ORIGINAL RESEARCH PAPER

General Surgery

INTUSSUSCEPTION SECONDARY TO INVERTED MECKELS DIVERTICULUM IN ADULT : A CASE REPORT

KEY WORDS: Meckel's diverticulum, intussusception, Ectopic gastric mucosa

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ABSTRACT

Introduction: Intussusception is a surgical abdominal emergency, which can present in all ages but is the most common reason for small bowel obstruction in childhood. In older children and adult, intussusception is more likely to be related to underlying pathology, such as Meckel's diverticulum, malignancy, or polyp. **Case report :** we report a 24 year old male presented with diffuse abdominal pain and vomiting. On examination, he had abdominal tenderness and distension. Intussusception was diagnosed on ultrasound and confirmed on computed tomography(CT) scan, and operative findings revealed an ileoileal intussusception secondary to inverted Meckel's diverticulum. Histopathology revealed ectopic gastric mucosa predominantly lining the diverticulum. **Conclusion:** Intussusception should be on the differential in any patient with isolated abdominal complaints, and when it is diagnosed in an adult ,it should be recognized that it is likely secondary to underlying pathology.

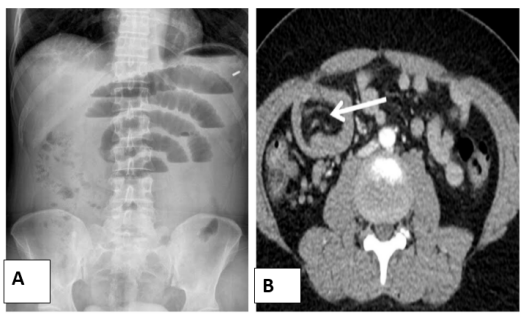
INTRODUCTION:

Meckel's diverticulum is the most common congenital abnormality of the gastrointestinal tract, occurring in 1% to 2% of the population. It is usually asymptomatic and becomes evident when complicated. Intestinal obstruction due to Meckel´s diverticulum is the most common presentation in adult and is the second most common in children. Occasionally, inversion of Meckel's diverticulum into the lumen of the bowel can cause intussusception, ischemia and infarction. The incidence of intussusception attributed to an inversion of Meckel's diverticulum accounts for 4% of all cases presenting with intestinal obstruction due to intussusception. It occurs when the Meckel's diverticulum sags into the bowel lumen and then serves as a lead point to allow telescoping of the small intestine, first into the distal ileum and then in to the large intestine, causing ileo-ileal and ileocolic type of intussusceptions.

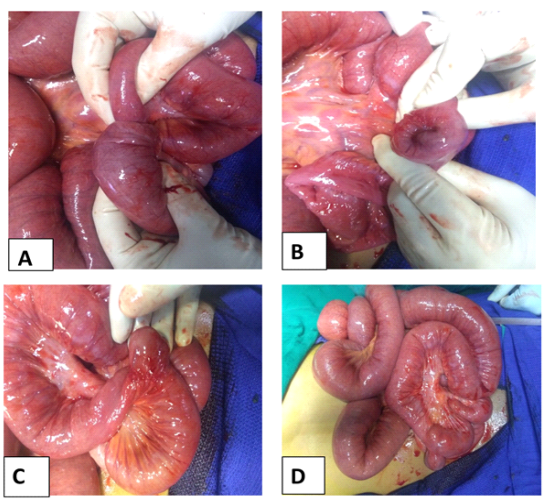
CASE REPORT:

A 24 year old male came with chief complaints of diffuse abdominal pain for 4 days duration, acute onset, colicky nature, not radiating to back and increased on food intake. H/o vomiting for 3 days which was bilious and non projectile. H/o obstipation and decreased appetite for 3 days. No h/o fever, jaundice, breathlessness, hematemesis, Malena or loss of weight. On examination BP was 110/70 mmHg and pulse rate was 106/minute. Per abdomen examination revealed abdominal distension and tenderness in all regions ,more in umbilicus and epigastrium with no palpable mass or organomegaly. Digital rectal examination revealed ballooning of rectum and no Malena. With diagnosis of small bowel obstruction, patient investigated further. Leukocyte count was 8000 cells/Cu.mm. X-ray erect and supine abdomen showed multiple air fluid level. Ultrasonography of abdomen showed intussuscepted small bowel within a lumen of bowel with proximal small bowel dilatation and distal collapsed segment. CECT abdomen showed ileal loop and mesentery within the lumen of ileum and target sign suggesting ileoileal intussusception.

In view of intussusception causing small bowel obstruction patient underwent emergency laparotomy with midline abdominal incision. Intra operative finding was ileoileal intussusception 70 proximal to ileocaecal junction. Inverted meckel's diverticulum found as lead point of obstructing small bowel intussusception. Bowel found to be healthy with no features of ischemia. Diverticulum was broad based but thickened and indurated. Limited resection of ileal segment containing meckel's diverticulum done followed by ileoileal anastomosis.

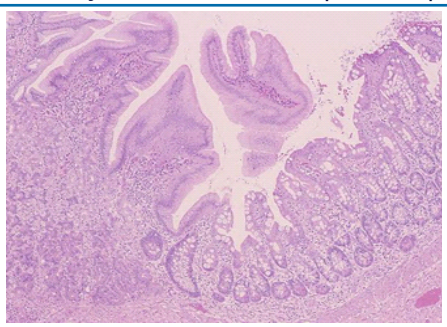


A- Multiple air fluid level in x-ray abdomen
B- Target sign in CT abdomen



A- Intussusception ; **B-** inverted meckel's diverticulum
C & D- meckel's diverticulum on anti mesenteric border.

Post operative period was uneventful. Patient discharged on POD-8. Histopathology revealed ileal segment containing meckel's diverticulum measuring 5cm*4cm*2 cm predominantly lined by ectopic gastric mucosa and without malignancy. Mucosa inflamed and oedematous.



MECKEL'S DIVERTICULUM LINED BY ECTOPIC GASTRIC MUCOSA

DISCUSSION :

Meckel's diverticulum results from failure of obliteration of the vitelline duct during development and can lead to obstruction, vomiting and bleeding. If this diverticulum becomes inverted, it can serve as a lead point for small bowel intussusception in adults. The exact mechanism by which a meckel's diverticulum become inverted is not known but it is believed that presence of ectopic tissue may serve as a lead point for the inversion and intussusception of meckel's diverticulum. Incidence of intussusception attributed to an inversion of meckel's diverticulum accounts for 4% of all intestinal obstruction due to intussusception. Meckel's diverticulum is present in 2% of population, commonly 60 cm from ileocaecal valve on the anti-mesenteric side of ileum. It is a congenital diverticulum containing all 3 coats of bowel wall and has its own blood supply. It is vulnerable for obstruction and inflammation in the same way as appendix and should be looked for if a normal appendix found during appendicectomy. Clinical presentation of meckel's diverticulum are A)Haemorrhage – if ectopic gastric mucosa present, peptic ulceration can occur and present as melaena. Identified by radioisotope scanning with technetium-99. B) Diverticulitis- Presents like appendicitis and if perforated may resemble a perforated duodenal ulcer. C)Intussusception- Lead point for ileo-ileal or ileocolic intussusception. D)Chronic ulceration- pain felt around the umbilicus as the site of diverticulum is midgut in origin. E)Intestinal obstruction- a band between apex of diverticulum and umbilicus may cause obstruction directly or predispose to volvulus. A broad based meckel's diverticulum should not be amputated at its base and invaginate as for an appendix as there is risk of stricture and leaving behind heterotopic epithelium. It is safe to simply excise the diverticulum and suturing the defect at its base or linear stapler-cutter. If the base of diverticulum is indurated, a limited resection of involved small bowel segment can be done followed by an anastomosis. After 2 years of age pathological lead point is found in at least one third of children. Adult cases are invariably associated with a lead point like polyp, submucosal lipoma or other tumors. In children ileocolic is most common and in adults colocolic is most common. The degree of ischemia depends on tightness of invagination and it is greatest if it pass through ileocaecal valve. CT scan- TARGET SIGN may be evident and is pathognomonic

CONCLUSION:

Adult intussusception caused by inverted Meckel's diverticulum may be observed in any age. It is a rare but important clinical entity. The presenting symptoms of intussusception are nonspecific. Diverticulectomy or bowel resection is the standard treatment.

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