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Case Report

A Rare Presentation of Isolated Tuberculosis of Meckel's Diverticulum Leading to Perforative Peritonitis in an Immuno-Competent Patient

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ABSTRACT

Introduction: Tuberculosis affecting Meckel's diverticulum is a rare entity.
Case Report: A young male presented with acute onset right iliac fossa pain and tenderness, which on imaging mimicked appendicular perforation. On exploration, Meckel's diverticulum was perforated at the tip, with histopathology revealing Tuberculosis of the diverticulum.
Discussion: Tuberculosis can affect any part of gastro-intestinal tract, but isolated Tuberculosis of Meckel's diverticulum leading to perforation is an unusual scenario
Conclusion: In countries where intestinal tuberculosis is common, its occurrence in uncommon sites should be kept in mind.

Key Words: Meckels Diverticulum, Tuberculosis, Perforation.

INTRODUCTION

Meckel's diverticulum is the most common congenital anomaly of gastro-intestinal tract. It was initially described in detail by Hohann Friedrick Meckel in 1808. [1] It is a true diverticulum, consisting of all layers of the bowel and is due to the persistence of the vitellointestinal duct. It is present in 1 to 2% percent of the population with a male: female ratio of 2: 1 and contains ectopic gastric mucosa or pancreatic tissue. [2] We report a rare case of perforation of Meckel's diverticulum due to Tuberculosis, occurring in isolation in the diverticulum and sparing the rest of small bowel.

CASE REPORT

A 21 year old male with no co-morbidities presented to the casualty with complaints of acute onset right lower abdominal pain since 3 days and intermittent fever since 2 days. It was associated with 2 episodes of vomiting. He had no prior history of tuberculosis or any immunosuppressive illness. On examination, he was febrile with a pulse of 106/minute. Other vital parameters were normal. Abdominal exam revealed severe tenderness and guarding in right iliac fossa, without any evidence of rebound tenderness, lump or organomegaly. Rest of the abdomen was normal, per rectal exam was normal. He was investigated, abdomen X ray was grossly normal, leucocyte count was 12,000 and ultrasound suggestive of free fluid in right

iliac fossa. A CT scan was done, which showed minimum free fluid in right iliac fossa. A provisional diagnosis of perforated appendix was made and patient underwent an exploratory midline laparotomy. Intra-operative findings included pus in right paracolic space about 50ml with adhered small bowel. Cecum, terminal ileum, appendix and mesentry of small bowel were normal. After adhesiolysis, omentum was found to be adhered to a Meckel's diverticulum of length 2.5 cm and base 1 cm about 50 cm proximal to ileo-cecal junction [Image 1, 2]. Resection of bowel segment to include the diverticulum with primary end to end 2 layered hand-sewn anastomosis was performed. Post-operatively, patient had an uneventful course and discharged on day 5 on full diet. Pathology revealed perforation at the tip, multiple transmural confluent non-necrotising granulomas with occasional Langerhan type of Giant cells suggestive of tuberculosis [Image 3, 4]. Patient was started on 4 drug anti-tuberculosis regimen and showed weight gain of 4 kilograms during follow up after one month.

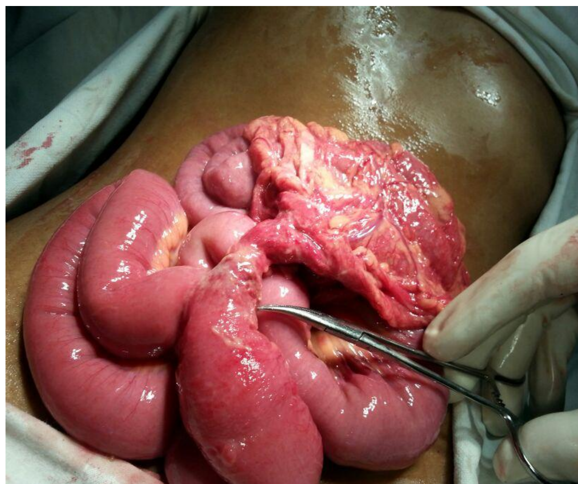

Image 1: Diverticulum with adhered omentum

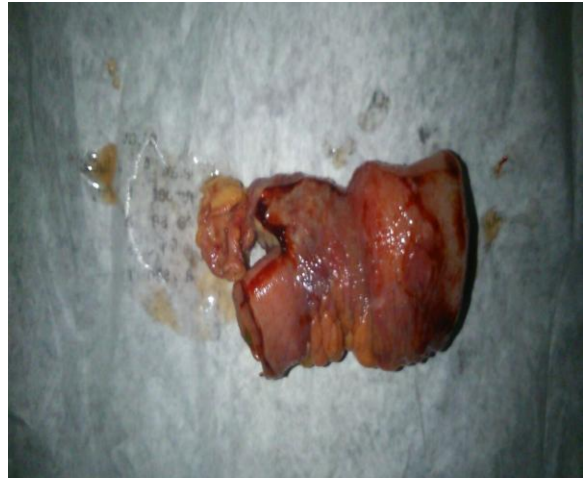

Image 2: Resected specimen showing ileal segment with diverticulum

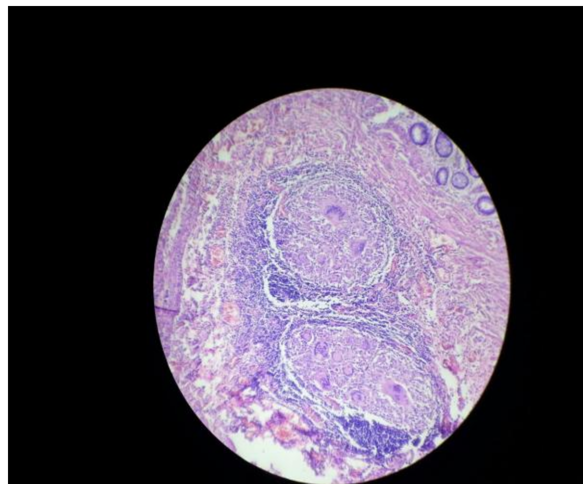

Image 3: H & E stained section of intestine showing non-caseating granulomas

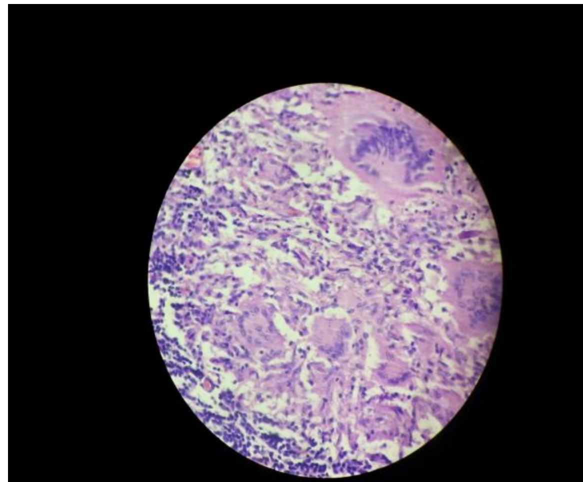

Image 4: High power H & E section showing typical Langerhan's Giant cells

DISCUSSION

Tuberculosis can involve the entire gastrointestinal tract, with common sites being the terminal ileum and the ileo-caecal region. Perforation is usually solitary, but multiple perforations occur in 10-40% of patients with usually a stricture present distally. Such perforations are said to be stercoral perforations. [3] Few cases of tubercular perforation of the Meckel's diverticulum have been reported in literature in the past. [4,5] Uncomplicated cases of Meckel's diverticulum remain asymptomatic throughout life. 2 to 4% of people with this anomaly develop complications like diverticulutis, intestinal obstruction, haemorrhage, perforation, neoplasia and Littre's hernia. [6] Meckel's diverticulitis clinically mimics appendicitis. Since the condition is not often diagnosed, it tends to be a forgotten until it complicates [7] Surgical treatment of Meckel's diverticulum is either wedge resection with primary closure or ileal resection with anastomosis. Absolute indications for resection are broad based diverticuli, haemorrhage, intestinal obstruction, and umbilico-ileal fistulas. [8] In our patient, a perforated appendix was suspected and a laparotomy with resection of diverticulum and ileo-ileal anastomosis was performed in emergency, with good patient outcome. On follow up, Anti Tuberculous therapy was started considering the general preponderance of the disease. It showed to be beneficial as patient experienced weight gain and increased appetite.

CONCLUSION

Isolated tuberculous perforation of the Meckel's diverticulum is a rare but noteworthy condition. Emergency laparotomy and resection of diverticulum with adjoining small bowel segment is the treatment of choice. [8] In countries where intestinal tuberculosis is common, its occurrence at such sites should be kept in mind. In absence of larger study group, Anti Tuberculous therapy can be started with follow ups 2 monthly.

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Author's contribution:

1. DR VR- contributed by making substantial contributions to collection of data, acquisition of data, images, and analysis and interpretation of data, involved in drafting the manuscript and revising it with bibliographical content. Also involved in complete clinical course of patient and follow up.
2. DR AN- contributed by making substantial contributions to collection of data, acquisition of data, images, and analysis and interpretation of data. Also, involved in drafting the manuscript.
3. DR AD- contributed by organising the data and drafting the manuscript and analysing the bibliographical contents.

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