

Differential Diagnosis for Intestinal Tuberculosis in Elder Patient – Case Report

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Abstract

Keywords

- ▶ intestinal tuberculosis
- ▶ inflammatory bowel disease
- ▶ colectomy

Introduction Intestinal tuberculosis (ITB) presents with clinical features that often mimic malignant or inflammatory diseases. Diagnosis is established through a combination of endoscopic, radiological, and pathological findings.

Case A 76-year-old woman presented with acute, diffuse abdominal pain. Computed tomography (CT) of the abdomen revealed subocclusion due to wall thickening at the ileocecal transition. A colonoscopy biopsy showed ulcerated granulomatous lesions, with negative results for AFB. Enterography suggested the possibility of a neoplastic disease. Due to the subocclusion, the patient underwent a segmental right ileocelectomy and ileocolostomy with a double-barrel stoma. Histopathological analysis of the resected specimen, including frozen section examination, confirmed ITB.

Conclusion The diagnosis of ITB is challenging due to its clinical, endoscopic, radiologic, and histopathologic features, which overlap with neoplasms and inflammatory bowel disease. Therefore, establishing an appropriate therapeutic approach requires the integration of multiple diagnostic findings.

Introduction

Intestinal tuberculosis (ITB) is a disease with low prevalence, accounting for only 0.5% of tuberculosis (TB) cases recorded in Brazil during the 2010s.¹ Despite the reduction in reported new TB cases during the COVID-19 pandemic, official Brazilian epidemiological data describe a common socioeconomic profile. The highest incidence is observed among low-income men who self-identify as Black, Brown, or Indigenous.² The most susceptible groups include the incarcerated population, the homeless, immigrants, Indigenous peoples, and healthcare professionals.²

ITB is a gastrointestinal disease that is challenging to diagnose and is associated with high morbidity and mortality. This difficulty arises from its asymptomatic nature or the presence of nonspecific symptoms (e.g., abdominal pain, weight loss, fever), mimicking malignant or inflammatory diseases. Currently, diagnosis relies on a combination of clinical, endoscopic, radiological, and pathological findings. A high index of suspicion should always be confirmed by identifying caseating granulomas in biopsies and testing for acid-fast bacilli (AFB).²

Frequent endoscopic findings in ITB include inflamed ulcers adjacent to the mucosa, predominantly in the ileocecal

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region. Abdominal computed tomography (CT) may reveal wall thickening, lymphadenopathy with central necrosis, intraabdominal collections, and peritonitis. Subocclusion or obstruction may also be present, mimicking neoplastic tumors.³⁻⁵ Additionally, histopathological analysis may show granulomatous inflammatory processes or architectural changes, which can overlap with both inflammatory bowel disease (IBD) and ITB.⁶ Occasionally, empirical tuberculosis treatment may be necessary when a definitive etiological differentiation is not possible. In such situations, follow-up with colonoscopy is recommended; however, this approach is costly and carries potential iatrogenic risks. Therefore, distinguishing ITB from other conditions is crucial for appropriate therapeutic planning.^{3,7}

Case Presentation

A 76-year-old female patient, a former Healthcare professional, was admitted to the emergency room with abdominal pain for four days, associated with abdominal distension, nausea, vomiting episodes and hyporexia, with preserved intestinal functions. She denied allergies and harmful habits, reported no relevant comorbidities and surgical history of cesarean delivery and hysterectomy.

At admission, bowel sounds were present, the abdomen was globose and diffusely tender on superficial and deep palpation, without pain on sudden decompression or palpable masses. Percussion revealed diffuse tympany. Giordano's sign was not present. There were no significant changes in other systems.

A computed tomography scan of the abdomen revealed mild distension and thickening of the ileal wall, especially in the distal ileum and ileocecal transition, with contrast enhancement and luminal narrowing. Additional findings included: engorgement of mesenteric vascularization, prominence of regional mesenteric lymph nodes, densification of adjacent adipose tissue, and small amount of free fluid adjacent to the affected ileal loops (►Fig. 1). The other abdominal organs were in the usual positions and displayed age-appropriate changes. These findings were nonspecific indicators of intestinal infection or inflammation, requiring further investigation with colonoscopy and additional radiological tests.

Colonoscopy revealed poor visualization conditions due to thick, opaque fluid and non-aspirable fecal residues in colonic segments. The device was advanced to the cecum, where a deformed ileocecal valve with swollen, irregular and friable mucosa were observed, impassable to the endoscope. A biopsy of the ileocecal valve was performed, and histopathological analysis showed acute granulomatous ulcerated colitis with foci of cryptitis and crypt abscesses. The granulomas were non-necrotizing epithelioid with Langhans-like giant cells (►Fig. 2). Tests for AFB and fungi were negative. The carcinoembryonic antigen (CEA 125) level was 1.53 U/mL. Given the clinical presentation and ancillary test results, an etiological diagnosis could not be definitively established. However, the intestinal subocclusion indicated the need for surgical intervention (►Fig. 1).



Fig. 1 Bowel obstruction on CT (yellow arrow).

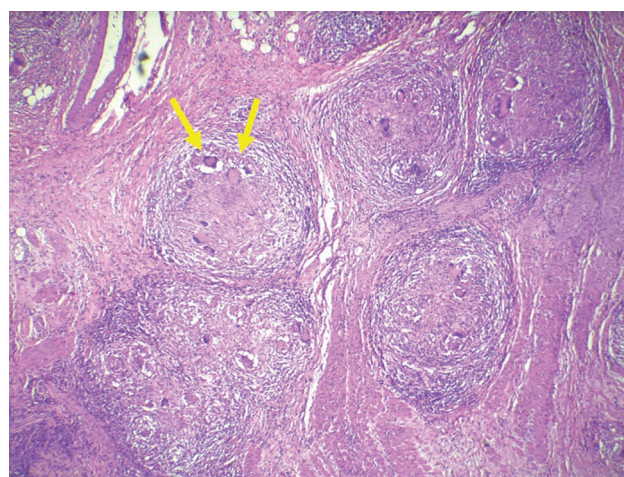


Fig. 2 Non-necrotizing granulomas-giant Langhans-like cells (yellow arrow).

The patient underwent general anesthesia combined with epidural administration and horizontal supine position. A laparotomy was performed to access the abdominal cavity. Exploration of the abdominal cavity revealed no inadvertent injuries or liver/spleen damage. Three tumors were observed: one in the cecum and two in the ileum, located 50 cm and 60 cm from the ileocecal valve. Additionally, numerous minor peritoneal changes were noted, raising suspicion of carcinomatosis or tuberculosis implants (►Fig. 3). No other palpable lesions were found in the small intestine or colon.

A segmental right ileocelectomy with ileocolostomy was performed using a double-barrel stoma. Hemostasis was reviewed, and the abdominal wall and skin were closed. The procedure was completed without complications.

Intraoperatively, the resected specimen and peritoneal implants were submitted to histopathological analysis, including cryosection biopsy. The Ziehl-Neelsen stain result was positive, confirming the diagnosis of intestinal tuberculosis (►Figs. 4 and 5).

During the postoperative period, the patient had no abdominal pain or episodes of diarrhea, and remained



Fig. 3 Tuberculosis implant (Archives of Discipline of Coloproctology-Santa Casa de Sao Paulo).

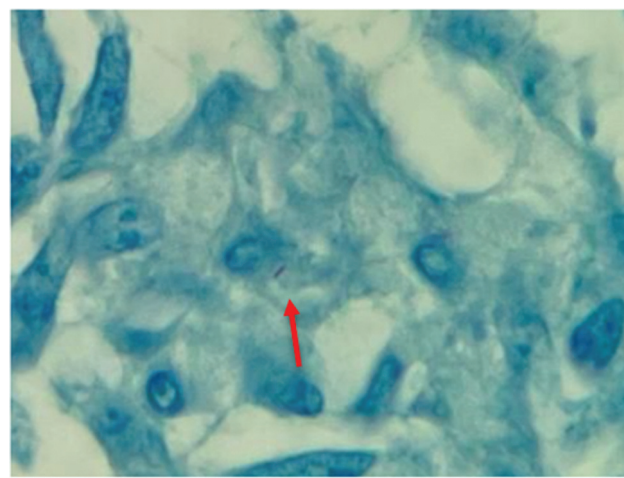


Fig. 5 Ziehl-Neelsen stain results positive evidencing mycobacteria (red arrow).

hemodynamically stable. The colostomy was functional, and the surgical wound was healing well, with no inflammatory signs.

The patient started the medication regimen for the treatment of ITB and continues to be followed up with for hepatotoxicity surveillance and monitoring of clinical evolution.

Discussion

The main hypotheses proposed for this case were bowel neoplasia, ITB, and IBD. Colon cancer is the third most common malignant neoplasm worldwide and the second leading cause of cancer-related death. Its incidence increases with age, being more common after the age of fifty.⁶ Also, small bowel cancer is most commonly diagnosed between the fifth and sixth decade of life, but its incidence is rare – 3% to 5% of cases of gastrointestinal tract neoplasms in the U.S. In general, the most prevalent malignant subtypes in order of frequency are adenocarcinoma, neuroendocrine tumor, and intestinal lymphoma. The most prevalent benign tumors in this group are

adenomas.⁸ However, some subtypes have more common localizations in specific parts of the intestine. Adenocarcinomas are more commonly found in colon and duodenal portion, while neuroendocrine tumors are typically found in the ileal portion.^{8,9} The clinical picture may include abdominal pain, gastrointestinal tract bleeding (such as melena), and blood in the stool, which are not specific symptoms, and may be confused with other etiologies.

Furthermore, ITB has a very low prevalence, and healthcare professionals are considered a susceptible group. IBD, on the other hand, is more prevalent among the age group of 15 to 30 years.

Among the risk factors for developing bowel cancer, inflammatory bowel diseases do not increase susceptibility, but some studies show that Crohn's disease may be linked to an increased risk of developing adenocarcinoma.^{10,11}

In this case, the patient's profile increased the suspicion of cancer and ITB. During the investigation, the colonoscopy results were not sufficient to rule out or confirm the suspicions, and the negative AFB result does not exclude ITB due to the low sensitivity of the method. The computed tomography showed ileocecal subocclusion, so surgical intervention was indicated, even though the findings did not confirm the infectious or neoplastic etiology. After the Histopathological analysis of the resected material, ITB with positive AFB was confirmed. Therefore, the patient was started on specific antibiotic therapy for tuberculosis and continues to be followed up.

Conclusion

ITB overlaps with Colon cancer and IBD; it can be asymptomatic or present with nonspecific symptoms (abdominal pain, weight loss, fever). Correct differentiation between these three conditions is essential for proper follow-up.

Despite its very low prevalence, the diagnosis of ITB is complex and requires a combination of clinical, endoscopic, radiological, and pathological findings. Identification of caseating granulomas in biopsies and a positive result for AFB are essential for confirmation.

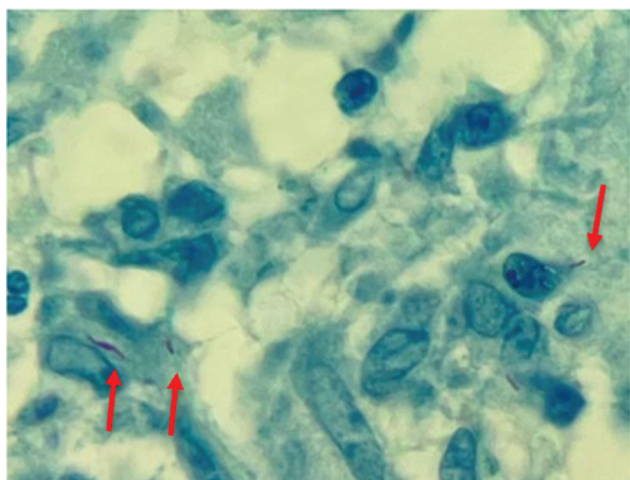


Fig. 4 Ziehl-Neelsen stain results positive evidencing mycobacteria (red arrow).

The most frequent findings of ITB include areas of ulceration and inflammation of the adjacent mucosa, predominantly in the ileocecal region, as observed in endoscopy. In computed tomography, findings may include wall thickening, adenopathy with necrotic centers, intra-abdominal collections, and peritonitis, possibly leading to subocclusion or obstructions. Histopathological analysis often shows granulomatous inflammatory lesions or architectural alterations. When the differential diagnosis cannot be confirmed, empirical treatment for tuberculosis should be initiated, and follow-up should be conducted with colonoscopy.

Authors' Contribution

Thaís Tuasca Jareño: conceptualization, investigation, formal analysis, data curation, writing – original draft, writing – review & editing; Bruno Salgueiro Russo: investigation, formal analysis, data curation, writing – review & editing; visualization; Lucas Moreto Betini: conceptualization, investigation, formal analysis, data curation, project administration, writing – original draft, writing – review & editing; Isadora Pêso: resources; writing – review & editing; Vitória Giordano: data curation, writing – review & editing; Fang Chia Bin: conceptualization, investigation, formal analysis, data curation, project administration, supervision, writing – original draft, writing – review & editing.

Conflict of Interest

None.

References

- dos Santos GM, Carrijo AMM, Paulinelli AJC, Queiroz Gde A, e Silva LdeLC, de Oliveira SV. Hospitalizações por tuberculose na Região
- Sudeste: uma análise epidemiológica. *Rev Med (São Paulo)* 2023; 102(02 Available from <https://www.revistas.usp.br/revistadc/article/download/197288/192660/616125> cited 2023 Oct 9 [Internet]
- Boletim Epidemiológico de Tuberculose – Número Especial | Mar.2023 -Ministério da Saúde [Internet]. www.gov.br. Available from: <https://www.gov.br/saude/pt-br/centrais-de-conteudo/publicacoes/boletins/epidemiologicos/especiais/2023/boletim-epidemiologico-de-tuberculose-numero-especial-mar.2023/view>
- Suárez-Noya A, González-Bernardo O, Riera-Velasco JR, Suárez A. Intestinal tuberculosis mimicking colon cancer. *Rev Gastroenterol Mex (Engl Ed)* 2023;88(02):183–186
- Merino Gallego E, Gallardo Sánchez F, Gallego Rojo FJ. Intestinal tuberculosis and Crohn's disease: the importance and difficulty of a differential diagnosis. *Rev Esp Enferm Dig* 2018;110(10): 650–657
- Weinberg SE, Mughal AM. A Case of Intestinal Tuberculosis Mimicking Crohn's Disease: A Clinical and Diagnostic Dilemma. *Eur J Case Rep Intern Med* 2021;8(11):002699<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8668007/> cited 2022Mar10 [Internet]
- Siegel RL, Miller KD, Jemal A. Cancer statistics, 2020. *CA Cancer J Clin* 2020;70(01):7–30
- Seth R, Gupta P, Debi U, Prasad KK, Singh H, Sharma V. Perfusion Computed Tomography May Help in Discriminating Gastrointestinal Tuberculosis and Crohn's Disease. *Diagnostics (Basel)* 2023; 13(07):1255–5
- Ocasio Quinones GA, Khan Suheb MZ, Woolf A. Small Bowel Cancer [Internet]. *PubMed. Treasure Island (FL): StatPearls Publishing*; 2022. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK560725/>
- Bilimoria KY, Bentrem DJ, Wayne JD, Ko CY, Bennett CL, Talamonti MS. Small bowel cancer in the United States: changes in epidemiology, treatment, and survival over the last 20 years. *Ann Surg* 2009; 249(01):63–71
- Cahill C, Gordon PH, Petrucci A, Boutros M. Small bowel adenocarcinoma and Crohn's disease: any further ahead than 50 years ago? *World J Gastroenterol* 2014;20(33):11486–11495
- Annese V. Small Bowel Adenocarcinoma in Crohn's Disease: An Underestimated Risk? *J Crohns Colitis* 2020;14(03):285–286