CASE REPORT

Colonic Tuberculosis Mimicking Crohn's Disease: A Case Report

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ABSTRACT

Intestinal tuberculosis (TB) presents a diagnostic challenge since its symptoms, imaging, and pathological features frequently resemble those of Crohn's disease (CD) and colon cancer. In 2022, 10.6 million people worldwide contracted tuberculosis, with Southeast Asia and Africa being the most impacted. Extrapulmonary tuberculosis, including abdominal TB, accounts for up to 20% of cases in immunocompetent persons and up to 50% in immunosuppressed patients. Abdominal tuberculosis usually affects the ileocecal region and is difficult to detect it since the symptoms overlap with those of other gastrointestinal disorders. We discuss the case of a 21-year-old male who was suspected to have inflammatory bowel disease with initial diagnostic workup that suggestive of CD. However, Ziehl-Neelsen staining on biopsy specimens confirmed Mycobacterium tuberculosis, resulting in a colonic TB diagnosis. This case underscores the importance of considering intestinal TB in chronic intestinal conditions, particularly in endemic regions.
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Keywords: Tuberculosis, Crohn's disease, Inflammatory bowel disease, Colon, Diagnosis

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INTRODUCTION

In 2022, an estimated 10.6 million people globally were diagnosed with tuberculosis (TB), with Southeast Asia and Africa being the most impacted regions in the world (1). Extrapulmonary TB, including abdominal TB, comprises up to 20% of cases in immunocompetent individuals and up to 50% in immunosuppressed patients. Although data may vary, extrapulmonary tuberculosis (TB) represents roughly 3% to 14% of all TB cases, with intestinal TB accounting for 1% to 3%. Abdominal TB is the sixth most common form of extrapulmonary TB worldwide and is typically secondary to lung dissemination. The ileocecal region is affected in 90% of intestinal TB (ITB) cases (2,3).

Diagnosing intestinal tuberculosis (TB) can be challenging, particularly when there is no active pulmonary infection, due to its symptom overlap with other gastrointestinal conditions and the limited accuracy of diagnostic tests. Intestinal TB may resemble other abdominal diseases, such as infections, inflammatory bowel disease, or malignancies. Crohn's disease (CD) is a chronic, granulomatous, and idiopathic disorder that can affect the entire digestive tract. The clinical presentation and pathology features of colonic TB often mimic those of CD, with both conditions sharing symptoms like weight loss, fever, abdominal pain, bowel obstruction, and diarrhea, along with endoscopic findings such as ulcerations, skip lesions, and terminal ileum involvement (4).

Diagnosing colonic tuberculosis (TB) requires a high level of clinical suspicion, particularly in patients from regions where TB is endemic. Clinicians should carefully consider the patient's background, including any history of gastrointestinal and pulmonary infections, family history of gastrointestinal diseases, and personal contacts with individuals who have had TB. Therefore, ITB should be included in the differential diagnosis of chronic intestinal conditions. Differentiating between colonic tuberculosis (TB) and Crohn's disease (CD) is essential, as suspected TB requires prompt initiation of anti-TB drugs. We present a case of colonic tuberculosis that was initially diagnosed as Crohn's disease.

CASE REPORT

A 21-year-old male presented with constipation and abdominal pain for about nine months. He had no history of cough, joint pains, blood in his stools, or previous TB, and no family history of inflammatory bowel disease or colon cancer.

Physical examination revealed mild tenderness in the right lower quadrant. Initial laboratory tests showed: Hemoglobin 10.0 gm%, WBC 11,200/mm^3, PT 15 s, PTI 93.3%, and INR 1.0. Liver and renal function tests were with normal range.

A chest X-ray showed no significant findings. Colonoscopy showed multiple, different-sized deep mucosal ulcerations with edematous and erythematous mucosa, associated with loss of vascular markings and multiple nodules with polypoid-like lesions in the cecum and ascending colon. A biopsy was taken. Histology slides showed ulcerated colonic mucosa with scattered well-formed granulomas attended by epithelioid histiocytes and multinucleated giant cells.

Ziehl-Neelsen stain showed multiple scattered acid-fast bacilli. The patient was started on anti-TB drugs.

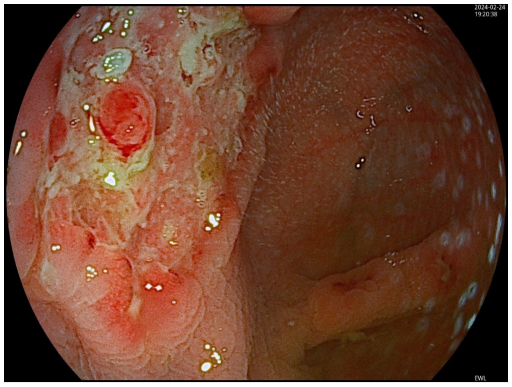

Figure 1: Colonoscopy revealed multiple mucosal ulcerations with edematous and erythematous mucosa in the cecum

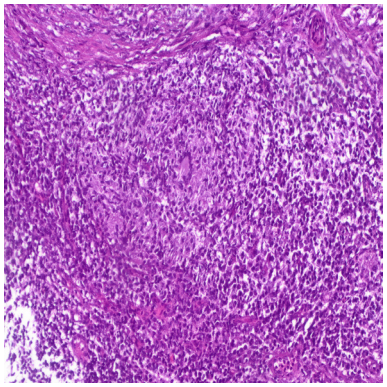

Figure 2: H&E section shows epithelioid granuloma formation with multiple multinucleated giant cells seen.

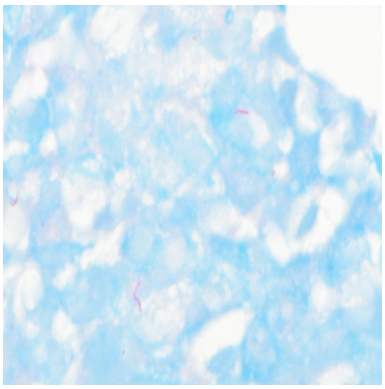

Figure 3: Ziehl-Neelsen stain shows multiple acid-fast bacilli.

DISCUSSION

Colonic tuberculosis can be transmitted through swallowing infected droplets with direct seeding, contiguous spread from neighboring organs, hematogenous spread from active primary pulmonary or miliary tuberculosis, or, in rare cases, consumption of bovine TB-contaminated milk. The disease might manifest as acute, acute on chronic, or chronic and insidious. It might appear as an inflammatory stricture, segmental ulcers and colitis, hypertrophic lesions that resemble polyps or tumours, or, in rare cases, generalised tuberculous colitis (5).

The ileocecal region is the most often involved location in colonic tuberculosis (3). The tubercle bacillus' preference for lymphoid tissue and areas of physiologic stasis allows it to stay in contact with the mucosa for longer periods of time. Other parts of the colon are typically affected in segmental colitis, which affects the ascending and transverse colons.

Colonic tuberculosis is more common in endemic places or in immunocompromised states, whereas CD is diagnosed based on a history of younger age, ulceration, and perianal lesion. Common symptoms for both conditions include abdominal pain, weight loss and fever (2).

Diagnosis is challenging because large bowel tuberculosis lacks specific clinical symptoms, and only 25% of patients have chest radiographs showing signs of current or past pulmonary infection. The clinical, radiological, and endoscopic features are often mistaken for neoplasms or Crohn's disease (CD), and less commonly for parasitic or bacterial infections like amoeboma or Yersinia infection (5).

Colonoscopy and biopsy are the preferred diagnostic methods. Differentiating between tuberculosis and Crohn's disease (CD) during colonoscopy can be

difficult, as both conditions may present with similar features such as mucosal ulcerations, nodularity, edematous folds, aphthous ulcers, strictures, and pseudopolyps with luminal narrowing. In addition to standard histopathological examinations for caseating granulomas, Slides should be stained using the Ziehl-Neelsen stain to screen for acid-fast bacilli and biopsies should be cultured. Since granulomas are often located in the submucosa, biopsies should be taken from the ulcer margins (4).

CONCLUSION

Colonic tuberculosis and Crohn's disease can be difficult to distinguish since their features can overlap greatly. A high level of suspicion is required for the early detection of intestinal TB. It is necessary to evaluate colonic tuberculosis in ambiguous situations, as described above. It is critical to make an accurate diagnosis in such circumstances, especially given that steroid use will worsen tuberculosis.

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