Case Report

Granulomatous Proctitis Mimicking Rectal Carcinoma: A Case of Isolated Rectal Tuberculosis in a Young Female

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Abstract

Rectal tuberculosis (TB) is a rare manifestation of extrapulmonary tuberculosis (TB), and it can clinically and endoscopically mimic malignancy. We are here reporting the case of a 22-year-old female who presented with rectal bleeding, altered bowel habits, and systemic symptoms. Initial colonoscopic findings suggested rectal carcinoma, but histopathology confirmed the diagnosis of tuberculosis. The patient was treated successfully with anti-tubercular therapy (ATT), leading to complete symptomatic and endoscopic resolution. A high index of suspicion in endemic regions and early recognition of such atypical manifestations is crucial to prevent unnecessary interventions and to initiate appropriate therapy

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Introduction:

Gastrointestinal tuberculosis is an uncommon presentation of gastrointestinal *Mycobacterium tuberculosis* infection. The rectal involvement is particularly the rarest. Nonspecific clinical presentation of Gastrointestinal TB can mimic malignancies, leading to diagnostic dilemmas.[1,2] That's why a high index of suspicion, early recognition, and appropriate management are crucial for favorable outcomes.

Case Presentation:

A 22-year-old female presented with a 6-month history of intermittent per-rectal bleeding along with occasional nocturnal urgency to defecate, which disrupted her sleep. Associated symptoms included mild unintended weight loss, malaise, and a continuous low-grade feverish feeling. There was no significant past medical history. She also denied any prior pulmonary symptoms or contact with tuberculosis patients. Physical examination was unremarkable except for significant pallor.

Laboratory investigations revealed moderately low hemoglobin and an elevated erythrocyte sedimentation rate (ESR). HIV testing was negative.

A colonoscopy was performed, which revealed an ulceroproliferative friable growth with contact bleeding in the rectum, raising suspicion for rectal carcinoma. The initial biopsy from the lesion demonstrated granulation tissue with fibrinopurulent exudate, which contains mixed acute and chronic inflammatory cells but no evidence of malignancy.

A repeat colonoscopic biopsy was conducted, which showed granulomatous inflammation with chronic inflammatory cells, consistent with tuberculosis. Acid-fast bacilli (AFB) staining was inconclusive, but clinical and histological characteristics favored a diagnosis of rectal tuberculosis. The patient was started on standard 4 drugs (isoniazid, rifampicin, pyrazinamide, ethambutol) anti-tubercular therapy. Over the following months, her symptoms gradually improved. Rectal bleeding stopped, nocturnal urgency resolved, and her general well-being improved.

After three months of treatment, a follow-up sigmoidoscopy revealed resolution of the growth with no residual lesion

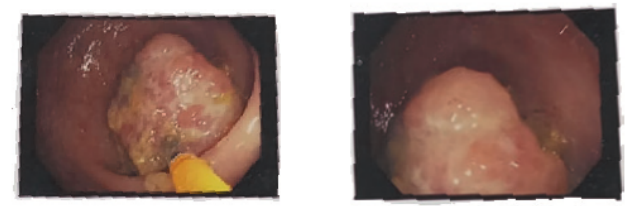

Figure I: Initial colonoscopic image showing an ulceroproliferative growth in the rectum with mucosal irregularity and friability, initially suggestive of rectal carcinoma.

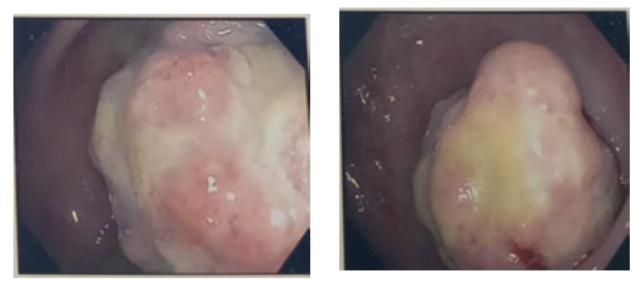

Figure II: Repeat colonoscopy showing persistent rectal lesion with similar morphology.

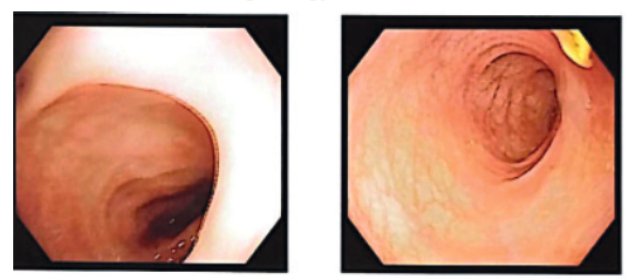

Figure III: Follow-up sigmoidoscopy after 3 months of anti-tubercular therapy demonstrating complete mucosal healing with no residual lesion.

Discussion:

Rectal tuberculosis is an uncommon but important differential diagnosis for isolated rectal masses, especially in young individuals from TB-endemic areas.[1,3] The clinical presentation of both diseases can closely mimic, leading to potential misdiagnosis and unnecessary interventions.

In addition to the nonspecific nature of the symptoms and the submucosal location of lesions, it often makes the diagnosis more challenging and lowers the diagnostic yield from endoscopic biopsies.[2,4] In our case, the initial biopsy was inconclusive, emphasizing the importance of repeat biopsies and thorough histopathological evaluation. Histopathological confirmation remains the gold standard for diagnosis, with granulomas and caseation being hallmark features.

Gastrointestinal tuberculosis can involve any part of the digestive tract, with the ileocecal junction being the most common. Isolated involvement of the rectum is rareand might be due to direct extension or hematogenous spread. The symptoms are usually nonspecific in nature and include, but are not limited to, abdominal fullness, nighttime urge to defecate, per rectal gross or occult bleeding, and other systemic features like fever and weight loss.[5]

Anti-tubercular drugs remain the mainstay of therapy. Our patient's dramatic clinical and endoscopic response to anti-tubercular drugs further confirms the diagnosis and highlights the significance of considering tuberculosis in the differential diagnosis of rectal lesions.

A careful follow-up with repeat colonoscopic evaluation is recommended to assess mucosal healing and to exclude any residual pathology.

Acknowledgement:

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Conclusion:

Rectal tuberculosis, though rare, should be included in the differential diagnosis for rectal bleeding with mass lesions, particularly in previously healthy young patients from endemic regions where TB is common. A high index of suspicion, appropriate biopsy, and histopathology are essential for timely diagnosis and cure. This case showed repeat biopsies are often needed to ensure accurate diagnosis. This case highlights the potential for TB to mimic rectal cancer and the importance of considering it as in atypical presentations.

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