

A Rare Cause of Bloody Defecation: A Case Report

Nadir Bir Kanlı Dışkılama Nedeni: Bir Olgu Sunumu

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ABSTRACT

Tuberculosis, which is mainly caused by the mammalian tubercle bacilli, *Mycobacterium tuberculosis* complex, is life-threatening disease transmitted from human-to-human via the airborne route. Gastrointestinal tract (GIT) tuberculosis is usually caused by swallowing infected sputum or spread of bacilli smears to the GIT. A 36-year-old male patient presented to our outpatient clinic with a one-year history of weight loss, abdominal pain, nausea, and bloody stools for the past three months. Colonoscopy revealed giant and mucopurulent exudates in the cecum, ileocecal valve, and ileum. On histopathological examination, both ileum and ascending colon biopsies showed multiple granuloma formations with caseous necrosis and multinuclear giant cells. The Ehrlich-Ziehl-Neelsen histochemical staining revealed multiple foci of acid-fast bacilli compatible with *Mycobacterium tuberculosis*. Chest X-ray showed bilateral infiltration of the upper zones. Acid-resistant bacilli were positive in the sputum smear test. The patient was diagnosed with GIT and pulmonary tuberculosis and appropriate treatment was initiated. This rare case highlights the importance of accurate diagnosis of tuberculosis and delayed diagnosis can cause the bacteria to infect other organs through blood, lymphatic system, or direct spread.

ÖZET

Esas olarak memeli tüberküloz basili olan *Mycobacterium tuberculosis* kompleksinin neden olduğu tüberküloz, insandan insana hava yoluyla bulaşan hayatı tehdit eden bir hastalıktır. Gastrointestinal sistem (GIT) tüberkülozu genellikle enfekte balgamın yutulması veya basil yaymalarının GIT'e yayılmasından kaynaklanır. 36 yaşında erkek hasta bir yıldır kilo kaybı, karın ağrısı, bulantı ve son üç aydır kanlı dışkılama şikayetleri ile polikliniğimize başvurdu. Kolonoskopide çekum, ileoçekal valv ve ileumda dev ve mukopürülan eksudalar görüldü. Histopatolojik incelemede hem ileum hem de çıkan kolon biyopsilerinde kazeöz nekroz ve multinükleer dev hücreli çoklu granülom oluşumları görüldü. Ehrlich-Ziehl-Neelsen histokimyasal boyaması, *Mycobacterium tuberculosis* ile uyumlu asit hızlı basillerin çoklu odaklarını ortaya çıkardı. Göğüs röntgeni üst bölgelerin iki taraftı infiltrasyonunu gösterdi. Balgam yayma testinde aside dirençli basiller pozitif. Hastaya GIT ve akciğer tüberkülozu tanısı konuldu ve uygun tedavi başlandı. Bu nadir vaka, tüberkülozun doğru teşhisinin önemini vurgular ve gecikmiş teşhis, bakterilerin kan, lenfatik sistem veya doğrudan yayılma yoluyla diğer organlara bulaşmasına neden olabilir.

Keywords:

Gastrointestinal tract tuberculosis
Bloody stool
Granuloma formations

Anahtar Kelimeler:

Gastrointestinal sistem tüberkülozu
Kanlı dışkı
Granülom oluşumları

INTRODUCTION

Tuberculosis (TB), which is mainly caused by the mammalian tubercle bacilli, *Mycobacterium tuberculosis* complex, is a life-threatening disease transmitted from human-to-human via the airborne route (1). It is a major public health issue with a high mortality rate and economic burden (1). About 7 million individuals received lifesaving TB treatment in 2018, increasing from 6.4 million in 2017. In addition, TB-related mortality decreased from 1.6 million in 2017 to 1.5 million in 2018 (1). However, it still remains one of the most fatal infectious diseases with 10 million individuals becoming infected with TB in 2018 (1).

Although TB usually affects the lungs, it can also involve the other parts of the body (2). Gastrointestinal tract (GIT) TB is usually caused by swallowing infected sputum or spread of bacilli smears to the GIT. The most common site of GIT TB is the ileocecal region (3,4). Typical symptoms include non-healing ulcers of the mouth or anus, difficulty

in swallowing with esophageal involvement, abdominal pain mimicking peptide ulcer disease (with gastric or duodenal infection), malabsorption (with small intestine involvement), chronic diarrhea or hematochezia (with colon involvement), subacute obstruction, or masses located in the right iliac region (5). In some cases, systemic TB symptoms may present. It is of utmost importance to identify TB cases with high index of suspicion, particularly in endemic areas (6). The diagnosis is made based on barium studies with large and small intestinal visualization, colonoscopy, and histological and microbiological examination of the biopsy specimens collected from the small intestinal mucosa (6). In the differential diagnosis, ileocecal Crohn's disease, cecal cancer, appendix cancer, lymphoma, and tubo-ovarian abscesses (7). In the treatment of GIT TB, the standard of care with six-month drug therapy is used. In case of intestinal obstruction, abscesses, or perforation, surgery is indicated (8).

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In this article, we report a rare case of concomitant lung and GIT TB causing bloody defecation to highlight the importance of accurate diagnosis and differential diagnosis in the light of literature data.

CASE

A 36-year-old male patient presented to our outpatient clinic with a history of weight loss, abdominal pain, nausea for the past three months and bloody defecation for the past 15 days. On physical examination, painful tenderness was present in the lower quadrant of the abdomen; however, abdominal ultrasound revealed normal findings. The laboratory test results showed elevated erythrocyte sedimentation rate, C-reactive protein, and white blood cell count, indicating borderline anemia without any other abnormality. No laboratory finding which causes bleeding tendency was observed. His medical history was non-specific with no history of drug use. Based on the bloody defecation, GIT TB was suspected, as well as ileocecal Crohn's disease, cecal cancer, appendix abscesses, lymphoma, and tubo-ovarian abscesses. Colonoscopy revealed giant and mucopurulent exudates in the cecum, ileocecal valve, and ileum (Figure 1).

Biopsy specimens were obtained from these ulcerated areas. On histopathological examination, both ileum and ascending colon specimens showed multiple granuloma formations with caseous necrosis and multinuclear giant cells. The Ehrlich-Ziehl-Neelsen histochemical staining revealed multiple foci of acid-fast bacilli compatible with *Mycobacterium tuberculosis* (Figure 2).

Based on these findings, the patient was diagnosed with GIT TB. He was consulted to the chest diseases Department with the possibility of delayed pulmonary TB. The patient's symptoms included high fever, weight loss, and night sweats. Chest X-ray showed bilateral infiltration of the upper zones (Figure 3).

Then, the diagnosis was confirmed through a sputum culture with acid-resistant bacilli (ARB) positivity. The patient was diagnosed with GIT and pulmonary TB and appropriate treatment (isoniazid + rifampicin + pyrazinamide + ethambutol) was initiated. The patient's symptoms improved at the end of the treatment. His treatment was completed and stopped for six months. The last chest radiography and colonoscopy were normal.

A written informed consent was obtained from the patient for all diagnostic and/or therapeutic procedures.

DISCUSSION

Tuberculosis of the GIT is the sixth most common form of extra-pulmonary site of infection after genitourinary, lymphatic, skeletal systems, and miliary and meningeal TB (9). Its clinical manifestations are usually non-specific, which may cause delay in diagnosis and treatment. Similarly, the present case was reported to highlight the importance of accurate diagnosis of GIT TB which is still a major public health issue.

The incidence of abdominal TB has been increasing in recent years worldwide due to the re-emergence of multi-drug-resistant TB and acquired immunodeficiency syndrome (AIDS) outbreak. In addition, immigrants from endemic areas of TB to Western countries are among the carriers of the disease and they mostly develop extra-pulmonary TB in the lack of any immunosuppression (10).

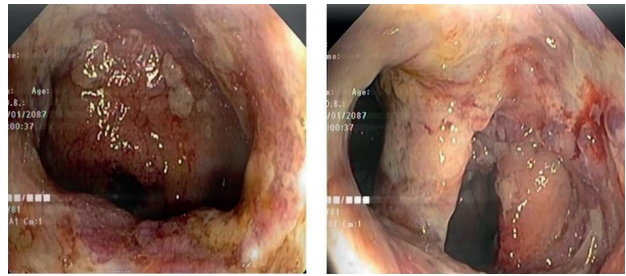


Figure 1: Colonoscopic view showing giant and mucopurulent exudates in the cecum, ileocecal valve, and ileum.

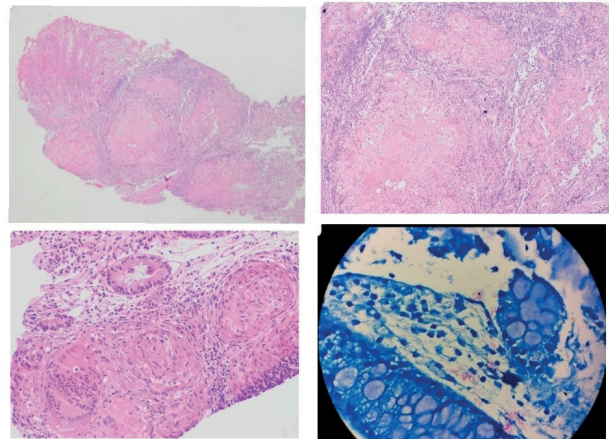


Figure 2: Histopathological examination with Ehrlich-Ziehl-Neelsen staining revealed multiple foci of acid-fast bacilli compatible with *Mycobacterium tuberculosis*.

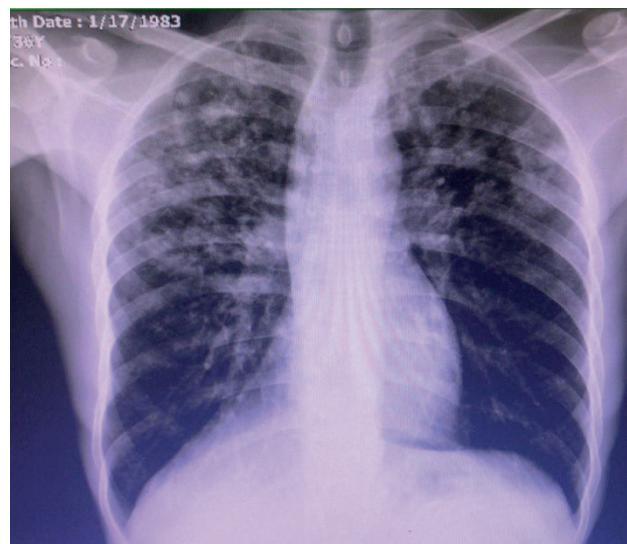


Figure 3: Chest X-ray showing bilateral infiltration of the upper zones of the lungs.

Despite this alarming fact, there is still a limited number of data regarding abdominal TB in the literature.

The majority of patients with abdominal TB have personal or family history of previous pulmonary TB (11). In about 15 to 25% of abdominal TB cases, the disease is accompanied by pulmonary TB (12, 13). Therefore, a high degree of suspicion should be maintained to identify these lesions in endemic areas and all organ systems should be examined in suspected cases of intestinal TB.

The route of spread in extra-pulmonary TB is usually lymphatic, hematogenous, and direct transmission from the adjacent tissues. It typically presents with fever, weight loss, abdominal pain and ascites, palpable abdominal masses, and night sweats. Similarly, our case had epigastric pain, weight loss, loss of appetite, and a palpable epigastric mass. Since all these symptoms can mimic the symptoms of GI malignancies, the definitive diagnosis of intestinal TB should be made based on the presence of caseous necrosis with granulomas in histology and positive culture of TB. The response to treatment with anti-TB drugs should be also followed to support the diagnosis (14).

Although diagnostic imaging tools contribute to the diagnosis, clinical and radiologic features of GIT TB may mimic those of many other diseases (15-17). On the other hand, the sensitivity of endoscopic biopsy varies between

30 and 80% and some authors have suggested taking 8 to 10 biopsy specimens for histological examination and 3 to 4 specimens for culture (19). The diagnosis of abdominal TB is classically confirmed by microbiological and culture analyses; however, histopathological diagnosis is made in many studies (18-20).

In conclusion, TB is a major health problem worldwide and the diagnosis of abdominal TB is challenging for the clinician. The definitive diagnosis is usually made based on histopathological examination, as the clinical and radiological features are non-specific and are mainly driven by high index of suspicion. This case highlights the importance of timely differential diagnosis and treatment of GIT TB accompanied by pulmonary and intestinal TB. Community and healthcare workers should be educated on this life-threatening disease.

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Ethics: The patient informed consent form was obtained.

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