



## MECKEL'S DIVERTICULUM PRESENTING AS FOREIGN BODY GRANULOMA

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## ABSTRACT

Meckels diverticulum is the commonest congenital abnormality of GI tract. MD is usually asymptomatic but occasionally presents with complications. Formation of an enterolith inside a Meckel's diverticulum is very uncommon. We report a case report of 72 year old male presented with pain over the umbilical region for 6 months which is non radiating and not related to food intake. History of appendicectomy at 16 years of age. On physical examination per abdomen there is hyperpigmentation of skin over periumbilical region along with some induration in and around umbilicus. With imaging hyperdense lesion seen intraperitoneally beneath the umbilicus with surrounding fat stranding. On further questioning he mentioned that he had trauma with a sharp metal object 1 year back over his abdomen. So a provisional diagnosis of foreign body granuloma was made. Our patient taken up for elective exploratory laparotomy, it was found there is a meckels diverticulum with a enterolith. The enterolith is the one looked like foreign body in the imaging. A resection of ileum with meckels diverticulum with end to end ileal anastomosis were performed. The patient made an uneventful recovery post operatively. This case report is interesting and not an usual presentation of meckels diverticulum and highlights However, if calcification(hyperdense lesions) around the umbilical region in radiological imaging in an adult with history of chronic abdominal symptoms, meckels enterolith should be included in the differential diagnosis.

**KEYWORDS :** meckels diverticulum, enterolith, foreign body granuloma

## INTRODUCTION

In 1808, Meckel's diverticulum (MD) was first reported to occur when the vitelline duct fails to completely obliterate itself. About 2% of people have this common small intestine abnormality, which is frequently discovered by accident during abdominal exploration. Inflammation, perforation, bleeding, intussusception, volvulus, intestinal blockage and formation of enterolith are among the consequences linked to MD.

Meckel's diverticula are designated true diverticula because their walls contain all of the layers found in normal intestine. Their location varies among individual patients, but they are usually found in the ileum within 100cm of the ileocecal valve. It has been estimated that the lifetime complication rate is approximately 4%. At around 2% of the general population, MD is the most common congenital abnormality of the gastrointestinal tract. According to reports, the male to female ratio is 3:2.

Majority of the meckel's diverticulum remain silent and are diagnosed incidentally during small bowel contrast study, laparoscopy or laparotomy done for unrelated conditions, or until complications arise from the diverticulum.

Rule of 2s in meckels also applies:

- 2% of the population have meckels
- Approximately 2 inches length
- Usually found within 2 feet of the ileocecal valve
- Often found in children less than 2 years of age
- Affects males twice as often as females
- Although they are based on imprecise data, these are solid basic principles. The most frequent presentation linked to symptomatic Meckel's diverticula is bleeding, which is followed by intestinal obstruction, diverticulitis, intussusceptions, and the extremely uncommon enterolith. The overall lifetime complication rate is roughly 4%. Here, we offer a presentation that serves as an example of one of the uncommon adult Meckel's diverticulum complications.

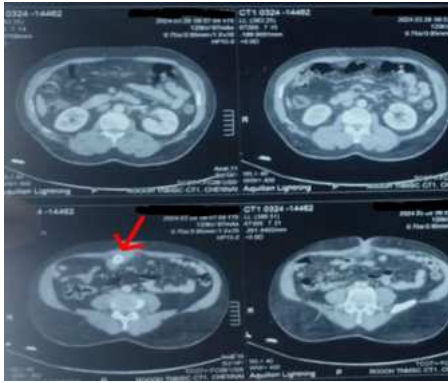
A 72 year old male, who presented to our OPD with complaints of dull aching abdominal pain over the umbilical region with no other complaints with history of appendicectomy at 16 years of age. On admission, patient vitals were stable. On inspection of his abdomen, appendicectomy scar present and there is some hyperpigmentation present in and around the umbilical region. On palpation there is some induration felt around the umbilical region with minimal tenderness. Routine pre operative laboratory investigations are within normal limits.



## Imaging

- High frequency ultrasound examination done which showed evidence of hypoechoic solid lesion noted around umbilicus with hyperechoic foci and no increase in vascularity located circumferentially around umbilicus with possibility of hematoma.
- Then we took **CECT IV + oral contrast** which showed evidence of **hyperdense lesion intraperitoneally beneath the umbilicus with surrounding fat stranding**

## Case Report



On further questioning the patient revealed a history of trauma to his abdomen with some sharp metal object a year back.

So, our radiologists given their opinion that this hyperdense lesion could be a metal foreign body which is surrounded by granuloma formation.

After our patient gave his written consent, he was taken to operating theatre and under general anaesthesia, smiley infra umbilical incision made. Superior flap raised which showed induration around the umbilical region which slowly opened showed peritoneal extension. So, rectus opened in midline and peritoneum opened on examination of small bowel revealed Meckel's diverticulum extending from ileum 60 cm proximal to ileocecal valve at anti mesenteric border and adherent to small bowel loops. A segmental resection of ileum with Meckel's diverticulum with end to end ileo ileal anastomosis done. The patient had uneventful post operative period and patient got discharged with in a week.



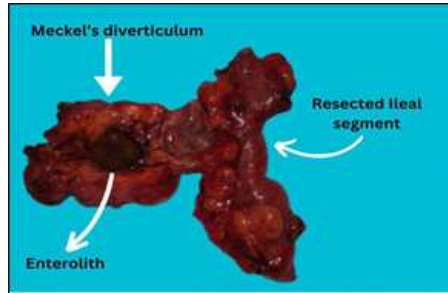
Intraoperative picture showing meckels diverticulum from anti mesenteric border of ileum

**DISCUSSION**

The most frequent congenial diverticulum in the small intestine is the meckels diverticulum, however the development of calculi or enteroliths within these diverticula has historically been regarded as the least prevalent of complications. These instances have almost exclusively been anecdotal. As such, it is uncertain how frequently this issue occurs. In comparison to most patients with meckels diverticulum, meckels enteroliths typically have a longer clinical course and a higher average age.

Why meckel's enteroliths are so uncommon is unknown. The fact that the majority of meckels diverticula have broad necks and smooth muscle that can peristalsis is one hypothesis that could apply. As a result, it is unlikely that the contents of the intestine would stagnate or stasis. On the other hand, stasis could happen if a mucosal flap that emerges from the diverticulum's edge acts as a valve and stops drainage. Additionally, superimposed edema and inflammation of the diverticulum's neck may constrict the aperture and reduce drainage, which may result in the enterolith's nidus forming. Due to the lack of stomach mucosa in these patients, the diverticulum may become more alkaline, which encourages

the precipitation of calcium and other minerals required for the creation of enteroliths. CT and sonography are known to be more sensitive than abdominal radiography. Two types of enteroliths were seen. The more common type is the one with peripheral calcification and radiolucent center which is seen in this case. Meckel's stone ileus, a condition when an enterolith is forced into the small intestinal lumen, can result in small bowel obstruction. This complication is uncommon, but it has the potential to be fatal since obstruction can cause small intestinal ischemia and infarction. In regions with prolonged stasis, enteroliths are created by a number of processes in addition to Meckel's diverticulum. Stasis can be brought on by strictures related to inflammatory bowel disorders, long-term infections, scarring from surgery, and blind pouches in the small intestine.



Intraoperative picture showing end to end ileo- ileal anastomosis

**CONCLUSION**

Although Meckel's diverticulum is the most prevalent congenital anomaly of the gastrointestinal tract is often difficult to diagnose. Common complications of meckels diverticulum should be taken into account which are diverticulitis, small bowel obstruction. Meckel's enterolith is a rare complication of Meckel's diverticulum. However, if calcification around the umbilical region in radiological imaging in an adult with history of chronic abdominal symptoms, Meckel's enterolith should be included in the differential diagnosis. In this case the enterolith in the imaging has features of central radiolucency with peripheral calcification which is most common type of enterolith.

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