



Meckel's Diverticulum: A Case Report

Ramadan Mahmoud Noran Sultan, Waed Jameel and Ahmed Kamel Ghanem*

Department of General Surgery, King Abdulaziz Hospital, Makkah, Saudi Arabia

Abstract

Introduction: Meckel's Diverticulum (MD) has a wide range of presentations and it could mimic appendicitis initially mis-diagnosing could lead to complication and inappropriate management plan. In 1808 Johann Friedrich Meckel published the first paper about MD pathology and embryology. A 5 cm MD called a giant and it's more prone to complications.

Case Presentation: A 28 old female, Presented to ER complaining of severe abdominal pain and admitted as a case of appendicitis. Intra-operatively a twisted Meckel's diverticulum was seen and resection was done with no complications.

Discussion: (MD) is a true diverticulum, usually found on the anti-mesenteric edge in the ileum with average distance 67 cm from ileocaecal valve in 4% to 6% of the cases present with complications. In our case we highlight the importance of keeping in mind a MD in the primary differential causes of bowel obstruction. A CT can aid in identifying the cause if not proceeding to exploratory laparoscopy or laparotomy is the preferred approach.

Keywords: Meckles diverticulum; Bowel obstruction; Giant meckles diverticulum; Surgical abdomen

Introduction

Meckel's diverticulum (MD) is discussed in the literature review in different aspects such as presenting symptoms, complications and treatment plans. In 1808 Johann Friedrich Meckel published the first paper about MD pathology and embryology [1]. The percentage of symptomatic MD in the population is 2% [1,2]. The diagnosis of MD requires a high index of suspicion by the physicians as it's challenging and difficult to confirm it preoperatively [1]. Regarding the gross anatomy of MD the average length is 3 cm and it might reach to 10 cm [3,4]. A giant MD is >5 cm and studies suggesting increased complication rate with giant MD (7). Bowel Obstruction second most common complication in adults with MD [5].

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*Correspondence:

Ahmed Kamel Ghanem, Department of General Surgery, King Abdulaziz Hospital, Makkah, Saudi Arabia, E-mail: drahmedk@yahoo.com

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Case Presentation

28 years female, medically free Presented to ER complaining of severe abdominal pain since four days associated with nausea and vomiting and obstipation. Pain started epigastric radiating to umbilical region sever stabbing in nature and continues associated with nausea, vomiting and anorexia, also complete constipation. The Patient had No previous history of similar complain or surgical history. Patient had a regular menses. On examination she was in pain, tachycardic otherwise normal vitals. Abdomen distended and no scars tender at lower abdomen and guarding, PR: normal tone minimal amount of hard stool no blood. Her CBC WBC: 19.5 the rest unremarkable.

Pt was admitted and prepared for CT Scan Figure (1A,1B) which showed: dilatation of small bowel involving the jejunal loop and proximal ileal loop with maximum diameter of 4.2 cm, the oral contrast didn't pass the jejunal loop, at med ileal loop at the level of the umbilicus the small bowel shows a sudden change of caliber with whirl movement and the presence of closed dilated loop with surrounding query sac which made a suspension of internal herniation with obstruction.

Prophylactic antibiotics given and finding intra-operative was MD about 40 cm from iliocecal junction 10 cm long twisted and causing bowel obstruction, dusky small bowel segment and improved after resection of MD the mesodiverticular band was between it and the small bowel, finally resection and anastomosis done. A 16Fr drain was inserted. Post op the pt was clinically and physically improving discharged post op day 4 with no complications. Histopathology report showed the diverticulum is lined by small intestinal mucosa with ulceration.

Discussion

(MD) is a true diverticulum, usually found on the anti-mesenteric edge in the ileum it is present



Figure 1A: Sagittal view.



Figure 1B: Axial view.



Figure 2A: MD attached to the SB.

in 2% of population [1,2]. The location is 40 cm to 100 cm proximal to the ileocecal valve and histologically it has two types of ectopic tissue gastric and pancreatic [1-3]. For adults, the average distance of MD from the ileocaecal valve is 67 cm [6]. The average size is 3 cm ranging between 1 cm to 10 cm and the longest MD recorded 100 cm (5) a giant MD are fairly rare and more prone to complications [4].

The complications rate in lifetime ranges between 4% to 6% [1,5]. The presentation is variable and clinically indistinguishable from acute appendicitis even with CT imaging it's difficult to diagnose the primary pathology upon presentation [1,3,5]. There are several mechanisms for bowel obstruction arising from a MD; Obstruction can be caused by a trapped loop of bowel by a mesodiverticular band, intussusception, volvulus, as well as by an incarceration of bowel at inguinal region causing Littre's hernia. Axial twisting of MD around its base is rare complication, and correlate proportionally with the diverticular length and base diameter [7]. To help establishing



Figure 2B: Resected MD 12 cm.

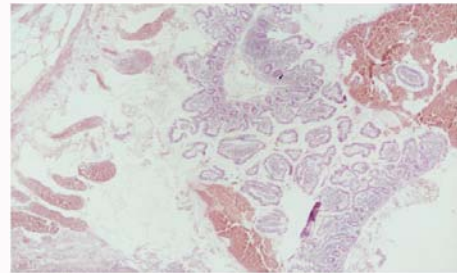


Figure 3: Small intestinal mucosa.

MD earlier a CT with oral and IV contrast is recommended when applicable [7]. The gold standard treatment for MD is Surgical resection regardless the different treatment options. This can be conducted by diverticulectomy, segmental bowel resection and anastomosis or wedge resection [1,4,7].

We highlight in the current case the importance of keeping in mind a MD in the differential causes of bowel obstruction in such cases especially in young adult. As it was caused by a mesodiverticular band lead to a twisted MD in our case.

Conclusion

The learning point in such case is an MS should be a suspected differential diagnosis in bowel obstruction especially in young adults; early recognition can prevent catastrophic complications. CT can determine the cause but not in every case so proceed to exploratory laparoscopy or laparotomy for the definitive diagnosis.

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Consent for Publication

Consent were taken and signed by patient.

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