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Case Report

Surgery Section

Peroperative Palpable Mesenteric Meckel's Diverticulum or Ileal Duplication-A Case Difficult to Concur Upon

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ABSTRACT

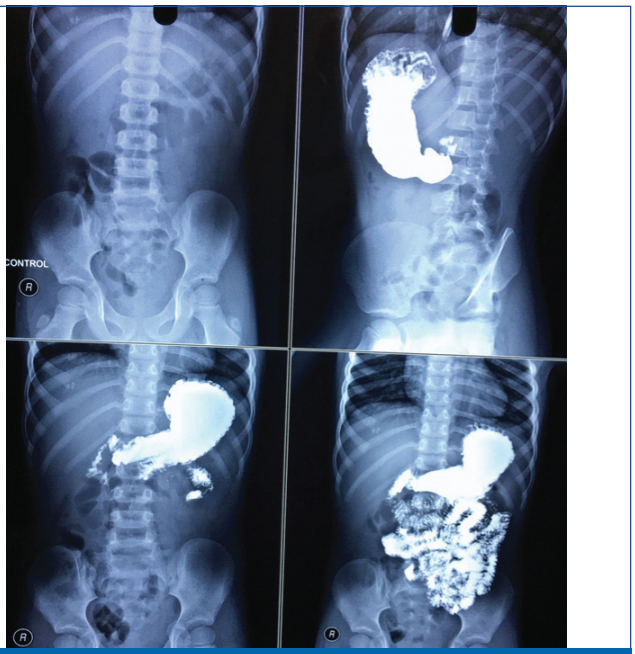
Meckel's diverticula are most common physiological congenital variants of small bowel whereas communicating ileal duplications are rarer ones. They turn out pathological, mostly because of the ectopic mucosal tissues, they harbor. Once symptomatic, they are preferably treated by segmental bowel resection with inclusion of heterotopic mucosa and end to end anastomosis. This report is about a comparatively rare appearance of mesenteric meckel's diverticulum in a seven-year-old male child simulating ileal duplication with palpable mass at the base. The description includes the troublesome postoperative course , to which the patient went through.

Keywords: Heterotopic mucosa, Pain abdomen, Paediatric, Postoperative course, Segmental bowel resection

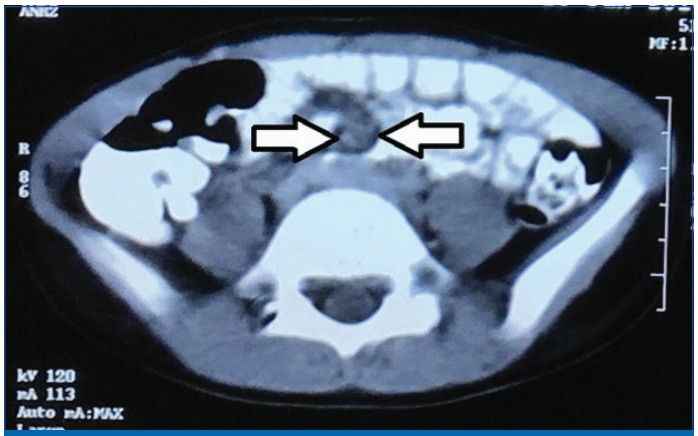
CASE REPORT

A seven-year-old male child presented to the outpatient department, with recurrent episodes of vomiting for 3 months. Vomiting was associated with pain abdomen, after meals and content was small in amount and nonbilious. The boy sensed relief in symptoms on taking omeprazole, as prescribed by a local physician. Patient had normal bowel motions and bladder pattern.

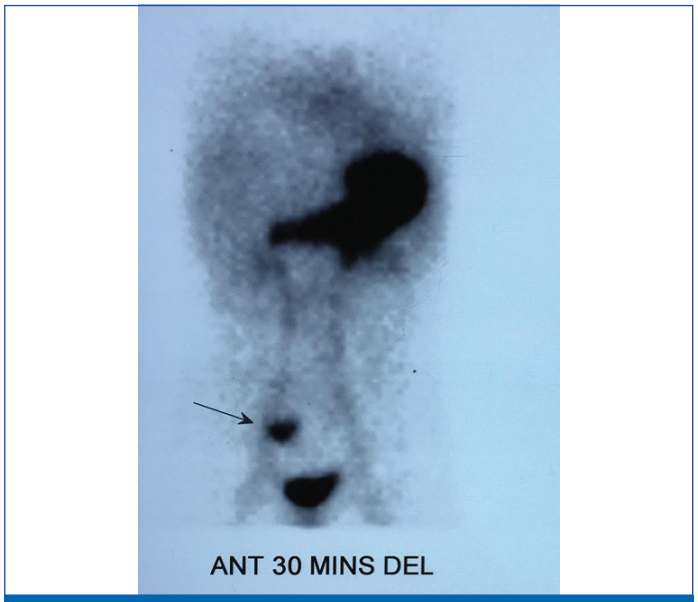
General condition of the patient was fair with stable vitals. Per-abdomen, the findings were indistinct. Ultrasound, at first, hinted towards a possibility of Meckel's diverticulum or an enteric duplication cyst. Barium swallow and meal follow through were clueless [Table/Fig-1]. Next, contrast enhanced computed tomography scan was planned and this revealed an oval soft tissue structure, approximately 3.5 x 2 cm, seen in right iliac fossa-pelvic region with central hypo density. A thin line of contrast was seen towards its cranial end within the lumen, suggesting an intussusception or an inflamed diverticulum [Table/Fig-2]. Isotope scan with 99m-pertechnetate after intravenous ranitidine, finally confirmed the ectopic gastric mucosa, again pointing towards a Meckel's diverticulum in the right iliac fossa [Table/Fig-3].



[Table/Fig-1]: Barium meal follow through.



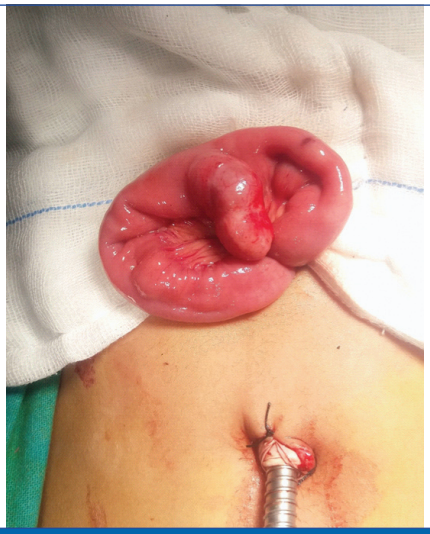
[Table/Fig-2]: CT axial film with oral and intravenous contrast showing fluid filled diverticulum (arrow) attached to the bowel loop.



[Table/Fig-3]: Isotope scan confirming the ectopic gastric mucosa- arrow.

On diagnostic laparoscopy, a diverticulum was visualised almost 50-70 cm proximal to ileo-caecal junction lateral to anti-mesenteric border [Table/Fig-4]. Its base felt firm to hard and it appeared to share the common vascular supply of the attached bowel. The diverticulum and bowel were delivered through the extended supra pubic port and segmental bowel resection and anastomosis of

the ends was performed. Patient was kept nil per oral with naso-gastric tube drainage and full replacement by intravenous fluids for initial 5 days. The boy had recurrent episodes of vomiting since 6th day, which gradually subsided with conservative management, and was discharged in sound condition on 10th postoperative day. Histopathology reports suggested the specimen as a Meckel's diverticulum with ectopic gastric mucosa.



[Table/Fig-4]: Meckel's diverticulum originating lateral to anti mesenteric border.

DISCUSSION

Meckel's diverticula are most common congenital true outpouching from the anti-mesenteric border of the small bowel. It contains all the layers of the ileum, typically (75%) within 100 cm of the ileo-caecal junction [1,2]. They are remnants of the embryonic vitello-intestinal duct and derive the vascular supply from the gut wall, they arise from. They are normal anatomical adjuncts to many individuals and may remain asymptomatic throughout. Meckel's diverticula tend to complicate as diverticulitis, haemorrhage, intussusception, small bowel obstruction, stone formation or neoplasm [3,4]. The diverticula occur almost with the same frequency in both genders. However, complications are reported more in the male sub-type. On the contrary, intestinal duplication cysts are uncommon congenital anomaly that can occur anywhere in the intestinal tract, most commonly in the mesenteric border of small bowel especially ileum. It rarely communicates with the bowel lumen but may share the common wall and blood supply of the adjacent bowel [5]. Apart from Meckel's diverticulum and intestinal duplication, the other differentials of above mentioned symptoms of the case may be appendicitis, Crohn's disease, intestinal polyp, diverticulosis etc.

Histologically, these diverticula and duplications usually bear heterotopic mucosa, mostly gastric and pancreatic [6]. Different surgical opinions exist amongst the surgeons regarding the management of these diverticula and duplications, though segmental bowel resection and anastomosis in symptomatic patients is approved by the majority. In this seven-year-old boy, Meckel's diverticulum was diagnosed late with a quite troublesome postoperative course.

The duct typically obliterates by 5th-8th week of gestation [7]. These occur routinely as asymptomatic companions in many individuals. Many a times, they don't uptake the contrast even on barium studies, due to the narrow ostium. Isotope scintigraphy with 99m-technetium revealing the heterotopic gastric mucosa and angiography showing the persistent omphalomesenteric artery, mostly help in the diagnosis [8].

In a study, peroperatively 62% of ectopic tissue was nonpalpable and 13% were palpable at the base of the meckel's diverticula [9]. Enteric duplications are rare congenital anomaly of bowel in Paediatric patients occurring most commonly in ileum. They usually present as vague abdominal pain. They may present as acute abdomen with features of obstruction, perforation or haemorrhage. There are two subtypes, cystic or tubular. The cystic variety does not communicate with the bowel lumen whereas tubular variety does [10].

The treatment of choice for both conditions is resection of involved bowel and end to end anastomosis. However, very often, the postoperative course poses a challenge.

CONCLUSION(S)

Though Meckel's diverticula are the most common congenital anomalies of the gastrointestinal tract, it is tough to differentiate from ileal duplication. Features common to ileal duplication in this case could be presence of diverticulum near to mesenteric border of ileum and sharing common blood supply. This was confirmed finally by histopathologic examination. That's why both of these conditions should be kept in differentials while evaluating the causes of unexplained abdominal pain and vomiting. The authors proclaim another victorious attempt in treating such diverticula, with varied peroperative presentation and postoperative course.

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