Meckel's Diverticulitis Leading to the Volvulus and Ileal Perforation In An Adolescent Cerebral Palsy Patient

Tashaba Qaiser Faizi,[1*] Hassan Ahmed,[1] Salman Jafferi,[1] Surrendar Dawani,[1] Anum Rafique[1]

ABSTRACT

Meckel's diverticulum (MD) is a congenital anomaly of the gastrointestinal tract that remains asymptomatic in most of the people. However, it may present with bleeding per rectum, intestinal obstruction and perforation usually in pediatric age group. We report an adolescent cerebral palsy patient who presented with volvulous leading to intestinal obstruction and perforation secondary to Meckel's diverticulitis.

Key words *Meckel's diverticulum, Volvulous, Ileal perforation.*

INTRODUCTION:

Meckel's diverticulum (MD) results from the incomplete obliteration of omphalomesenteric or vitelline duct by the mid of second month of embryological development.[1] As opposed to the other diverticula, it contains all the layers of gastrointestinal tract. It usually becomes symptomatic and presents before two year of age.[2] When symptomatic it may presents with bleeding per rectum as a result of presence of ectopic gastric mucosa. Other modes of presentation include intestinal obstruction due to band, volvulous, intussusception, and inflammation that may result in gangrene and perforation.[3,4] In this report we present an adolescent with cerebral palsy who presented to ER with symptoms of small bowel obstruction.

CASE REPORT:

A boy of age fifteen years, diagnosed case of cerebral palsy presented to ER with the complaints of abdominal pain, distention and bilious vomiting for seven days and pain for three days. Pain was initially in peri umbilical region and then became generalized. On examination patient had delayed milestones. His abdomen was distended, and gut sounds were exaggerated. Nasogastric tube contained bilious aspirate. Laboratory investigation showed a hemoglobin: 8.7 gm/dl, total leukocyte count: $8.2x10^9$ other parameters were within the normal range. Erect plain abdominal x-ray showed many air fluid levels with dilated bowel loops. Patient was kept on conservative management with nasogastric suction, hydration and analgesia but his pain did not subside and neither his symptoms of intestinal obstruction. Repeat x ray showed pneumoperitoneum. Patient underwent laparotomy. On opening abdomen gush of fluid and air came out. Meckel's diverticulum was found attached to anterior abdominal wall by a band. Volvulous of the ileum was also found with two perforations on the twisted bowel loop that were half inch apart, 2cm x 2cm in size. Proximal gut was massively dilated and distal gut was collapsed. Cecum was also gangrenous (Figure I). Segmental resection

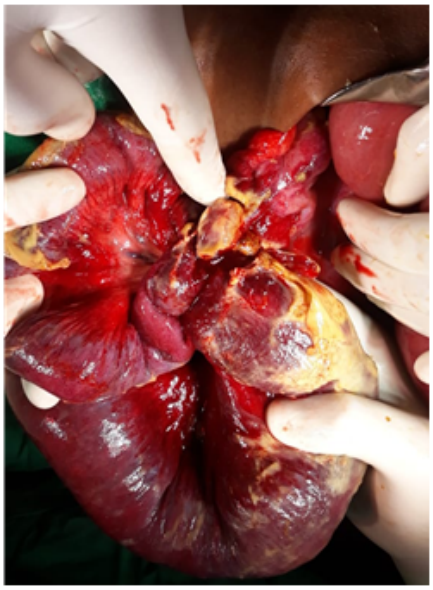

Fig I: Dilated bowel loops, ileal perforation with volvulous.

[1]. Department of General Surgery, Jinnah Postgraduate Medical Centre (JPMC) Karachi

Correspondence:
Dr. Tashaba Qaiser Faizi [1*]
Department of General Surgery
Jinnah Postgraduate Medical Centre (JPMC) Karachi
Email : tashaba.q.f@gmail.com

of ileum which contained perforation with limited right hemicolectomy was done followed by the end to side ileocolic anastomosis by the staplers. Postoperative recover was satisfactory and he was discharged on 7th day after surgery.

DISCUSSION:

The incidence of complicated MD is 4% to 16% in a large series.[4] A systematic review of previous literature of the cohort studies published after 2000 showed the prevalence of MD from 0.3 to 2.9% in all the autopsy studies.[5] Meckel's diverticulum has the potential to become malignant.[6]

In a retrospective study, the most common presentation of MD is intestinal obstruction followed by hemorrhage and rarest was perforation.[7] Axial torsion and perforation were rarest presentation.[8] Same was found in index report. MD is clinically unidentifiable and many patients who were operated for sub-acute intestinal obstruction had MD as incidental finding, that's why it is important to consider it in differential diagnosis for intestinal obstruction.[9]

Abdominal x-rays in MD just shows multiple air fluid level. This is a non specific finding. Thus high index of suspicion is required in making diagnosis. In one of the studies all those patient who were diagnosed with MD and presented with the bleeding per rectum, 59% underwent diverticulectomy and 41% had ileal resection.[10] Treatment of symptomatic MD is resection.[11] Postoperative complications can range from surgical site infection, paralytic ileus to anastomotic leak.[4] In our case segmental resection of ileum along with limited right hemicolectomy and side to side ileocolic anastomosis was done and our patient had smooth postoperative recovery.

CONCULSION:

MD is although rare, but possibility of it should be raised in a patient presenting with sign and symptoms of intestinal obstruction even in adolescent age group.

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Tashaba qaiser Faizi: Literature search, Manuscript writing.
Hassan Ahmed: Literature search
Salman Jafferi: Literature search
Surrendar Dawani: Critical review
Anum Rafique: Literature search

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