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Original Research Paper

General Surgery

MECKELS DIVERTICULUM WITH MESENTERY AS A RARE CAUSE OF CLOSED LOOP OBSTRUCTION-A CASE REPORT

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ABSTRACT Meckel's Diverticulum is most common congenital anomaly of gastrointestinal tract. It arises from Anti-mesenteric border of the small bowel [1]. In contradiction, a case encountered at our institution where a 32-y old female presented with complaints of pain abdomen since 3 days, vomiting's since 3 days, obstipation since 3 days and distention since 1 day. On examination abdomen is distended, diffuse tenderness present all over the abdomen with no bowel sounds and collapsed rectum with no fecal staining per rectally. Imaging studies on ultra-sonography shown dilated small bowel loops with max diameter of 3.1cm showing to and fro peristalsis. On CT abdomen multiple dilated small bowel loops with air fluid levels with maximum diameter of 4.1cms with collapsed terminal ileum and large bowel. ?Closed Loop Obstruction. Emergency exploratory laparotomy was planned and shown Meckel's diverticulum with mesentery present on anti-mesenteric border with mesentery extending from mesenteric border to tip of Meckel's diverticulum with internal herniation of proximal ileum between the Meckel's and its mesentery causing closed loop obstruction noted at 60cms from IC junction for which herniated bowel loops was released with diverticulectomy followed by anastomoses of proximal and distal ileal loops. Resected Meckel's sent for histopathological examination and cut section showed mucosa, sub-mucosa, muscularis propria and serosa. Mucosa shows chronic nonspecific inflammation, sections from the adjacent area's shows hyperplastic mucosa, hypertrophied muscularis layers and serosa with congested blood vessels with feature's consistent with Meckel's diverticulum. Patient was followed for 6 months, and the course was un-eventful.

KEYWORDS : Meckel's diverticulum with mesentery, Internal herniation and Closed Loop Obstruction.

INTRODUCTION:

Meckel's diverticulum is most common congenital malformation of gastrointestinal tract. It is remanent of omphalo mesenteric duct which normally obliterated by 7th week of gestation. Most patients are asymptomatic. Those patients who develop symptoms are due to intussusception, hemorrhage, diverticulitis, and perforation. Small bowel obstruction is most common presentation in adults accounting 1/3rd of all the symptomatic cases[2].

CASE REPORT:

A 32-y old female presented to emergency room with complaints of pain abdomen since 3 days, vomiting's non projectile non bilious in nature since 3 days, obstipation since 3 days, distention since 1 day. No other associated symptoms noted. No significant past history and no comorbidities and no addictions and vitals are stable.

On Abdominal Examination:

Distended abdomen with diffuse tenderness all over the abdomen with no bowel sounds and collapsed rectum with no fecal staining per rectally.

Investigations:

BLOOD PICTURE	HB 13.3 gm/dl; WBC: 7.4 * 10^3/mm^3 Platelets: 271*10^3/mm^3
ULTRASONOGRAPHY OF ABDOMEN & PELVIS	Dilated small bowel loops with max diameter of 3.1cm showing to and fro peristalsis
PLAIN CT ABDOMEN & PELVIS	Multiple dilated small bowel loops with air fluid levels with maximum diameter of 4.1cms with collapsed terminal ileum and large bowel. ?CLOSED LOOP OBSTRUCTION
HISTOPATHOLOGY REPORT	Cut section showed mucosa, sub-mucosa, muscularis propria and serosa. Mucosa shows chronic nonspecific inflammation, sections from the adjacent area's shows hyperplastic mucosa, hypertrophied muscularis layers and serosa with congested blood vessels with feature's consistent with Meckel's diverticulum.

Exploratory laparotomy was done with intra findings ileal loops proximal to Meckel's with mesentery internally herniated in between Meckel's and its mesentery which was present at about 60cms from ICJ. Meckel's presented at anti-mesenteric border with mesentery extending from mesenteric end to tip of Meckel's diverticulum. Manual reduction of herniated bowel loops done and identified viable. Diverticulectomy done with its mesentery and adjacent part of ileum with ileo-ileal anastomosis was done in 2 layers. Post OP period was uneventful, and patient remained asymptomatic in subsequent follow-up up to 6 months.

DISCUSSION:

Meckel's diverticulum is remnant of vitello intestinal duct. It normally regresses by 7th week of gestational period [3-4]. If it fails to regress various anomalies can occur which includes:

- Meckel's diverticulum with or without fibrous cord attached to abdominal wall.
- Enterocytoma / umbilical adenoma.
- Fistula formation.

It is a true diverticulum containing all layers of ileum containing heterotrophic tissue [5]. It arises from anti-mesenteric border of ileum usually between 30 and 150cms from ileocecal wall[6]. It receives its blood supply from remnant of vitelline artery[7]. Symptoms usually occurs in 4% of cases including small bowel obstruction[2-5], diverticulitis, and gastrointestinal bleeding. Differential diagnosis includes

Crohn's disease cholecystitis and peptic ulcer. Internal hernia caused by entrapment of small intestine occurs only in about 0.5 - 4.1% of intestinal obstruction causes. Internal herniation by Meckel's diverticulum leading to obstruction is an extremely rare presentation and it should be considered in patients with obstructive symptoms, especially in younger people without previous abdominal surgery[8].

In our present case, patient had Meckel's has its own mesentery along with internal herniation of proximal ileal loops between the Meckel's and its mesentery. Such an unusual presentation has not been reported so far in the literature. Preoperative diagnosis is often difficult with a success rate of 6 -12%. Computed tomography is usually the gold standard imaging modality. However, identifying Meckel's diverticulum as a cause of obstruction can be difficult. Though in our present case clustering of bowel loops and stretched crowded and engorged mesenteric vessels may be suggestive features. In cases like these usually diagnosis made intraoperatively. In our present case, diverticulectomy of Meckel's along with its mesentery with with some part of ileum followed by ileo-ileal anastomosis done.

Figure 1: Meckel's With Its Own Mesentery After The Manual Reduction Of Proximal Ileum

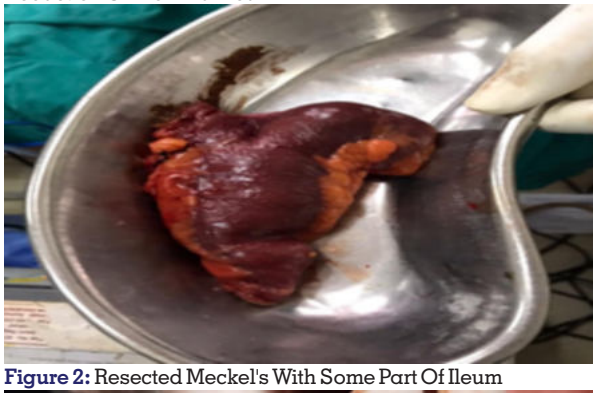

Figure 2: Resected Meckel's With Some Part Of Ileum

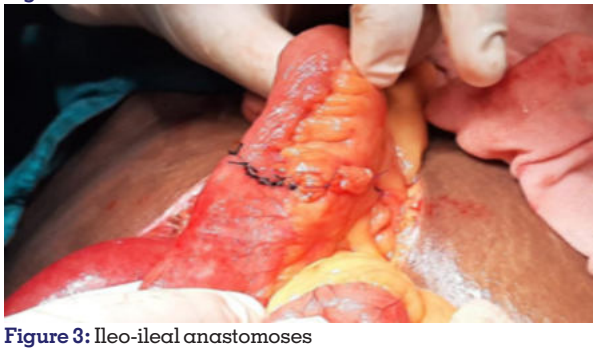

Figure 3: Ileo-ileal anastomoses

CONCLUSION:

Meckel's diverticulum causing internal herniation due to its mesentery presenting as closed loop obstruction is a rare event. This patient was approved with emergency laparotomy with manual reduction of hernial contents followed by diverticulectomy and ileo-ileal anastomosis and followed by extended bowel rest until post operative day 5. On follow-up for 6 months patient showed no new symptoms and there was uneventful recovery.

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