CLINICAL VIGNETTE

Asymptomatic Colonic Tuberculosis in an Immunocompetent Patient

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Introduction

Although gastrointestinal tuberculosis (TB) is rare in the United States with increased cross-continental transition of people, healthcare providers should be aware of clinical features.[1] Colonic TB presents with diverse manifestations and mimics other clinical disorders, particularly Crohn's colitis and malignancy, making diagnosis challenging. Current laboratory studies and imaging have limited accuracy. Therefore, understanding risk factors for TB, as well as endoscopic and histological features, is essential. Misdiagnosis could have unfortunate consequences, especially if immunosuppressive therapy is initiated. We present a case of an immunocompetent patient that required the collaborative work of gastroenterology, infectious disease, and pathology to successfully diagnose and treat.

Case Report

A female nurse with history of hypothyroidism underwent her first average risk screening colonoscopy at the age of fifty-one. She was born in the Philippines and moved to the United States 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 showed moderate to severe active colitis with multiple confluent necrotizing and non-necrotizing granulomas without features of chronic mucosal injury (Figures 2 and 3). Mycobacterium tuberculosis complex polymerase chain reaction (MTB-PCR) was negative, and the smear was negative for acid-fast bacilli (AFB). However, MTB-Quantiferon-Gold was positive. Chest x-ray showed no abnormalities.

Because of her nursing background and her emigration from the Philippines, the suspicion of colonic tuberculosis was high, and 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. Repeat colonoscopy one month later revealed complete resolution of the colonic stricture with biopsies showing no residual granulomas (Figure 4).

Discussion

Colonic TB is emerging in the United States due to increasing immigration.[1] Patients can present with nonspecific symptoms such as fevers, weight loss, anorexia, and abdominal pain or, as in our case, may remain asymptomatic.[2] Regardless of the presenting symptoms, it is important to recognize the pertinent endoscopic features, as well as 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]

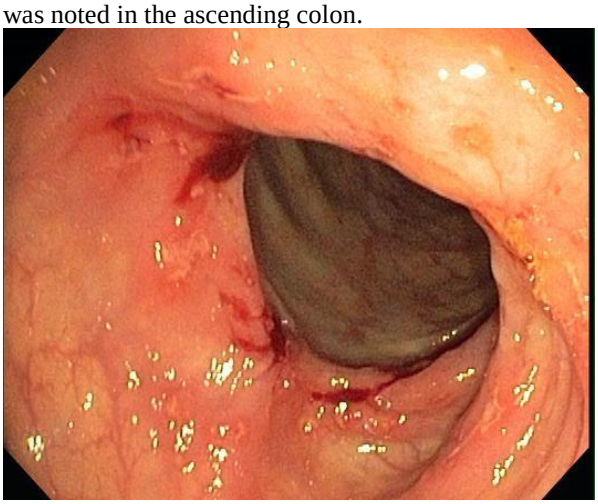
Evidence supporting intestinal TB in our patient included her immigrant status and endoscopic findings. Although there has been a decrease in the total cases of tuberculosis in United States, cases of TB in foreign-born individuals continues to rise.[4] The positive Quantiferon Gold (QFT-G) test was key to diagnosis. Sensitivity of QFT-G for detecting MTB infections is approximately 80%, although the specific use of this test in intestinal tuberculosis has not been well reported.[5,6] Our patient also had an occupational risk factor working as a health care provider.

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, these tests are important components of the evaluation. Acid fast bacilli staining of biopsy specimens is 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 of 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.

Figures

Figure 1. A colonic circumferential stricture with erosions was noted in the ascending colon.



Figures 2-3. Multiple biopsies showed moderate to severe active colitis with multiple confluent necrotizing and non-necrotizing granulomas without features of chronic mucosal injury

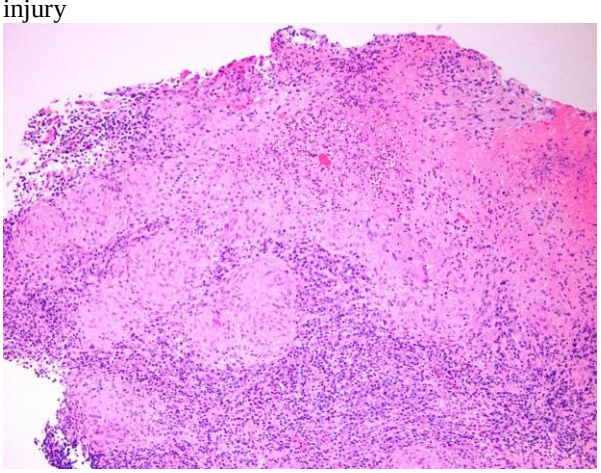


Figure 3.

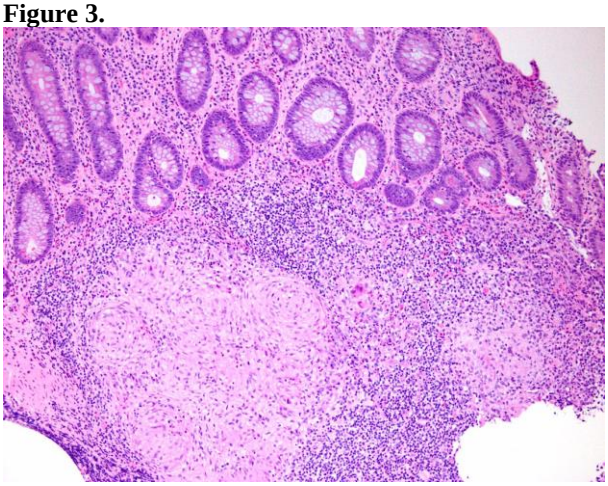
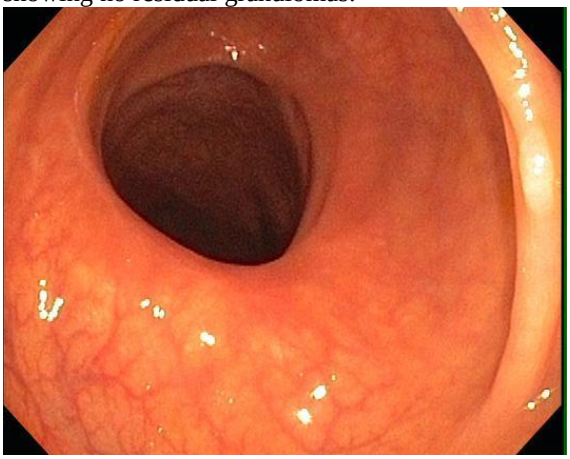


Figure 4. Repeat colonoscopy one month later revealed complete resolution of the colonic stricture with biopsies showing no residual granulomas.



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