

Asymptomatic Colonic Tuberculosis in an Immunocompetent Patient

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Rec date: Oct 10, 2015, Acc date: Oct 20, 2015, Pub date: Oct 28, 2015

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Abstract

We present a case of a woman found to have features concerning for tuberculosis on a screening colonoscopy. Colonic tuberculosis presents with diverse clinical manifestations and resembles other clinical disorders, making its diagnosis challenging. It is imperative to know the classic risk factors and features that define this disease, as empiric treatment is often needed.

Keywords: Tuberculosis; Colonic tuberculosis

Introduction

Although tuberculosis (TB) is still rare in the United States, given recent globalization with increased cross-continental transition of people, gastrointestinal tuberculosis (TB) is an important disease for healthcare providers to be aware of [1]. Colonic TB presents with diverse clinical manifestations and mimics other clinical disorders, particularly Crohn's colitis and malignancy, making its diagnosis challenging. Our current laboratory studies and imaging techniques have limited accuracy. Therefore, investigation of risk factors for TB, as well as for endoscopic and histological features, is essential. Misdiagnosis of this disease could have unfortunate consequences, given that Crohn's disease, for instance, is often managed with immunosuppressive therapy. We present a unique case of an immunocompetent patient that required the collaborative work of gastroenterology, infectious disease, and pathology experts to successfully diagnose and treat our patient.

Case Report

We present a female nurse with history of hypothyroidism who underwent her first average risk screening colonoscopy at the age of fifty-one. She was born in the Philippines and moved to the USA at age thirty-one. She denied nausea, abdominal pain, diarrhea, constipation, rectal bleeding, fever, chills, and weight loss. During colonoscopy, a colonic circumferential stricture with erosions was noted in the ascending colon (Figure 1). Multiple biopsies were obtained and pathology showed moderate to severe active colitis with multiple confluent necrotizing and non-necrotizing granulomas without features of chronic mucosal injury (Figures 2 and 3). Samples were negative for *Mycobacterium tuberculosis* complex polymerase chain reaction (MTB-PCR) and the smear was negative for acid-fast bacilli (AFB). The patient did, however test positive for MTB-Quantiferon-Gold. Chest x-ray showed no abnormalities. In light of her professional background as a nurse and her emigration from the Philippines, the suspicion of colonic tuberculosis was high and consequently, she was started on standard four drug therapy with isoniazid, rifampin, ethambutol, and pyrazinamide. After one month, this was simplified to

isoniazid and rifampin, which she took for three months only, due to peripheral neuropathy despite daily pyridoxine 100mg daily. Repeat colonoscopy one month later revealed complete resolution of the colonic stricture with biopsies showing no residual granulomas (Figure 4).

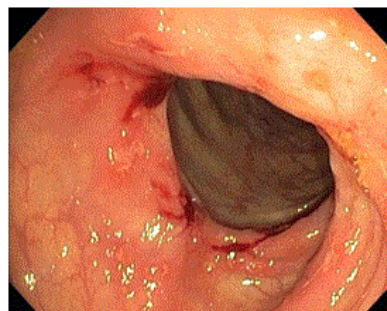


Figure 1: Stricture with erosions in the ascending colon.

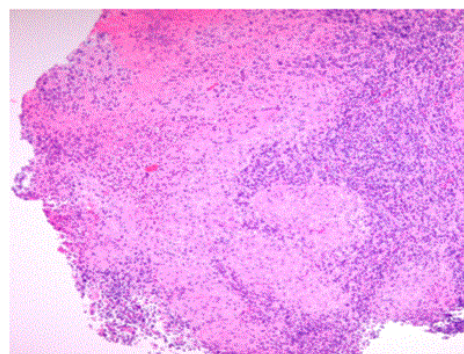


Figure 2: Non-necrotizing granulomas.

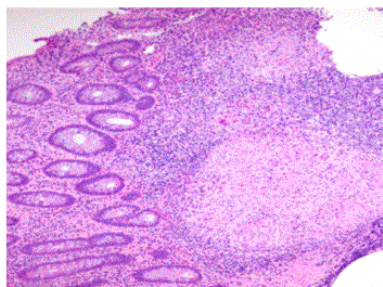


Figure 3: Necrotizing granuloma.

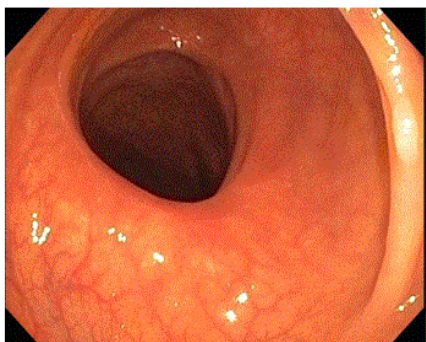


Figure 4: Normal mucosa post treatment.

Discussion

Colonic TB is emerging in the United States due to increasing Western immigration [1]. Patients can present with nonspecific symptoms such as fevers, weight loss, anorexia, and abdominal pain or, as in our case, patients may remain asymptomatic [2]. Regardless of the presenting symptoms, it is imperative that providers are able to recognize the pertinent endoscopic features as well as important risk factors to make the correct diagnosis. Intestinal TB can easily be misdiagnosed as inflammatory bowel disease, ischemic colitis, infectious colitis or colon cancer [3].

Evidence supporting intestinal TB in our patient included clinical aspects of her case, including her immigration status. Although there has been a decrease in the total number of reported cases of tuberculosis in United States, cases of TB in foreign-born individuals continues to rise [4]. A pertinent laboratory value in our patient's case was having a positive Quantiferon Gold (QFT-G). The sensitivity of QFT-G for detecting MTB infections is approximately 80% in published studies, although the specific use of this test in intestinal tuberculosis has not been well studied [5,6]. Our patient also had an occupational risk factor working as a health care provider, making her at an increased risk of becoming infected with TB.

Most clinicians feel that colonoscopy with biopsies is the most important element of the evaluation [7]. The majority of studies have shown that the presence of granulomas, especially necrotizing granulomas as seen in our patient, is commonly seen in tuberculosis. Granulomas, also occur in Crohn's disease, but are usually infrequent, non-necrotizing, and small [8]. Although our patient's biopsies were negative for acid-fast bacilli staining and MTB complex PCR, they are important components of the evaluation. Acid fast bacilli staining of biopsy specimens has been shown to be positive in 30-60% of intestinal TB cases [9]. Given the length of time needed for culture, polymerase chain reaction (PCR) has become the more common diagnostic test with sensitivity and specificity reported around 75% and 85-95% respectively [3,10].

In conclusion, a high degree of suspicion is required for a timely diagnosis of intestinal TB. Studies show these patients have a high variability of symptoms, making evaluation of endoscopic features and risk factors important components of the investigation. Intestinal tuberculosis should be considered in the differential diagnosis, especially when physicians are considering giving immunosuppressant medications. We present this case to show that if the suspicion for intestinal TB is high enough, a therapeutic trial with antitubercular drugs should be considered.

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This article was originally published in a special issue, entitled: "**Inflammatory Bowel Disease**", Edited by Lukas Milan, IBD Clinical and Research Centre, Czech Republic