

Varied Presentations and Management of Symptomatic Meckel's Diverticulum

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Abstract

Meckel's diverticulum is a true diverticulum arising from the antimesenteric border of the distal ileum. It is a remnant of vitellointestinal duct present. Majority of the population with Meckel's diverticulum are asymptomatic, with diverticulum being an incidental finding during laparoscopy/laparotomy. Majority of the population with Meckel's diverticulum are asymptomatic, with diverticulum being an incidental finding during laparoscopy/laparotomy.

Key words: Meckel's diverticulum, Complications, Treatment

INTRODUCTION

Meckel's diverticulum is a true diverticulum arising from the antimesenteric border of the distal ileum. It is a remnant of vitellointestinal duct present in 0.3–2.9% of population.^[1,2] It was first described by Fabricius Hildanus and later named after Johann Friedrich Meckel, who described the embryological origin of this type of diverticulum in 1809.^[3] Majority of the population with Meckel's diverticulum are asymptomatic, with diverticulum being an incidental finding during laparoscopy/laparotomy. We present here two cases of acute abdomen that were admitted on two consecutive days that were later found out to be due to complications of Meckel's diverticulum.

CASE REPORT

Case 1

A 24-year-old male was admitted with 2-day history of central abdominal pain, vomiting, and constipation. He was tachycardia with a heart rate of 102 beats/min and respiratory rate of 26 breaths per minute. The abdomen

was distended and was diffusely peritonitic. Routine blood investigations were within normal limits. Plain X-ray of the abdomen showed multiple small bowel air-fluid levels and contrast-enhanced computed tomography (CECT) abdomen showed transition point in distal ileum with angulation of about 4 cm of ileum [Figure 1]. The patient was taken up for emergency laparotomy and was found to have an adhesive band from the Meckel's diverticulum to the parietal wall with a loop of bowel coiled around it. The Meckel's diverticulum was gangrenous and a stricture was noted next to it. Resection and anastomosis of small bowel containing the gangrenous Meckel's was performed, and the patient made an uneventful recovery. Histopathology did not reveal any ectopic tissue.

Case 2

Admitted on the next day of admission of Case 1, a 35-year-old male complained of abdominal pain and vomiting for 15 days. The pain was intermittent and colicky with bowels working. The patient was hemodynamically stable, and abdominal examination revealed palpable bowel loops during episodes of pain. Plain X-ray of the abdomen was unremarkable, and CECT abdomen showed ileocecal intussusception with a possible polyp as the lead point. Blood investigations showed a Hb of 19 g/L with peripheral smear unremarkable except for increased red cell mass. After repeated venesections to optimize Hb, the patient was taken for exploratory laparotomy. The patient was found to have an ileocecal intussusception and on reduction was found to have an inverted Meckel's as the lead point [Figure 2].

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Figure 1: Contrast computed tomography of case 1 showing transition point in distal ileum with Meckel's diverticulum



Figure 2: Operative specimen of resection and anastomosis of small bowel with intussusception due to Meckel's diverticulum

Resection and anastomosis of the ileum with Meckel's were performed and the patient made an uneventful recovery. Histology showed ulceration in the tip of Meckel's with no ectopic tissue.

DISCUSSION

Abdominal emergencies would form a considerable caseload of General Surgical work. Complications arising from Meckel's diverticulum would form <1% of abdominal emergencies.^[4] In a series of Meckel's diverticulum, 74.5% of cases were asymptomatic with intestinal obstruction and bleeding being the major complications.^[5] The main management of asymptomatic Meckel's diverticulum would be to leave it alone. Operative resection and anastomosis of the small bowel containing the diverticulum or wedge resection of asymptomatic Meckel's is recommended in patient age younger than 50 years, male sex, diverticulum length >2 cm, and ectopic or abnormal features within a diverticulum.^[6]

It is quite uncommon to have admission on 2 consecutive days of acute abdomen with Meckel's as the cause. The first case warranted an emergency laparotomy due to bowel obstruction and peritonitis. Meckel's diverticulum was identified as the cause preoperatively. In the second case, an intussusception in the ileum was identified. However, due to accompanying polycythemia, we had a suspicion that the accompanying diverticulum could be due to reticuloendothelial malignancy in the small bowel or due to a polyp. After the peripheral smears showed normal cells and multiple venesections, a laparotomy was performed, and a long and inverted Meckel's as the lead point was identified.

Had these Meckel's found as incidental findings during laparotomy for some other reasons, we would have resected the Meckel's in both the cases, as in the first case there was a band from the Meckel's, and the second Meckel's had a long length.^[6]

In this day and age of minimal access surgery, Meckel's could be resected laparoscopically with the extracorporeal division of small bowel and re-anastomosis with staplers being quite popular.^[7-9] Minimal access surgery reduces the morbidity rates in the post-operative period and ensures an early return to daily activity.^[10] It remains to be seen that with minima access surgery, management would change for incidentally found Meckel's diverticulum.

CONCLUSION

Complications arising from Meckel's diverticulum should be considered in every case of acute abdomen and should be dealt with appropriately. Further studies are warranted to decide if asymptomatic Meckel's could be treated laparoscopically.

REFERENCES

1. Matsagas MI, Fatouros M, Koulouras B, Giannoukas AD. Incidence, complications, and management of meckel's diverticulum. *Arch Surg* 1995;130:143-6.
2. Christie A. Meckel's diverticulum: A pathologic study of 63 cases. *Am J Dis Child* 1931;42:544-53.
3. Meckel JF. Uber die divertikel am darmkanal. *Arch Physiol* 1809;9:421-53.
4. Grundmann RT, Petersen M, Lippert H, Meyer F. The acute (surgical) abdomen-epidemiology, diagnosis and general principles of management. *Z Gastroenterol* 2010;48:696-706.
5. Stone PA, Hofeldt MJ, Campbell JE, Vedula G, DeLuca JA, Flaherty SK. Meckel diverticulum: Ten-year experience in adults. *South Med J* 2004;97:1038-41.
6. Park JJ, Wolff BG, Tollefson MK, Walsh EE, Larson DR. Meckel diverticulum: The mayo clinic experience with 1476 patients (1950-2002). *Ann Surg* 2005;241:529-33.

7. Chan KW, Lee KH, Wong HY, Tsui SY, Wong YS, Pang KY, *et al.* Laparoscopic excision of meckel's diverticulum in children: What is the current evidence? *World J Gastroenterol* 2014;20:15158-62.
8. Hosn MA, Lakis M, Faraj W, Khoury G, Diba S. Laparoscopic approach to symptomatic meckel diverticulum in adults. *J Soc Laparoendsc Surg* 2014;18:e2014.00349.
9. Ding Y, Zhou Y, Ji Z, Zhang J, Wang Q. Laparoscopic management of perforated Meckel's diverticulum in adults. *Int J Med Sci* 2012;9:243-7.
10. Wang CC, Tu CC, Wang PC, Lin HC, Wei PL. Outcome comparison between laparoscopic and open appendectomy: Evidence from a nationwide population-based study. *PLoS One* 2013;8:e68662.

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