performed. At laparotomy, there was a loop of ileum stuck due to gangrenous perforated Meckel's diverticulum at the tip leading to small bowel obstruction. Simple diverticulum excision was performed. Its length was 8cm and it was 2.5cm wide. Post op smooth recovery occurred. Inflammation of diverticulum was proved on histology with small area of dead tissue.

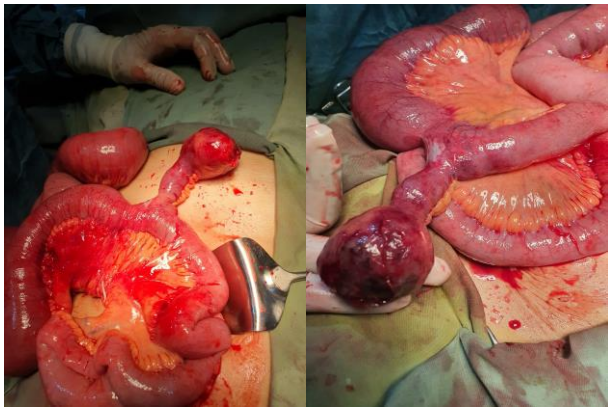

Figure A & B:-Black gangrenous patches on Meckel's Diverticulum with small perforation at broad top marked with broad arrows in figures A & B. There is proximal distended gut marked with small arrow on right side in Figure A.

Discussion

Meckel's diverticulum was discovered by Fabricius Hildanus in 1598 was renamed after Johann Friedrich Meckel in 1809.[6] Shape is like a pouch with all the layers of the intestinal wall. It is usually seen on the border of intestine away from mesentery. Location is around 2 feet proximal to valve of ileum with caecum. They become symptomatic when bigger than 5cm and categorized as giant. Most of patients have them without any symptoms and some have incidental diagnosis during some other procedure. Overall incidence in literature is around 9.2%.[3]

There is 4% chance for a person with this disease to have related complications. One of rarest in children is black discolored diverticulum.[6, 16] Twist around the axis of diverticula is due to bands adherent at the tip, small attachment at intestinal end, malignancy or swelling with redness of area with long pedicle of diverticulum.[6]

Sometimes the patient can be picked as a case of diverticulum because it mimics as other emergency conditions like appendicitis etc. Radiographs and CT scan cannot fully diagnose a case with this disease.[9]

In children perforation is seen in 10% cases[8]. During infection there is pain right iliac fossa, temperature is raised, nausea and features of acute appendicitis.[2] Obstruction of its lumen causes stasis with superadded infection.

Bands at the tip cause adhesions and gut gets stuck in loops[1]. In another study an adhesion was the cause of intestinal obstruction but it was strange that it was presented as partial intestinal obstruction.[10] Perforation of a Meckel's diverticulum leads to peritoneal infection[8]. The author of this study had 7 patients with peritonitis, 4 had inflamed diverticulum and 1 had a leak from small rupture. The appendix had features of swelling, redness in 1 patient out of all in the study.[8, 17]

A rare presentation of Meckel's diverticulum with painless rectal bleeding was noted in an adult.[12] Another heterotopic pancreatic mucosa found in a report in China.[14] Instant rupture of Meckel's diverticulum was seen in 6 patients operated for acute appendicitis for which re explored.[13] Foreign body as melon seeds obstructing Meckel's diverticulum found in a patient of Turkey.[15]

Surgical options for management are considered in severe cases with manifestations of other disorders.[5] Excision of dead and diseased diverticulum laparoscopically or through laparotomy is needed. Sometimes gut removal along with malignancy is required.

Conclusion

Meckel's Diverticulum is difficult to diagnose at first place. A patient who presents with gut obstruction at late 40s may be suspected to have malignancy until proved. Sometimes strong clue may be obtained through radiological investigations. However, we have to takeMeckels as differential diagnosis on strong clinical suspicion. Rare clinical features should be kept in mind according to presentations.

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