

## A Case of Ileocecal Tuberculosis Presenting as Perforative Peritonitis

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### Abstract

One of the most prevalent extrapulmonary tuberculosis is abdominal tuberculosis. In the past, drinking milk contaminated with *Mycobacterium bovis* was the main cause of intestinal tuberculosis. However, due to the ageing population and rising rates of human immunodeficiency virus infection, intestinal tuberculosis is now more common even in the absence of detectable lung disease.

In 4.9% of cases, intestinal perforation is the first symptom of intestinal tuberculosis. Because of the reactive thickening of the peritoneum and the development of adhesions with the surrounding tissues, free intestinal perforation is a rare consequence. This explains situations with a 1-10% death rate and poor prognosis. Surgery is required immediately for peritonitis brought on by minor bowel perforation.

Here we present a case of 25 year old female patient who presented to casualty with diffuse abdominal pain and decreased urine output. X-ray erect abdomen revealed air under diaphragm which was in favour of hollow viscus perforation. In view of this patient was taken up for emergency laparotomy which showed multiple ileocaecal perforations for which right hemi colectomy was done. Histopathology revealed granulomatous colitis in favour of Koch's disease.

**Keywords:** intestinal tuberculosis; perforation; ileocaecal; peritonitis

### Introduction

Abdominal tuberculosis is one of the form of extra pulmonary tuberculosis. It may occur as a primary infection or reactivation of a dormant foci of infection which is common in human immune deficiency virus infection. It may also occur as a result of ingestion of sputum contains active pulmonary tuberculosis. If not suspected, abdominal tuberculosis can be very difficult to diagnose because it can mimic numerous illnesses, including cancer and crohn's disease. The extrapulmonary areas most frequently impacted by the disease are the genitourinary tract, lymph node, bones, and pleura. According to the local epidemiology, the gastrointestinal system comes in fifth or sixth in terms of frequency. The terminal ileum and the ileocecal area are where gastrointestinal tuberculosis is most frequently discovered.

### Case Report

A 25 year old female presented to casualty with diffuse abdominal pain for 1 week, aggravated for 1 day. H/o decreased urine output for 1 day. H/O weight loss for past 1 month. Known case of anemia and on periodic blood transfusion. H/o primary infertility present

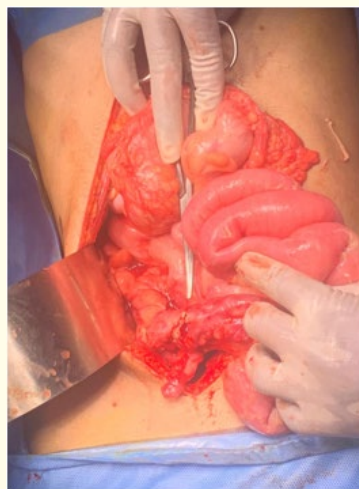
for past 2 years. No h/o pulmonary tuberculosis. No other significant history. On examination patient had hypotension and tachycardia. On examination abdomen was distended, rigid, diffuse tenderness present, guarding was present.

Blood investigations revealed hemoglobin of 8.4, counts was 16,230 and hypoproteinemia. X-ray erect abdomen showed air under diaphragm (Figure 1).



**Figure 1:** Showing X-ray erect abdomen with air under diaphragm.

After hemo-dynamically stabilizing the patient she underwent emergency laparotomy. A midline laparotomy incision was made about 200 ml of foul smelling peritoneal fluid drained. Bowel loops were mobilized which revealed thickened and pulled up ascending colon, multiple ileocaecal perforation with multiple enlarged lymph nodes (figure 2). Right hemi colectomy was performed with end ileostomy and mucus fistula.



**Figure 2:** Intraoperative picture showing thickened caecum and ileocaecal perforation.



**Figure 3:** End ileostomy with mucus fistula.



**Figure 4:** Showing gross specimen of resected bowel.

Grossly (figure 4) resected bowel measured around 61 cm with multiple ileocaecal perforations. Histopathology revealed granulomatous colitis in favour of Koch's disease with vaguely positive AFB. Patient was in constant hypotension and feeble pulse inspite of maximum ionotropic supports. In spite of all resuscitative measures patient could not be revived and was declared on the day of surgery.

## Discussion

The ileocaecal area, the ileum, and the colon are the bowel segments most frequently affected by tuberculous enterocolitis in young adults (third decade) [1]. Intestinal blockage, perforation, fistula, and bleeding are complications of intestinal TB [2].

Numerous developing nations continue to struggle often with intestinal TB [3, 4].

Even in industrialised nations, more people are receiving tubercular illness diagnoses as a result of rising immunosuppressant usage and the AIDS pandemic. One to three percent of all instances of tubercular disease and 12% of extra-pulmonary tuberculosis patients

already include the abdomen [5]. It is thought that this rise in immunosuppression causes latent tuberculosis in hosts to reactivate.

Free perforation in patients receiving anti-tuberculosis therapy can happen in the terminal ileum, where it typically happens in intestinal tuberculosis. There are no specific diagnostic tests available. Only 25-50% of plain x-rays have indicated free air. Chest radiographs are normal in 50% of extra pulmonary tuberculosis patients.

For morbidity and mortality to be kept to a minimum, early diagnosis of the condition is essential. However, it may be anticipated that identifying symptoms in immunocompromised patients who have tuberculosis will be even more difficult than in immunocompetent hosts. While treated abdominal tuberculosis has a mortality rate of about 15%, untreated and undetected intestinal tuberculosis can have a mortality rate as high as 60% [6]. One death rate associated with intestinal TB is perforation, which has a 30% fatality rate [7]. Multiple perforations, a longer interval between symptoms and perforation, the presence of concomitant conditions, a delayed surgical procedure, and the use of steroids are all indicators of a higher risk of mortality [6-8].

Abdominal pain, abdominal distension, ascites, and weight loss are all typical signs and symptoms of abdominal tuberculosis [9]. Our patient did not have any of these additional characteristics, with the exception of mild abdominal pain. In actuality, our patient had a small intestine hole when he first arrived, but he lacked the traditional symptoms of a ruptured viscus. Despite the disease's progression, he did not show hemodynamic instability or increased abdominal pain.

We believe that taking high doses of steroids and immunosuppressants prevented the patient from mounting a significant enough immunological response to cause sepsis. Peritonitis in a patient with tuberculosis-related chest radiography should raise the possibility of a perforated tuberculosis ulcer.

Exploratory laparotomies should be performed on individuals with intestinal TB who had widespread peritonitis when they first appeared. However, computed tomography is useful in locating the perforation in ambiguous circumstances. In 81% of instances, computed tomography can be used to make the diagnosis of intestinal tuberculosis [10].

A single perforation occurs in 90% of cases, while numerous perforations happen in 10% to 40% of patients and are linked with a bad prognosis [11], necessitating urgent surgical intervention. The most effective course of treatment was small bowel resection and end-to-end anastomosis [12]. Due to the high likelihood of leak and fistula formation, simple perforation repair is not advised [13]. More than (29.3%) reported high mortality and morbidity, but the rate was much lower in patients who underwent surgery within 36 hours of perforation.

## Conclusion

Abdomen Tuberculosis must always be taken into consideration in patients presenting with acute or persistent abdominal discomfort because it is widespread in underdeveloped nations.

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