ORIGINAL RESEARCH PAPER

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AN INTERESTING CASE OF MECKELS DIVERTICULUM CAUSING INTESTINAL OBSTRUCTION

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ABSTRACT

Meckels diverticulum is a persistent remnant of the vitellointestinal duct, and is one the most commonly diagnosed congenital surgical conditions. It occurs in 2% of the population, is usually two inches long, two feet proximal from the ileocaecal junction and in approximately 20% cases it is seen to contain heterotropic epithelium. Its most common clinical presentations are usually in the form of haemorrhage, diverticulitis and rarely may complicate causing intestinal obstruction. We hereby present one such case of intestinal obstruction in a young adult male, secondary to small bowel volvulus around a vitellointestinal band extending from a meckels diverticulum to the anterior abdominal wall. The presentation and management of this case, which had presented to the Emergency Department of our hospital, is elaborated in detail.

INTRODUCTION

Vitellointestinal duct (VID) or omphalomesenteric duct normally obliterates by weeks 5–9 of intrauterine life [1]. Meckels diverticulum is a persistent remnant of the vitellointestinal duct. Vitellointestinal duct anomalies can result in a spectrum of defects, including a Meckels diverticulum, a fibrous cord attaching the distal ileum to the abdominal wall called the vitellointestinal band, an umbilical-intestinal fistula, a mucosa-lined cyst, or an umbilical sinus. Meckels diverticulum occurs in 2% of the population and is one of the most commonly diagnosed congenital surgical anomalies involving the gastrointestinal tract [2]. It is a true diverticulum present on the antimesenteric border, containing all three coats of bowel wall. It has its own blood supply. It is usually two inches long, two feet proximal from the ileocaecal junction and in approximately 20% cases it is seen to contain heterotropic epithelium [3]. Mostly, the clinical presentation picture, if not silent, comprises of haemorrhage, usually in the form of melena or rarely, haematochaezia, owing to the heterotropic gastric mucosa; or in the form of abdominal pain due to diverticulitis. The diverticulum may rarely ulcerate or perforate, which too, may be explained by the ectopic gastric mucosa. Occasionally, a picture of intestinal obstruction develops, secondary to inflammation or a vitellointestinal band (precipitating volvulus or causing an obstructing band). [4,5,6]

Case Report

A 19 year old male patient presented to our emergency with complaints of sudden onset colicky mid abdominal pain with multiple episodes of bilious vomiting and constipation, all for duration of only one day. He did not have any history of previous medical or surgical illness.

Upon examination, he was vitally stable and general examination was unremarkable. Per abdomen examination revealed a uniformly distended abdomen with a tense feel and periumbelical tenderness. On per rectal examination, ballooning was present and no stool staining. Routine blood investigations comprising of a complete haemogram, liver and renal function tests and coagulation profile, revealed no derangement. Abdominal radiograph taken in erect posture showed multiple air fluid levels. An ultrasonogram was obtained which further confirmed the diagnosis of intestinal obstruction by showing dilated content filled loops with to and fro movements with largest 35mm diameter. In view of the patient being vitally stable, it was decided to further investigate with a contrast enhanced abdominal and pelvic Computed Tomography, to look for cause. This divulged Meckels diverticulitis just below a transition point in mid ileum, proximal to which small bowel loops were dilated and distally collapsed.

The patient was taken to Emergency OR and exploratory laparotomy was done through a mid midline incision. No free fluid was drained. Small bowel was dilated till mid ileum. 10cm long with 3 cm base inflamed Meckels diverticulum was present 30cm proximal to ileocaecal junction, with a vitellointestinal band attached from its tip to the anterior abdominal wall near the umbilicus. There was 360 degree volvulus of small bowel in clockwise direction around the vitellointestinal band. Band release and 360 degree derotation was done. Bowel was healthy with preserved peristalsis. Wedge resection of the Meckels diverticulum was done and the ileal loop was anastomosed with silk.

The post operative period was uneventful and patient was discharged on post operative day 6. Histopathological examination of the resected Meckels Diverticulum reported non specific inflammation.

DISCUSSION

As stated previously, Meckels diverticulum is one of the most frequently encountered congenital anomaly of the digestive tract. About 80% of the times, this pathology remains asymptomatic. When symptomatic, the most common presentation is through gastrointestinal bleeding, the occurrence being about 50% of those with complications. Haemorrhage from a meckels diverticulum is especially significant in the less than 2 years age group, and may need to be differentiated from intussusceptions. Diverticulitis constitutes 10-20% and resembles appendicitis.[7] Hence, many surgeons prefer to confirm the presence of a Meckels in appendectomy operations.[8] Axial torsion leading to obstruction is a rare but life threatening complication. Sharma and Jain in their review concludes that intestinal obstruction is the most common complication in adults and the second most common in children.[4] A series of three cases by Bhattarai et al. reports meckels diverticulum as the cause of intestinal obstruction in three different paediatric age groups.[5] Volvulus can lead to ischaemia and perforation of the bowel, by forming a closed loop obstruction. Other causes of obstruction in a case of meckels diverticulum are due to its forming an intussusception[9] or by extension into a hernia

sac forming a Littres hernia[10]. Bini et al. reports a rare case of phytobezoar in a meckels diverticulum causing bowel obstruction.[11] The management of Meckels diverticulum presents substantial debate till date. In an extensive study at Mayo Clinic, Park et al advocated the removal of incidentally found asymptomatic Meckels diverticulum in male sex, less than 50 years age group or which is more than 2cm long, especially if having histologically abnormal tissue.[12] Surgical approaches to its removal include diverticulectomy, wedge resection and segmental resection anastomosis. Blouhos et al suggest a diverticulectomy in cases of simple diverticulitis with a long diverticulum and wedge resection when it is short. In cases of a complicated Meckels with such presentations as obstruction, perforation, bleeding or tumour, wedge resection or segmental resection anastomosis is to be done.[13] The presentation in our reported case is consistent with the clinical picture of other reported cases of obstruction in case of meckels diverticula,[6,14,15] of an young adult male with a short acute history of colicky abdominal pain , vomiting and abdominal distention, and with no prior positive history. The patient was vitally stable, which allowed us to obtain a CT imaging, avoid a diagnostic dilemma and take early decision for surgery. Given the patient parameters and intraop findings, we opted for a wedge resection. Patient has a speedy recovery with no post operative complications.

CONCLUSION

Given the incidence and increasingly reported number of cases, complicated Meckels diverticulum should be a differential diagnosis in mind in cases of acute abdomen across age groups. Early intervention is paramount to prevent dreaded outcomes.

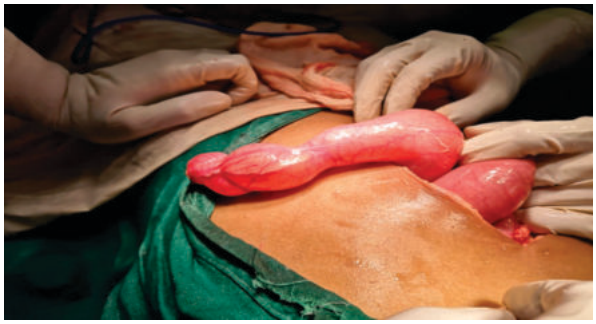

Fig. 1

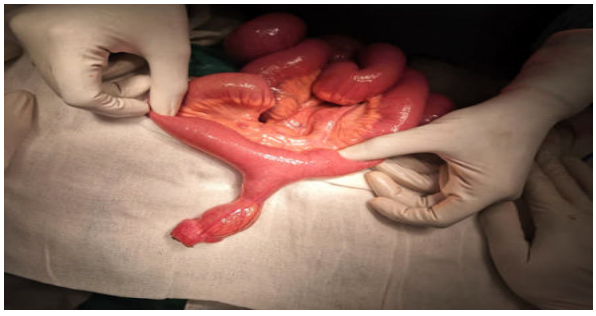

Fig. 2

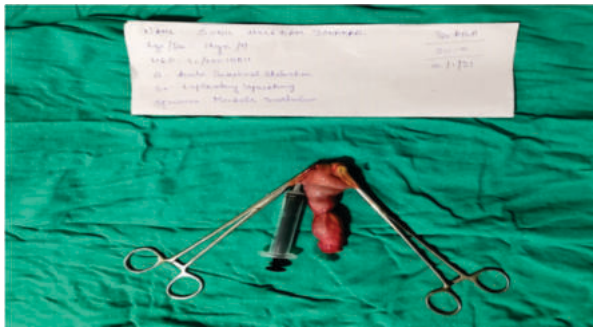

Fig. 3

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