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Case Report

Massive gastrointestinal bleeding as a clinical manifestation of miliary tuberculosis

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ABSTRACT

Tuberculosis is still a public health problem today and can have acute and chronic manifestations challenging clinics for various medical specialties. Because it's a disease of multisystem potential, it is often overlooked when outside the respiratory clinical context. As a result, a clinical case report was carried out at the Hospital de Clínicas de Porto Alegre, in 2020, of a patient with voluminous gastrointestinal bleeding as severe acute clinical manifestation of Miliary and Intestinal Tuberculosis. Due to the potential severity of undiagnosed and untreated tuberculosis, high suspicion is suggested at all levels of health systems (whether public or private) with a view to early diagnosis, treatment and prevention of complications resulting from the disease.

Keywords: *Miliary tuberculosis; Gastrointestinal bleeding; Gastrointestinal Tuberculosis*

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INTRODUCTION

Mycobacterium tuberculosis has the human host as its only natural reservoir. The body's ability to retain latent infection has caused it to spread to nearly 25% of the world's population [7]. According to the World Health Organization (2021 report), an estimated 9.9 million new cases of tuberculosis (TB) and 1.3 million deaths among people without human immunodeficiency virus (HIV) infection have been reported in all over the world [8]

Even today there is little understanding of the progression of latent tuberculosis to tuberculosis disease and considering the magnitude of the problem and the emergence of strains resistant to conventional treatments, it is necessary to have a better understanding of the pathophysiology of the disease, as well as the development of a effective vaccine and new treatments.

CASE REPORT

Male patient, 73 years old, with a history of Rheumatoid Arthritis, Hypertension, Smoking, Chronic Kidney Disease, Peripheral Obstructive Artery Disease, Coronary Artery Disease, Heart Failure and Stroke. History of hospitalization in 2017 for anemia, in which Colonoscopy was performed, which demonstrated pandiverticulosis and lateral spreading lesion in the rectum, which was removed by mucosectomy (Villotubular Adenoma with low-grade dysplasia). Aspirin and Prednisone user. He came to the emergency room with complaints of dyspnea, myalgia, fever and weight loss that had started in the last week. The exams showed a mild anemia, leukocytosis with neutrophilia, a significant increase in C-Reactive Protein and a negative SarsCov-2 test. Chest Computed Tomography demonstrated miliary dissemination, presumably granulomatous infectious (Figure 1). The patient developed episodes of gastrointestinal bleeding with a progressive fall in hemoglobin and hypotension. A colonoscopy was performed, which showed deep and extensive ileal ulcers, with bleeding, interspersed with normal-appearing mucosa (Figure 2). Diverticula were observed in all colonic segments examined, with no signs of bleeding. Pathological examination revealed chronic and acute

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ulcerated ileitis, with granuloma, without necrosis. Acid-fast bacilli (AFB) test was positive. The patient developed new digestive bleeding with refractory hypotension, was admitted to the Intensive Care Unit and died despite invasive therapies such as the use of vasoactive drugs and orotracheal intubation.

Figure 1: Chest Computed Tomography with pulmonary micronodules predominating in the middle and upper thirds, with miliary pattern, suggesting hematogenous dissemination.

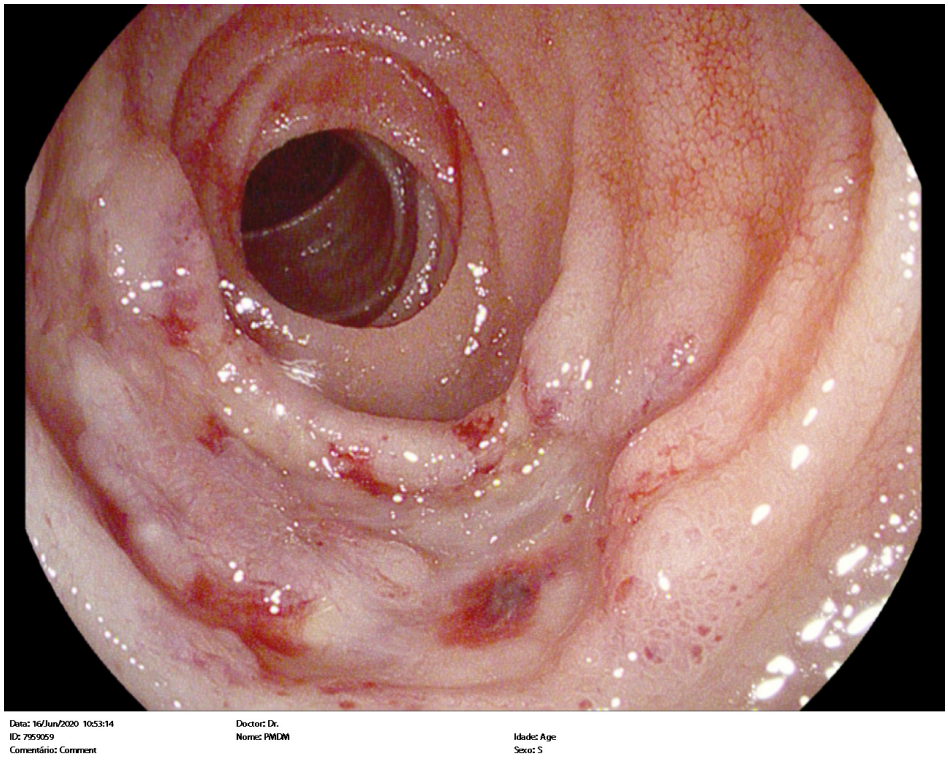

Figure 2: Colonoscopy demonstrating deep and extensive ileal ulcers, with bleeding, interspersed with normal-appearing mucosa. Pathological examination revealed ulcerated chronic and acute ileitis, with granuloma, without necrosis. AFB test was positive.

DISCUSSION

Tuberculosis is a multisystem infectious disease caused by the bacillus Mycobacterium tuberculosis, which can affect the gastrointestinal tract (GIT), lymph nodes and other solid organs. The TGI involvement is around 1 to 3% of cases. Intestinal tuberculosis presents endoscopically with involvement of the ileocecal valve in most patients (85%)[1]. The histological detection of granulomas has approximately 80% specificity and accuracy in around 50%. Abdominal pain, diarrhea, weight loss and fever are the most common symptoms. Lower gastrointestinal bleeding occurs in 5 to 15% of patients, with voluminous enterorrhagia being extremely rare[2].

Cirrhosis, HIV infection, diabetes, malignancies, malnutrition, use of anti-TNF tumor necrosis), use of steroids and peritoneal dialysis are risk factors described. The transmission mode is direct penetration of the intestinal mucosa by ingested organisms (sputum or contaminated food), but there may be reactivation of latent TB in patients previously exposed to the bacillus[2].

Anemia and increased erythrocyte sedimentation rate may occur in 50 to 80% of cases. The leukogram is usually normal. In gastrointestinal involvement, the ileum and cecum are affected in 75% of cases. (ulcerative form) The typical histological lesion of the disease is granuloma (50-80%), which is commonly caseus. Acid-fast bacilli is usually positive in 20% of cases and PCR (polymerase chain reaction) research is more sensitive, hovering around 65%[3]. Complications include hemorrhage, perforation, obstruction, fistula, malabsorption. Drilling is uncommon, but can occur during treatment. Intestinal obstruction is more common and results from stenotic segmental disease.

Imaging tests may reveal ileocecal valve thickening, asymmetric thickening bowel and massive lymphadenopathy with central necrosis[4]. Crohn's disease can manifest virtually all changes of intestinal TB except for the presence of the organism. Some characteristic findings of tuberculosis, which may help in the differential diagnosis, are: ileocecal-centered inflammatory mass, transverse/circumferential rather than linear ulcers (which are typical of Crohn's), incompetent ileocecal valve, Stierling's sign (conification of the cecum), large, hypodense (necrotic/caseating) mesenteric lymph nodes[5]. Some infections can mimic tuberculosis, such as yersiniosis, histoplasmosis, actinomycosis, schistosomiasis, amoebiasis, syphilis and lymphogranuloma. The notification of the disease in Brazil is mandatory and the treatment is generally similar to that of Pulmonary Tuberculosis. The clinical response can already be seen in two weeks of treatment[6].

In the case reported, the patient sought care for respiratory and constitutional symptoms, initially not raising the suspicion of active gastrointestinal disease. However, as the respiratory condition was being elucidated, there was a severe gastrointestinal clinical manifestation (voluminous gastrointestinal bleeding), which allowed the etiological diagnosis. The patient in question had several risk factors and predictors of severity for gastrointestinal bleeding, such as age, comorbidities, and aspirin use.

In the presented case, a patient with severe intestinal bleeding was demonstrated as a prominent clinical manifestation of Miliary Tuberculosis. The importance of early diagnosis and consideration of the differential diagnosis in the face of a compatible clinical/endoscopic condition is highlighted.

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