

Simultaneous Peritoneal and Terminal Ileal Tuberculosis: About A Case Report and Review of Literature

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| Received: 08.03.2023 | Accepted: 23.04.2023 | Published: 03.05.2023

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Abstract

Case Report

Tuberculosis (TB) is an infectious disease that affects mostly the lung, but can also affect other organs. Intestinal and peritoneal tuberculosis are a fraction of extrapulmonary TB with challenging diagnosis due to nonspecific presentation. The diagnosis is based on multiples arguments and bacteriological and histo-pathological findings are the gold standard to establish it. We hereby report the case of uncommon association of peritoneal and terminal ileal tuberculosis in a 46 years old male patient.

Keywords: Peritoneal Tuberculosis - Terminal Ileal Tuberculosis – Nonspecific symptoms.

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INTRODUCTION

Tuberculosis (TB) is an infectious disease and a global epidemic caused by *Mycobacterium tuberculosis*, which affects mostly the lung, but can also affect other organs, referred as extra-pulmonary tuberculosis (EPTB) [1, 2]. Abdominal TB is the sixth most common extra-pulmonary presentations. It may involve the gastrointestinal tract, peritoneum, the mesenteric lymph nodes and solid organs [3, 4]. Peritoneal tuberculosis accounts for 1%-2% of all TB cases and 31%-58% of gastrointestinal TB cases. Meanwhile, 10% of all cases of extra-pulmonary tuberculosis are intestinal tuberculosis [5, 6]. Their diagnosis remains a challenge due to non-specific symptoms mimicking other pathologies; therefore, epidemiological risk factors are important in the sitting of clinical suspicion [3, 7]. Here we report a rare and uncommon association of peritoneal and terminal ileal tuberculosis in a 46 years old male patient with ascites and chronic abdominal pain.

CASE REPORT

A 46 year-old patient with no relevant pathological history, was admitted in our department for

chronic moderate atypical abdominal pain and abdominal distension. He has denied fever, vomiting, weight loss, and diarrhea. Physical examination upon admission found body mass index (BMI) of 22, normal vital signs, abdominal distension with signs of moderate ascites and mild diffuse pain. Laboratory tests showed normal CBC, elevated CRP with no alteration of renal function tests. Diagnostic paracentesis showed lymphocyte-predominant ascites with a low serum-ascites albumin gradient, with elevated level of adenosine deaminase (75 IU/mL, and no malignant cells in ascites fluid. Ascites was evidenced on an abdominal ultrasound with no other abnormalities. Colonoscopy was performed showing at pseudopolypoid erythematous mucosa of the terminal ileum with multiple superficial ulcerations (Figure 1). Tissue samples for GeneXpert MTB/RIF were positive and the histopathology study of terminal ileum biopsies objectified granulomatous tuberculoid lesion with caseating necrosis, and disproportionate submucosal inflammation, confirming the diagnosis of tuberculosis alongside the other arguments. The patient was treated with a 6-month course of anti-tubercular drugs with a good evolution.

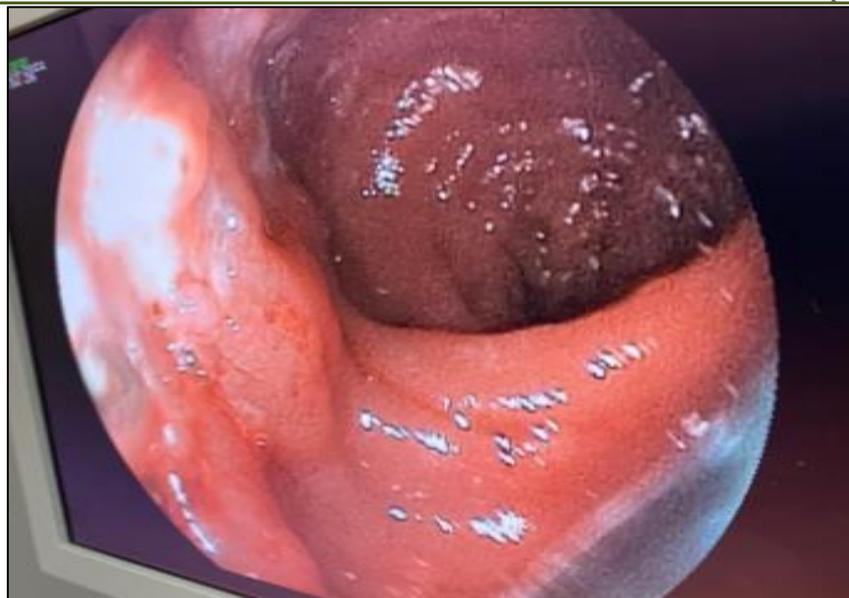


Figure 1: Pseudopolypoid erythematous mucosa the terminal ileum with multiple superficial ulcerations on colonoscopy.

DISCUSSION

Tuberculosis (TB) is a global epidemic, a chronic granulomatous inflammation and an infectious disease caused by *Mycobacterium tuberculosis*, which affects mostly the lung, but can also affect other organs, referred as extra-pulmonary tuberculosis [1, 2]. It is one of the top ten causes of death worldwide and over 95% of them occur in low and developing countries [8]. Abdominal TB which constitutes up to 11% of extrapulmonary TB can infect entire gastrointestinal tract, peritoneum, lymph nodes, or solid organs [10]. Peritoneal tuberculosis accounts for 1%-2% of all TB cases and 31%-58% of gastrointestinal TB cases. Meanwhile, 10% of all cases of extra-pulmonary tuberculosis are intestinal tuberculosis [5, 6], of which the ileocecal region is the most common infected site [9].

Abdominal TB is one of the common variants of extrapulmonary TB. In general, abdominal lesions of mycobacterium are result of hematogenous spread or lymphatic spread of primary pulmonary focus [10]. Peritoneal Tuberculosis is usually secondary to reactivation latent tuberculous foci in the peritoneum and hematogenous spread from a primary disease in the lung [11]. Intestinal TB also occurs as a result of ingestion of bacilli in sputum from active pulmonary focus, hematogenous or lymphatic spread from a primary lung focus, with later reactivation, direct spread from adjacent organs; and ingestion of milk products infected with *Mycobacterium bovis* [4, 12].

These types of extrapulmonary TB are very difficult to diagnose due to their non-specific signs and symptoms and variable anatomical location mimicking other pathologies that have a higher prevalence [13, 14]. The most common clinical manifestations of abdominal TB are abdominal pain, followed by weight loss, fever,

abdominal mass, and other symptoms such as vomiting, diarrhea, constipation, and abdominal distension [15, 16]. Peritoneal TB has important risks such as sepsis, intestinal obstruction, and infertility in women [5]. Also, intestinal tuberculosis has a poor prognosis, with complications such as intestinal obstruction, perforation, and bleeding [6].

Establishing a diagnosis is the biggest problem in the management of patients with abdominal tuberculosis. Diagnosis is made with the help of epidemiological factors, clinical history, microbiological cultures, histological studies, tuberculin tests, X-ray chest, and CT results [10]. Bacteriological and histopathological findings are the gold standard to confirm TB; biopsy methods include endoscopy, gastrointestinal mucosal biopsy, percutaneous biopsy, guided endoscopic ultrasound biopsy, and surgery (open or laparoscopic), and the histopathological examination may identify granuloma with caseating necrosis, Langerhans giant cells, conglomerate epithelioid histiocytes, and disproportionate submucosal inflammation [8, 12]. Polymerase chain reaction (PCR) of ascetic fluid and biopsy specimens for mycobacterium can be considered for diagnosis [17, 18]. The most common CT findings are non-pathognomonic and include high-density lymphadenopathy, ascites and thickening and/or nodularity of the peritoneal surfaces [19].

The treatment of abdominal TB is pharmacological with antituberculous drugs, the guidelines for treatment of EPTB recommend standard treatment for all forms of abdominal TB, consisting of two months of four drug therapy (rifampin, isoniazid, pyrazinamide, ethambutol) followed by four months of two drug therapy (rifampin, isoniazid) [2]. Surgery may be required for patients with complications such as free

perforation, significant bleeding, complete obstruction, abscess formation, and large fistulae [12].

CONCLUSION

Due to the nonspecific and vague clinical manifestations of peritoneal and intestinal tuberculosis that mimic other gastrointestinal conditions including malignancy and inflammatory bowel disease; the diagnosis remains challenging. Thus epidemiological risk factors in the sitting of clinical suspicion are extremely important, guiding the clinicians to establish accurate diagnosis; the latter is confirmed via fluid and tissue analysis. Also it is imperative to assure prompt treatment of this disease to reduce morbidity and mortality, and improve the prognosis.

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