

Acute Appendicitis or.... is it Meckel's Diverticulitis?

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Abstract

A Meckel's Diverticulum is a remnant vitello-intestinal duct present in the embryo. It is the commonest congenital anomaly of the GI tract being present in 2% of autopsies. This is a case of an adult male patient presented with pain around the umbilical region which later shifted to the right iliac fossa. In face of such classical history and other signs and symptoms, clinical diagnosis of Acute Appendicitis was made, but, intraoperatively it turned out to be an inflamed Meckel's Diverticulum.

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Introduction

A Meckel's diverticulum possesses all the three coats of intestinal wall. It has the same microscopic structure as the adjacent small bowel and it has a separate blood supply from the adjacent small bowel mesentery (the omphalomesenteric artery).¹ In 20% of the cases, the mucosa contains heterotopic epithelium, namely gastric, colonic and sometimes pancreatic tissue. Although Meckel's diverticulum occurs with equal frequency in both sexes, symptoms usually resulting from the epithelium contained in the diverticulum predominantly occur in males.² It is one of the differential diagnosis for Acute Appendicitis and is usually discovered intraoperatively. However, sometimes the presenting symptoms may be a guide to this suspected pathology. This report presents a case of Meckel diverticulitis with symptoms and signs of Acute Appendicitis.

Case Report

A 27 yr old male patient was presented to Sultan Qaboos Hospital Accident and Emergency Department with abdominal pain for the last four days. The pain was colicky in nature and was associated with nausea and vomiting. It persisted initially around the umbilicus for two days and later shifted to the right iliac fossa on the third day. The patient also gave a history of associated constipation, however there was no history of bleeding per rectum episodes. He denied any surgical intervention before or any other medical illness. However, he did visit a private clinic during this illness where he received some analgesia. He had some relief but the pain recurred after a few hours.

Clinical examination revealed that vital signs were within normal limits. The oral mucosa appeared dry, suggestive of dehydration. The abdomen was mildly distended and the patient

had a positive signs of cough. There was tenderness and rebound tenderness in the right iliac fossa and Rovsing's sign was also found to be positive. However, there was no palpable mass. Routine investigations were within normal limits and Urine routine examination showed 4 wbc/HPF. Clinical diagnosis of Acute Appendicitis was made and the patient was prepared for surgery. Pre-anesthesia consultation and consent were obtained and the patient was posted for Laparoscopic Appendectomy.

Diagnostic laparoscopy revealed a mass in the right lower abdomen. It was decided to convert the procedure to open and a grid iron incision was made in the right iliac fossa. The mass was found to be a huge Meckel's diverticulum with a wide base (about 12cm) adherent to the small bowel mesentery by its apex in the right iliac fossa causing a kink in the ileum. The appendix was also explored and found to be retrocecal in position. It appeared healthy without any signs of inflammation. The diverticulum was carefully released from surrounding adhesions and a diverticulectomy was performed. The resultant intestinal defect was primarily closed. Appendectomy was also performed and the tissues were sent for histopathology. Postoperatively, the patient had an uneventful recovery. Histopathology report revealed ulcerated ileal mucosa in the Meckel's Diverticulum with inflammation and hemorrhage in its wall. However, no ectopic mucosa was detected in the diverticulum. Histopathology of the Appendix was unremarkable.

Discussion

The majority of Meckel diverticulae are silent and are discovered incidentally intraoperatively. However, they have been known to cause severe hemorrhage, intussusception, diverticulitis, perforation, peptic ulceration and intestinal obstruction. Small bowel obstruction is reported to be the most common complication of Meckel's diverticulum in adults and second most common in children.^{3-6,7}

The case described above presented with signs and symptoms of Acute Appendicitis but was later discovered to be Meckel's Diverticulitis. This patient had partial intestinal obstruction due to adhesions of the diverticulum with the ileal mesentery. Symptoms such as nausea, vomiting and constipation can be varyingly present in patients of both Acute Appendicitis and Meckel Diverticulitis. However, the "persistence of pain around the umbilicus and its delayed shifting to right lower abdomen" must raise the suspicion of Meckel's Diverticulum. Abdominal Ultrasound and computed tomography are reported in the literature to be valuable radiological investigations in Meckel Diverticulitis patients without the classical history of painless hemorrhage.^{8,9}

The utility of Tc99m-pertechnetate scintigraphy in the diagnosis of ectopic gastric mucosa is well established, particularly in the case of Meckel's diverticulum, despite substantial variation in the reported sensitivity.¹⁰

Laparoscopy is useful in both diagnosis and treatment. Laparoscopic resection of Meckel's diverticulum is feasible and ideal particularly in specialized centers.¹¹

Conclusion

The clinical diagnosis of inflamed Meckel's diverticulum is rarely considered preoperatively in adult patients.¹² This report highlights the fact that the differential diagnosis of Meckel's should always be kept in mind in cases suspected of acute appendicitis, and particularly in adults with symptoms of intestinal obstruction. Careful assessment of the symptoms such as duration of pain and its delayed shifting to the right lower abdomen cannot be over-emphasized. Furthermore, as a classical teaching, a normal looking Appendix on surgery for Acute Appendicitis should always raise the suspicion of Meckel's Diverticulum.

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