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MYSTERY OF RIGHT ILIAC FOSSA PAIN: A REVIEW OF FOUR CASES

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ABSTRACT
A Meckel diverticulum is a vestigial remnant of the omphalomesenteric (vitellointestinal) duct. As a congenital anomaly, it is a true diverticulum that includes all 3 coats of the small intestine. It occurs in about 2% of the population. Prevalence in males is 3-5 times higher than in females. Only 2% of cases are symptomatic, which usually presents among children at the age of 2. It generally remains silent. The fact which makes it an important structure is its life threatening complications. We present four such cases which were presented as right iliac fossa pain and intraoperatively diagnosed as complicated meckel diverticulum.
Keywords: Right iliac fossa, acute appendicitis, Meckel diverticulum

1. Case 1:
A 30 year old male patient presented in emergency room with a history of abdominal pain, vomiting and fever of 1 day. The pain was sudden in onset, in the right iliac fossa, of constricting type, continuous in nature, with no radiation of pain and no aggravating or relieving factors. There was a history of vomiting, 5-6 episodes, non-bilious in nature. On examination, the patient was febrile and had tachycardia. Abdominal examination revealed tenderness in the right iliac fossa, maximal at McBurney's point, rebound tenderness was present, with no free fluid and normal bowel sounds. The other systems were normal.
A Clinical diagnosis of acute appendicitis was made and the patient was taken up for emergency surgery. Intraoperatively, appendix was normal but there was hyperemic oedematous Meckel diverticulum. Diverticulectomy along with appendectomy was done. **(Figure 1)**

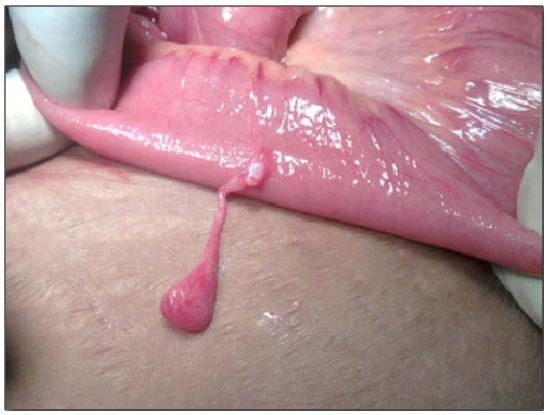

Figure 1- Meckel diverticulitis

Postoperative period was uneventful. Histopathological report revealed features of diverticulitis.

2. Case 2:
A 45 year old male presented in emergency room with 1 day history of pain abdomen, vomiting and fever. The pain was sudden in onset, in the right iliac fossa of colicky type and continuous. There were 10-12 episodes of vomiting, non bilious in nature. Abdominal examination showed tenderness all over the abdomen with maximal in the right iliac fossa, guarding, rigidity, with no free fluid and no bowel sounds. The other systems were normal.
A Clinical diagnosis of peritonitis due to appendicular perforation was made. Erect x-ray abdomen was not normal and the patient was taken up for emergency surgery. Intraoperatively finding was Meckel diverticulum band leading to gangrene of the part of ileum. Resection of gangrenous ileum and ileo-ileal anastomosis was done. **(Figure 2)**

Figure 2- Meckel diverticulum band leading to gangrene of the part of ileum

Postoperative period was uneventful. Histopathological report revealed features of gangrenous part of the ileum and diverticulum.
Other two cases were presented similar to case 1, diagnosed clinically as acute appendicitis. Intraoperatively finding was inflamed Meckel diverticulum and normal appendix.
(Figure 3 & 4).

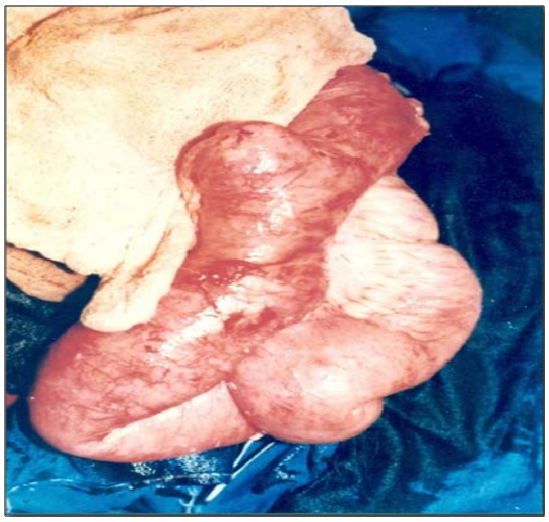

Figure 3- Meckel diverticulitis

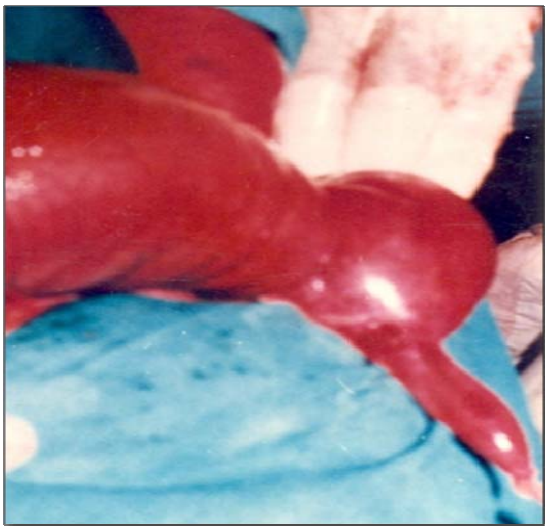

Figure 4- Meckel diverticulitis
Histopathology showed features of diverticulitis.

3. Discussion:
Meckel diverticulum was first described by Fabricius Hildanus in 1598 and later named after Johann Friedrich Meckel, who described the embryological origin of this type of diverticulum in 1809.[1,2] It is a true congenital diverticulum and a vestigial remnant of the vitelline duct. It is the most common congenital anomaly of the gastrointestinal tract in humans occurring in approximately 2% of the population with equal incidence in males and females.[3]
Although most commonly discovered as an incidental finding on laparotomy or laparoscopy, Meckel diverticulum can be associated with life-threatening disease states.[4] Cullen et al in his population-based study, covering patient data over 42 years suggested the lifetime risk of developing a complication that requires surgery was 6.4%.[5]

Complications of meckel diverticulum manifest as the following:
• Ulceration
• Hemorrhage
• Small bowel obstruction
• Diverticulitis
• Perforation

Lower gastrointestinal hemorrhage is the most common presentation in children with a symptomatic Meckel diverticulum, with incidence rates recorded as high as 50%.[6] Intestinal obstruction due to Meckel's diverticulum is the most common presentation in adult and is the second most common in children.[7,8] Diverticulitis represents 20% of the symptomatic Meckel's diverticulum[9] and is common in adult patients.[10,11] Tumors in Meckel's diverticulum are very rare occurrences, with incidence of only 0.5% to 1.9%.[12]
The treatment of choice is diverticulectomy or segmental resection. Shalaby RY etal[13] and Sanders LE[14] suggested laparoscopic management of the complicated Meckel's diverticulum is safe, cost effective and efficient, with added advantages of precise operative diagnosis, fewer complications and shorter recovery period.
In our cases, all of them presented mainly with right iliac fossa pain. Among them, three were diagnosed clinically as acute appendicitis and one as peritonitis. Intraoperatively, three cases had features of diverticulitis and one had band with ileal gangrene. The histology reports of our specimen in this series did not reveal any heterotopic gastric mucosa. When compared to previous reports and literature, our cases has similar presentation as acute appendicitis. 2 year is the most common age at clinical presentation but in our cases, all of them were above the age of 25 years.
Three cases were operated with classical appendicectomy incisions through which the

diverticulectomy along with appendicectomy was done, so as not to create any diagnostic problem in future.

Conclusion:

Meckel diverticulum is the most frequent malformation of the gastrointestinal tract.

A memory aid for meckel diverticulum is the rule of 2s:
• 2% (of the population).
• 2 feet (from the ileocecal valve).
• 2 inches (in length). 2% are symptomatic.
• 2 types of common ectopic tissue (gastric and pancreatic).
• 2 years is the most common age at clinical presentation.
• 2 times more boys are affected.

Emergency surgery is required in complication like bleeding, obstruction, diverticulitis and perforation.

The above case studies further stress the need to search for Meckel's diverticulum in cases diagnosed as acute appendicitis but with grossly normal looking appendix.

Treatment of choice is diverticulectomy or segmental resection, which can be done by open method or laparoscopically depending upon the patient's condition and surgeon's experiences.

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