



## FECOLITH OF MECKLE'S DIVERTICULUM: RARE CASE OF ACUTE INTESTINAL OBSTRUCTION

<b>Ekta Sikerwar</b>	Department Of General Surgery, St Marthas Hospital, Bengaluru, India
<b>N Arun Kumar</b>	Department Of General Surgery, St Marthas Hospital, Bengaluru, India
<b>Punith N</b>	Department Of General Surgery, St Marthas Hospital, Bengaluru, India

**ABSTRACT** Meckle's diverticulum is considered as the most common congenital abnormality of the small intestine. Herewith we are reporting a rare case of acute intestinal obstruction caused by the fecolith of Meckle's diverticulum. There are very few similar cases reported in history with no reported case from India till date. This patient was managed with resection anastomosis of the involved segment and regular postoperative follow up.

### KEYWORDS :

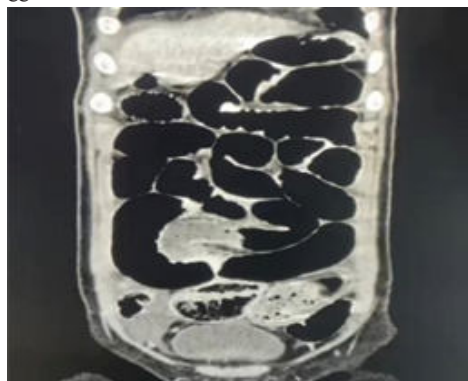
#### INTRODUCTION

Meckel's diverticulum originates from failure of the vitelline duct to obliterate completely, which is located on the antimesenteric border of the ileum. Usually, Meckel's diverticula is an incidental finding during abdominal surgeries for other causes. The most common clinical symptom/presentation is gastrointestinal bleeding in adults followed by diverticulitis and intestinal obstruction. Intestinal obstruction can be due to involvement of the mesodiverticular band of the diverticulum which is also rarely seen.<sup>1,2</sup>

This case report is on acute intestinal obstruction caused by the fecolith of Meckle's diverticulum. Only a very few similar cases have been reported in literature so far.

#### Case Report

21 yr old female presented to emergency with complaints of abdominal distension and pain since one day, pain was sudden in onset and gradually progressive in intensity. Patient also had complaints of 4-6 episodes of vomiting, non-bilious and non-projectile since one day. History of constipation since last 5 days was present. There is history of similar abdominal pain two months back, which was treated conservatively with analgesics. On examination patient had distended abdomen with sluggish bowel sounds and diffuse tenderness on palpation. Contrast enhanced computed tomography of Abdomen and pelvis showed dilated small bowel loops with transition at mid ileal level suggestive of acute intestinal obstruction.

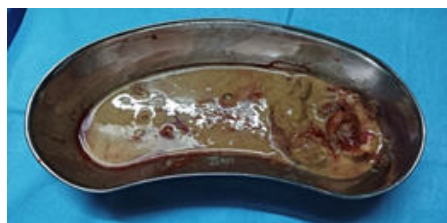


**Figure1** Dilated small bowel loops on CECT abdomen pelvis

Patient was then taken up for emergency laparotomy. Midline vertical incision was used, approximately 500 ml of straw coloured, free intra-abdominal fluid was drained. Meckle's diverticulum, 2 feet proximal to ileocecal junction, causing complete obstruction due to impacted stools proximal to Meckle's were found. Gross distention of the proximal small bowel and collapsed large bowel loops were present. Resection of the involved ileal segment followed by ileoileal end to end anastomosis was performed and abdomen was closed in layers after adequate peritoneal wash. Postoperative period was uneventful and patient was discharged on POD 4. Presence of Meckle's diverticulum with no ectopic gastric mucosa was confirmed on histopathological examination.



**Figure 2** Intra op dilated small bowel loops with collapse of the distal large intestine. Meckle's diverticulum with proximal faecal impaction seen.



**Figure3** Fecolith extracted from obstructed segment

#### DISCUSSION

Wilhelm Fabricius Hildanus, a German surgeon, had first described the Meckel's diverticuli in 1598, though it is named after Johann Friedrich Meckel, who had established its embryonic origin in 1809. Meckel's diverticulum is the most common congenital anomaly of the small intestine, with a prevalence of approximately 1-3% and is a true diverticulum containing all layers of the bowel wall. Meckel's diverticuli arises in fifth to seventh week of gestation from the antimesenteric border of the distal ileum due to incomplete involution of the vitelline duct<sup>6</sup>.

Meckel's diverticuli is usually an asymptomatic condition and the diagnosis is also difficult to ascertain preoperatively. Estimated risk of developing lifetime complication is approximately 4%. The frequent complications of Meckel's diverticulum are haemorrhage, inflammation, intestinal obstruction and diverticulitis<sup>7</sup>. Approximately 50% of the diverticuli are known to contain the ectopic tissue (gastric or pancreatic). Highly acidic secretion of the gastric tissue and alkaline secretion of the pancreatic tissue can cause mucosal ulcerations<sup>9</sup>. Obstruction can be caused by trapping of a bowel loop by a mesodiverticular band, a volvulus of the diverticulum around a mesodiverticular band, intussusception as well as by an extension into a hernia sac (Littre's hernia)<sup>4</sup>. There are very few cases of obstruction due to fecolith of Meckle's Diverticulum reported till date. There are multiple factors that have been attributed to formation of enteroliths for example; poor coordination of the peristaltic wave at the site of diverticula leading to stasis and eventually stone formation, foreign bodies such as seeds could also act as a nidus for calcium salt

precipitation<sup>7</sup>.

Management of incidental finding of Meckel's diverticula in an asymptomatic patient is still controversial. On the other hand, for the symptomatic patients; resection of the diverticulum or the segment of the bowel affected by the pathology is widely agreed upon<sup>5</sup>.

## CONCLUSION

To conclude, Meckle's diverticulum should be considered as a differential diagnosis in patients presenting with acute intestinal obstruction, especially in younger age and virgin abdomen. High index of suspicion is imperative here along with early diagnosis. Surgical management for Meckel's diverticulum has been varied in literature, where diverticulum was removed with either an enterotomy, diverticulectomy or removing the entire segment of bowel. Current surgical management is to remove the entire segment of bowel adjacent to the diverticula since there could be ectopic mucosa present in the adjacent bowel<sup>6</sup>.

## REFERENCES

1. Whang EE, Ashley SW, Zimmer MJ, Brunicaardi FC. Small intestine. Schwartz's Principles of Surgery. 2010 McGraw-Hill:1163–64
2. Tavakkoli A. Meckel diverticulum. BMJ best practice. 2022 [https:// bestpractice.bmj.com/topics/en-us/804](https://bestpractice.bmj.com/topics/en-us/804) Retrieved 2 March 2022, from. [Google Scholar]
3. Nath DS, Morris TA. Small bowel obstruction in an adolescent: a case of Meckel's diverticulum. Minn Med 2004. Nov;87(11):46-48. [PubMed] [Google Scholar]
4. Prall RT, Bannon MP, Bharucha AE. Meckel's diverticulum causing intestinal obstruction. Am J Gastroenterol. 2001. Dec;96(12):3426-3427. 10.1111/j.1572-0241.2001.05344.x [DOI] [PubMed] [Google Scholar]
5. Whang EE, Ashley SW, Zimmer MJ. Small intestine. In: F. Charles Brunicaardi, editor. Schwartz's Principles of Surgery. McGraw-Hill 2005; pp.1017-1054 [Google Scholar]
6. Javid P, Pauli EM. Meckel Diverticulum. UpToDate. N.p., 11 May 2016.
7. Frazzini VI, English WJ, Bashist B, Moore E. Case Report. Small Bowel Obstruction Due to Phytobezoar Formation within Meckel Diverticulum: CT Findings. J Comput Assist Tomogr. 1996;20(3):390-2
8. Macari M, Panicek DM. CT Findings in Acute Necrotizing Meckel Diverticulitis Due to Obstructing Enterolith. J Comput Assist Tomogr. 1995;19(5):808-10.
9. Williams RS. Management of Meckel's diverticulum. Br J Surg. 1981;68:477-80