

A Comprehensive Study on Primary Intestinal Tuberculosis Resulting in Perforation Peritonitis: A Case Report

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Abstract: Primary intestinal tuberculosis is usual and very common in India. It is difficult to differentiate from inflammatory bowel diseases. The author presents a rare case of severe peritonitis caused by multiple intestinal perforations in a patient with primary ileocecal tuberculosis. Initial clinical and laboratory investigations led to the suspicion of inflammatory bowel disease. The subsequent diagnostic workup included colonoscopic examination of the cecal and terminal region of the ileum with multiple biopsies. After the pathologist had assessed the specimen as indicating Crohn's disease, appropriate therapy was initiated. Several days later, however, the patient was readmitted to a surgical emergency with clinical signs of peritonitis and immediately operated on. The final diagnosis from a resection specimen confirmed the diagnosis of primary intestinal tuberculosis. The follow - up was complicated with few episodes of pain abdomen which were managed conservatively. The patient's recovery was uneventful, she underwent intensive antituberculous therapy and is asymptomatic at present. Surgeons caring for patients with acute abdomen should be aware of tuberculous perforation peritonitis even in non - risk groups of patients.

Keywords: Primary Intestinal Tuberculosis, Perforation Peritonitis, Ileocecal Tuberculosis, Inflammatory Bowel Disease, Tuberculous Perforation

1. Introduction

- Primary tubercular enteritis is defined as tuberculosis of the gastrointestinal tract without concomitant pulmonary disease. It is common in the developing countries like India. The incidence of tuberculosis infection in India 188 per 100, 000 population in 2021. Primary enteric infection is usually caused by ingestion of then bovine Mycobacterium tuberculosis strain in unpasteurized, contaminated milk. More common is the ingestion of mycobacterium by the already actively infected host. Occasionally, the origin of the tuberculous infection remains unclear.
- Mycobacterium characteristically sets up an inflammatory infection in lymphoid tissues of the ileocecal region. Circumferential mucosal ulcerations occur in conjunction with tubercle formation and vasculitis. The ulcers may extend through the full thickness of the bowel wall and cause perforations or they may heal with subsequent thickening of the bowel wall and stenosis of the lumen.
- The essential therapy consists of various anti tuberculous drug combinations with surgery usually being reserved for disease complication as intestinal perforation, obstruction or severe bleeding.

2. Case Report

- A 40 - year - old female presented symptoms of severe abdominal pain which had begun 6 months earlier and was accompanied by about 10 kg weight loss and occasional evening rise of temperature. 10 months earlier, she first noticed intermittent diarrhea up to 6 times a day.

Her history included appendectomy in march 2007 for acute appendicitis in another hospital. She had been free of any other serious disease until Jun2022. The patient visited our outpatient department on June 27, 2022, and was immediately admitted for complete examination and investigation of the gastrointestinal tract. On admission, we observed there were no signs of peritoneal irritation, abdominal tender and rigidity and the liver, spleen and lymph nodes were not enlarged. The patient was afebrile, cachexic and her general health status was poor. Laboratory examinations showed mild hypochromic anemia (hemoglobin 10.1 g/dl, red blood cells 4.23.700/mm³), white blood cells 15567 per cubic mm, lower albumin (2.32 g/dl), higher erythrocyte sedimentation rate (38 mm/h) and elevated cross - reacting protein (CRP) rates. Pulmonary X - ray on admission was otherwise normal with no signs of a specific disease process. The course of the disease was complicated by high temperature, and hence broad - spectrum antibiotic treatment (Meropenem + metronidazole) was started. Abdominal CT showed irregular thickening often cecal (17 mm) and terminal ileum (10 mm) walls with slightly enlarged lymph nodes and a small amount of fluid in the pelvis with - out signs of abscess inside the abdominal cavity.

- Diagnosis of inflammatory bowel disease was suspected, and the patient was being prepared for colonoscopy. The colonoscopic examination was performed 6 days after admission and this showed acute inflammatory changes in the cecum and the ileocecal region. However no specific signs of IBS were found but on high suspicion of IBS, patient was started on steroid therapy. Patient improved symptomatically was discharged after 1 week.

Volume 12 Issue 8, August 2023

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The same patient came to our surgical emergency with severe abdominal pain and distension and obstipation since, 2 days. On examination, patient was tachycardic with mild hypotension. Per abdomen was distended, tender and rigid. Bowel sound was absent. Patient was resuscitated and stabilised first. X ray abdomen erect, supine showed air under right lobe of diaphragm. CBC showed Hb = 9.1 gm/dl and WBC 15.4 /cumm. Emergency exploratory laparotomy was done. A rent of diameter 1cm was found at 10 cm proximal to ileo - caecal junction from where loop ileostomy was made. Mesenteric lymph nodes were found to be enlarged which was taken as a sample for biopsy which was later found to be tubercular in origin. Hence primary intestinal tuberculosis was confirmed and patient was started on ATT. Patient was discharged after uneventful post op hospital stay and was followed up for 1 month which was also uneventful.

Inference

The inference of this study is any gastrointestinal pathology with B symptoms of TB should be investigated for primary intestinal TB even if there is no history or evidence of pulmonary TB and surgeons should be aware of perforation peritonitis due to intestinal TB in cases of acute abdomen even in non - risk group of patients.

3. Conclusion

This case report underscores the importance of considering primary intestinal tuberculosis as a differential diagnosis in patients presenting with gastrointestinal symptoms, even in the absence of pulmonary tuberculosis. The case also highlights the potential for severe complications such as perforation peritonitis. Therefore, surgeons dealing with acute abdomen cases should be cognizant of the possibility of tuberculous perforation peritonitis, even in patients not traditionally considered at risk. Prompt diagnosis and initiation of antituberculous therapy can lead to successful patient outcomes, as demonstrated in this case.

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External Resources

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