



Misdiagnosis of ileocecal tuberculosis – diagnostic dilemma with Crohn’s disease

Venu Madhav Konala¹, Sreedhar Adapa², Nikhil Agrawal³, Srikanth Naramala⁴, Hemant Dhingra⁵, Wilbert S. Aronow⁶

¹Department of Internal Medicine and Division of Medical Oncology, Ashland Bellefonte Cancer Center, Ashland, KY 41101, USA; ²Division of Nephrology, The Nephrology Group, Fresno, CA 93720, USA; ³Division of Nephrology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA 02215, USA; ⁴Department of Rheumatology, Adventist Medical Center, Hanford, CA 93230, USA; ⁵Department of Medicine, St Agnes Medical Center, Fresno, CA 93720, USA; ⁶Division of Cardiology, Westchester Medical Center and New York Medical College, Valhalla, NY 10595, USA

Correspondence to: Venu Madhav Konala, MD, FACP, CACP. Attending Medical Oncologist and Certified Anti-Coagulation Provider, Ashland Bellefonte Cancer Center, Ashland, KY41101, USA. Email: vkonala@abcc.us.

Abstract: Gastrointestinal (GI) tuberculosis (TB) accounts for 11% of all extra pulmonary TB and is the sixth commonest site for extra pulmonary disease. Possible mechanisms of spread into the GI tract include hematological, ingestion of contaminated milk or food, swallowing infected sputum in a patient with active pulmonary TB, contiguous transcoelomic spread. Ileocecal region is the most commonly affected site of GI TB and can present with obstruction, perforation, ileocecal mass. Free intestinal perforation as an initial manifestation of TB is very rare and commonly occurs in immunosuppressed patient. We present a case of TB manifesting as intestinal perforation in an immunocompetent patient without any prior clinical symptoms. This case highlights the need to consider TB as an important differential diagnosis in patients presenting with intestinal perforation particularly from endemic areas.

Keywords: Ileocecal tuberculosis; Crohn’s disease; gastrointestinal tuberculosis

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Introduction

Tuberculosis (TB) remains a worldwide problem with slight male preponderance (1). TB is an important cause of morbidity and mortality in underdeveloped and developing nations. The incidence of intestinal TB in western countries has increased along with an overall resurgence of TB particularly due to increased migration from endemic areas. Extra pulmonary TB particularly gastrointestinal tract can present with a variety of clinical manifestations with the main differential diagnosis being inflammatory bowel disease and malignancy. Generally, gastrointestinal (GI) TB occurs, in an immunocompromised patient, but can also happen in immunocompetent individuals as well. GI TB accounts for 11% of all extra pulmonary TB involvement (1). Free intestinal perforation is a rare serious complication of intestinal TB and failure to diagnose it in a timely manner

can be associated with high mortality. We report a case of TB presenting as a free intestinal perforation without any prior clinical manifestations in an immunocompetent patient.

Case presentation

A 25-year-old Asian male presented to the emergency department with acute abdominal pain of 2 hours duration. Examination revealed peritoneal signs. A plain upright film of chest demonstrated sub-diaphragmatic free air (*Figure 1*). An emergent laparotomy was performed and a cecal mass with perforation, 3 centimetres from the ileocecal valve was found, with faecal peritonitis. A right hemicolectomy with terminal ileal resection was carried out along with end to end anastomosis and the resected specimen was

sent for further histo-pathological examination. Initial histopathology was reported as Crohn's disease, and acid fast bacilli (AFB) staining was not performed. Post-operative course was complicated with wound infection and enterocutaneous fistula formation and a weight loss of 20 kilograms within a duration of 3 weeks. Patient was managed during this period with IV antibiotics. Further histopathological examination at a tertiary center revealed features, consistent with ileocecal tuberculosis along with positive AFB staining. Anti-tuberculous treatment was initiated with rifampicin, isoniazid, pyrazinamide, ethambutol with pyridoxine supplementation. Within three days of initiation of treatment, fistula started healing

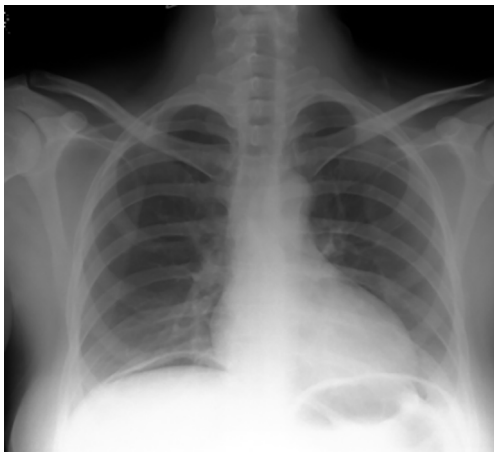


Figure 1 An erect chest X-ray showing free gas under the diaphragm.

and was closed within 10 days.

Discussion

TB is projected to be one of the leading causes of adult mortality by 2020 (2). Global impact of TB is huge, 200 million is estimated to be affected by 2020. Abdominal TB accounts for 5% of the TB patients, with 25% of them having peritoneal involvement (3,4).

The most common site affected by TB is lung. Extra pulmonary sites include lymph nodes, vertebral bodies, adrenal glands, meninges, genitourinary (GU) tract and GI tract. *Mycobacterium tuberculosis* is responsible for majority cases of abdominal tuberculosis (5). Possible mechanisms of spread include hematological, ingestion of contaminated milk or food, swallowing infected sputum in a patient with active pulmonary TB, contiguous transcoelomic spread and through lymphatic channels (6).

The most common symptoms of intestinal TB are abdominal pain, diarrhea, weight loss, anorexia, fever, anemia and lower gastrointestinal bleeding (7). The most common site affected by intestinal TB is the ileocecal region (7). Free perforation is uncommon due to reactive thickening of the peritoneum and the formation of adhesions to the adjacent tissues (8). However, in our case the initial presentation of tuberculosis was with intestinal perforation without any prior clinical manifestations. Crohn's disease is an important differential diagnosis for ileocecal tuberculosis. Differentiating features of crohn's disease from ileocecal tuberculosis is shown in *Table 1* (9-11). Diagnosis should be established early as the treatment differs

Table 1 Differentiating Crohn's disease from ileocecal tuberculosis

Features	Crohn's disease	Ileocecal tuberculosis
Duration of symptoms	Longer	Shorter
Extra intestinal manifestations	More common	Less likely
Skip lesions	Common	Rare
Site of involvement	Ileum more common	Cecum more common
Symptoms	Diarrhea	Fever
Histology	Single, non-caseating microgranulomas	Multiple, large, caseating, submucosal granulomas
Fistula formation	Common	Rare
Ascites	Rare	Can present with ascites
Perianal disease	More common	Rare
CT findings	Mural thickening in active inflammation, eccentric strictures, mesentery hyper vascular, mild lymphadenopathy, possible abscesses	Mural thickening, concentric strictures, mesenteric inflammation no involvement of vessels, hypodense lymph nodes with peripheral enhancement, ascites

significantly and will influence the outcome.

The treatment of choice for intestinal perforation TB is resection of the affected bowel segment followed by an end-to-end anastomosis (12). Anti-tuberculous therapy should be started as soon as possible with a four-drug regimen for 6 to 9 months (13).

In general, anti-tuberculous therapy for abdominal tuberculosis is similar to pulmonary TB. Duration of treatment is a matter of debate—however evidence suggests that 6 months of anti-tuberculous treatment is as good as 9 months (14–16).

High mortality is associated with tuberculous intestinal perforation, with reported figures ranging from 25% to 100% (12). This case highlights the need to consider tuberculosis as an important differential diagnosis in patients presenting with intestinal perforation particularly from endemic areas. Crohn's disease is often an important differential, mistreatment can have significant consequences, prolonging the course of intestinal tuberculosis. Surgical intervention should be considered in complicated cases as soon as possible.

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Footnote

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