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A Case of Intestinal Tuberculosis Mimicking Crohn's Disease and Behçet's Disease

Crohn Hastalığı ve Behçet Hastalığını Taklit Eden Bir İntestinal Tüberküloz Olgusu

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Anahtar Kelimeler: *Mycobacterium tuberculosis*, Crohn hastalığı, Behçet sendromu, intraabdominal, peritonit

Dear Editor,

Tuberculosis (TB) is an infectious disease that has been known since ancient times and causes significant morbidity and mortality. Many of the cases are pulmonary TB. Of the extrapulmonary manifestations of TB, intestinal TB (ITB) has particular importance since it mimics many abdominal diseases such as inflammatory bowel diseases and malignancies^[1]. It is most often confused with Crohn's disease (CD), and the distinction between these two is important in clinical practice. In addition, Behçet's disease (BD) with gastrointestinal system involvement is also difficult to differentiate from CD^[2]. In this article, we present a patient who was first treated with a diagnosis of BD, and then with a diagnosis of CD, but whose actual diagnosis was ITB.

A 31-year-old man presented to the infectious diseases outpatient clinic in February 2017 with a history of abdominal pain, fever, arthralgia, and sputum. According to his medical history, he had intermittent abdominal pain for eight years and he also had recurrent oral ulcerations about 10 times a year for the past two years. There were no night sweats or weight loss. One year earlier multiple 8–15 mm aphthous ulcers had been detected in the ileum mucosa during colonoscopy. Biopsy results showed inflamed granulation tissue characterized by

vascular proliferation and mild fibrosis, but no granuloma formation (Figure 1).

Perianal fistula and hepatomegaly had been detected in abdominal magnetic resonance imaging. Suspecting BD, the dermatology department had treated the patient with colchicine 1.5 mg/day for six months. However, he was unresponsive to treatment. He was also unresponsive to treatment with

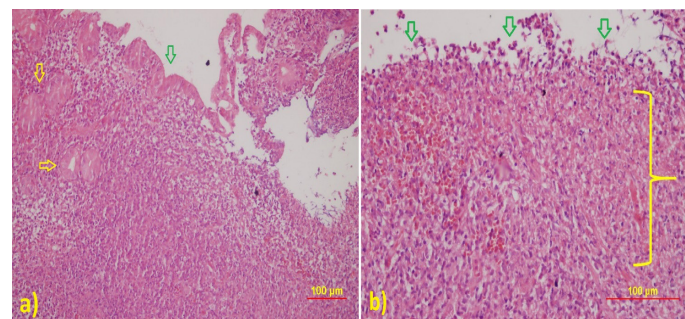


Figure 1. Biopsy images of the patient's ileum mucosa. a) Intact surface intestinal epithelium (green arrow) and intact crypts (yellow arrows) are seen (hematoxylin and eosin x200). b) The surface epithelium is ulcerated (green arrows). Lamina propria is characterized by granulation tissue including active chronic inflammation, vascular proliferation, and mild fibrosis (yellow marked area) (hematoxylin and eosin x400)

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budesonide, mesalazine, and azathioprine, which had been subsequently initiated at another center for the diagnosis of CD.

On physical examination, his temperature was 37.7 °C, pulse rate was 87 beats/min, blood pressure was 110/70 mmHg, and intrabuccal aphthous lesions were noted. Other systemic examinations were normal.

In the laboratory examination, complete blood count, acute phase reactants, liver function tests, renal function tests, urine microscopy, and chest X-ray were normal. Direct Gram stain of sputum for bacteria and Ziehl-Neelsen stain for acid-fast bacilli showed no organisms, and polymerase chain reaction analysis of sputum was also negative for TB. Induration on tuberculin skin test was measured as 38x35 mm and the Interferon-Gamma Release Assay (QuantiFERON-TB Gold, Qiagen, Germany) was positive. High-resolution computed tomography revealed a millimetric nonspecific nodule in the middle lobe of the right lung and a millimetric calcified granuloma in the lower lobe of the left lung.

After three months, *Mycobacterium tuberculosis* complex was isolated from sputum culture. It was sensitive to isoniazid, rifampicin, ethambutol, but resistant to streptomycin (BD BACTEC MGIT 960). First-line anti-TB treatment was initiated: isoniazid 300 mg/day, rifampicin 600 mg/day, pyrazinamide 1250 mg/day, ethambutol 1000 mg/day. After two months of treatment, pyrazinamide and ethambutol were discontinued and treatment was continued for 12 months. Clinical improvement was observed at the 4th month of treatment. No recurrence was observed in six-month follow-up after the end of treatment.

ITB is rarely seen in extrapulmonary TB cases^[3]. In ITB, bacilli reach the gastrointestinal tract through the ingestion of infected mucus, hematogenous diffusion, or by direct spread from infected lymph nodes. Pulmonary involvement is also observed in approximately 25-30% of cases^[4]. In our patient, *M. tuberculosis* complex growth in sputum culture confirmed the diagnosis of pulmonary TB. It is highly probable that the patient developed ITB due to swallowing infected sputum. The most common symptoms of ITB are abdominal pain, loss of appetite, fever, night sweats, weight loss, diarrhea, ascites, and intestinal obstruction^[4]. The presented patient had longstanding abdominal pain and fever.

Many diseases may be confused with ITB symptoms. In particular, CD and ITB are very similar in terms of clinical, endoscopic and pathological features. Hence, it is often difficult to distinguish these two diseases from each other in clinical practice^[1]. One year before presentation to our center, our patient had undergone colonoscopy and been treated for ileum mucosal ulcers due to misdiagnosis of CD. BD and CD may also be confused with each other clinically^[2]. Since there were also recurrent oral aphthous

lesions in our patient, the treatment of colchicine for BD was started by the dermatology department but was discontinued due to lack of response. Radiological imaging findings of ITB are non-specific^[3]. Therefore, colonoscopy and biopsy are important for diagnosis^[5]. Histologically, caseating granuloma is a characteristic finding of TB. However, in cases without caseating granuloma, the presence of microorganism in the biopsy material and/or the yield of *M. tuberculosis* from culture is needed to confirm the diagnosis^[3]. Our patient had been performed colonoscopy and biopsy at another hospital before his presentation to us, but only pathological examination of the biopsy material had been done and microbiological evaluation had not been performed.

Routine laboratory tests have limited value in TB. Cancer antigen-125 (CA-125) elevation was investigated in abdominal TB. Although elevated CA-125 is a marker for ovarian cancer, it has also been shown to be an indicator in the diagnosis of tuberculous peritonitis^[6]. In a study evaluating 163 cases of TB peritonitis from Turkey, CA-125 elevation was found in 96.7% of the patients^[7]. This marker may be used for ITB. For a definitive diagnosis of ITB, it is necessary to grow bacilli in the tissue but this is difficult due to low sensitivity rates^[8].

Regarding the duration of treatment, there has been a recent increase in publications stating that the six-month treatment is as effective as nine-month treatment and it is more economical^[8]. Nevertheless, some clinicians still extend treatment duration to 12 months^[9]. The treatment of our patient was extended to 12 months due to the fact that he had been receiving several immunosuppressive treatments for different diagnoses for about eight years.

In conclusion, ITB is a condition that can be confused with many other diseases, such as CD, inflammatory bowel diseases, and malignancies, and is difficult to diagnose due to its nonspecific symptoms. During diagnosis, the most important thing is clinical suspicion. If ITB is suspected, even if the patient has been previously diagnosed with and treated for CD or BD, the necessary tests should be performed for the diagnosis of ITB, especially in countries where TB is endemic such as Turkey.

Ethics

Informed Consent: Retrospective study.

Peer-review: Externally and internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: M.A. İ.K., Concept: S.K., Design: F.A., Data Collection or Processing: M.A., Analysis or Interpretation: İ.S., Literature Search: M.A., İ.K., Writing: M.A.

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