

**Case report-Olgu sunumu**

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# A rare cause of malnutrition: Intestinal tuberculosis

## *Malnütrisyonun nadir bir nedeni: İntestinal tüberküloz*

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### Abstract

Extrapulmonary manifestations of tuberculosis are an uncommon. Intestinal tuberculosis (ITB) is rare, but it remains a life-threatening disease unless diagnosed. Due to the lack of specific signs and symptoms, diagnosis of ITB can be difficult. A 27-year-old Turkish woman was admitted to our clinic with a 6-month history of abdominal pain, fever and weight loss. Colonoscopy was performed. At colonoscopy, there was detected in the mucosal lesions in the terminal ileum and caecum. On colonoscopy, deformed ileocaecal valve, strictures in caecum and terminal ileum, mucosal nodules were detected. Multiple biopsy specimens were taken from the active lesion. The diagnosis was made by demonstration of acid-fast bacilli and epithelioid cell granulomas in the colonoscopic biopsy specimens. The lesion was diagnosed as ITB. Quadruple therapy with anti-TBC drugs for 1 year was ordered. The patient was discharged from hospital two months without any other complications. Intestinal TB is a treatable and curable illness.

**Keywords:** İntestinal tuberculosis, malnutrition, diagnosis

### Özet

Tüberkülozun ekstrapulmoner manifestasyonları nadirdir. İntestinal tüberküloz (İTB) nadir olmasına rağmen tanı konmadığı zaman hayatı tehdit edebilir. Spesifik bulgu ve semptomlarının olmamasından dolayı İTB' nin tanısı zor olabilmektedir. Yirmi yedi yaşında kadın hasta 6 aydır süren karın ağrısı, ateş ve kilo kaybı şikayetleriyle kliniğimize kabul edildi. Kolonoskopi yapıldı. Kolonoskopide terminal ileum ve çekumda mukozal lezyonlar tespit edildi. Kolonoskopide deforme ileoçekal valv, striktürler, mukozal nodüller tespit edildi. Aktif lezyonlardan çok sayıda biyopsiler alındı. Biyopside aside dirençli basil ve epitelioid granuoller görüldü. Hastaya İTB tanısı konuldu. Bir yıl sürmesi planlanan dördümlü anti-TBC ilaç tedavisi başlandı. Hasta her hangi bir komplikasyon olmadan iki ay sonra taburcu edildi. İTB tamamen tedavi edilebilir bir hastalıktır.

**Anahtar sözcükler:** İntestinal tüberküloz, malnütrisyon, tanı

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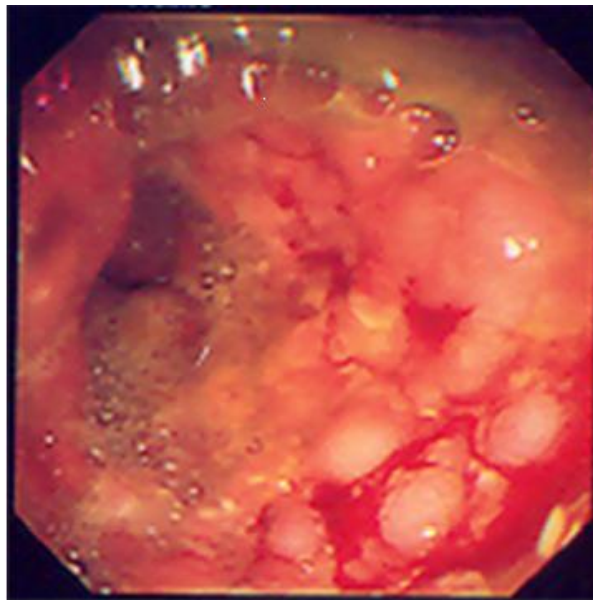
### Introduction

Tuberculosis (TB) can cause lesion any part of the gastrointestinal tract, from mouth to anus [1]. By the mid-20th century, all forms of TB had declined considerably in developed countries, due to various causes such as increased standards of living, control of bovine TB throughout slaughter of infected cattle herds, pasteurization of milk products, and the discover of antituberculous drugs [2]. In recent years, in developing countries, increasing incidence of tuberculosis is associated with poverty, scarcity, excess population, illiteracy, and limited access to fitness care facilities. On the other hand, the incidence of TB has been increasing in the developed country, owing to the AIDS epidemic, transglobal migration, IV drug abuse, an aging population, and an increase in the amount of immunosuppressed patients [3]. The frequency of ITB has increased again

together with an overall resurgence of TB [4]. ITB is a complex infection and have different symptoms that are non-specific [5, 6]. A lack of experience in a region with a low commonness of TB might have contributed to the delay in making the accurate diagnosis and treatment [7]. We report a case of a 27-year-old female patient with a 6-month history of 15kg weight loss, abdominal pain and diarrhea due to intestinal tuberculosis.

### Case report

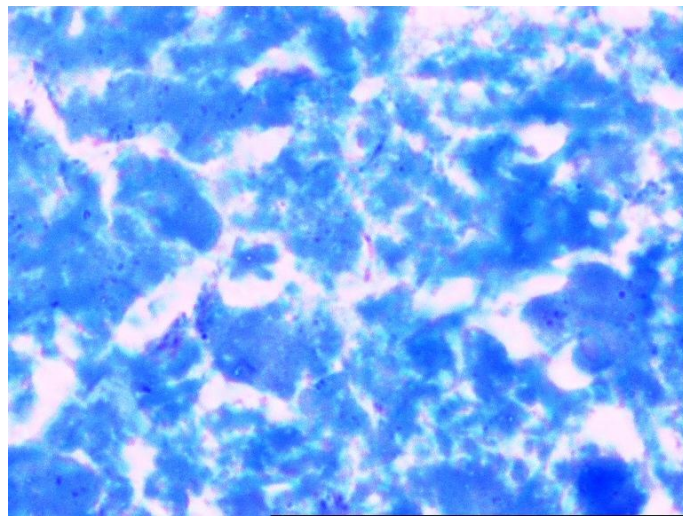
A 27-year-old Turkish woman presented with a 6-month history of fever, anorexia, loss of weight, abdominal pain. The patient had a history of recurrent episodes of watery stools (6-8 watery stools per day for) at the start for 6 months. Physical examination detected a subfebrile ( $37^{\circ}\text{C}$ ), pale, cachectic-looking, lower abdominal tenderness and body mass index was low (weight, 44kg; height, 1.65 m). The liver, spleen and lymph nodes were not enlarged. In history was present consumption of unpasteurised milk. Laboratory tests showed hypochromic anemia (hemoglobin 10.3 g/dL), normal white blood cells ( $8,000/\text{mm}^3$ ), low serum albumin (2.01 g/dL), low serum calcium (7.1 mg/dL), high erythrocyte sedimentation rate (110 mm/h), and high CRP rate (10.9mg/dL, upper limit 0.5 mg/dL). Other biochemical parameters were normal. In searching for the source of the fever, blood, sputum, urine cultures were taken and direct microscopies of urine, stool, and sputum were also examined. Direct microscopy of stool was seen acid-fast bacillus, but others were negative. Test for HIV antibodies was performed, and was negative. Chest x-ray showed no abnormalities, but CT scan of the abdomen showed irregular thickening of the caecum in the abdomen. Gastrointestinal tract was examined from rectum to terminal ileum, with colonoscopy. There was gross nodularity with hyperemia, deformed ileocaecal valve and stricture in caecum and terminal ileum (Figure 1). Multiple forceps biopsy specimens were taken from the base and margin of lesions. The biopsy specimens were prepared for both standard histopathologic evaluation (H&E staining) and bacteriologic study (smear for Ziehl-Neelsen stain). Acid-fast bacillus was detected in the formalin fixed sections stained with the



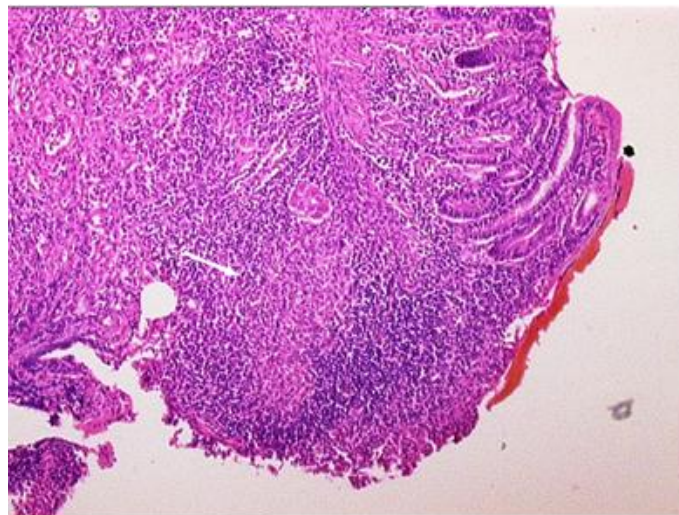
**Figure 1.** Colonoscopy showing multiple nodular lesions and a stricture in the terminal ileum.

Ziehl-Neelsen stain (Figure 2). In the sections stained with H&E, well-formed, epithelioid-cell granulomas were present in the specimens (Figure 3). Pulmonary TB was not diagnosed on the basis of bacteriological (sputum smear and culture for

mycobacteria) and radiological investigations. The patient was accepted as tuberculosis of the intestine which was supported by clinical and radiological features. Antituberculous treatment was ordered. The treatment consisted of four drugs (isoniaside 300mg orally daily, pyrasinamide 2000 mg orally daily, ethambutol 1500 mg orally daily, rifampicin 600 mg orally daily) for a two-month period and two drugs (isoniaside, rifampicin) for the rest of the therapy period (10 months). The patient began to gain weight and showed improvement in her general well being, she was hospitalized for a period of 2 months and received antituberculous therapy under direct observation. The patient responded rapidly to antituberculosis chemotherapy. Diarrhea and weight loss improved after one month. The parameters evaluated for response during follow-up visits were body weight and hemoglobin. On discharge she had gained 6 kg in weight (50 kg) and her haemoglobin was 11.9 g/dL. When she was seen 3 months later, she was in good health, had gained a further 2 kg (52 kg), with normal hematological and biochemical parameters. The patient underwent colonoscopy after 3 months of treatment. Mucosal lesions had lost in the caecum and terminal ileum.



**Figure 2. Scattered epithelioid cells on a necrotic background. Note the acid-fast bacilli (Ziehl-Neelsen, original magnification X400).**



**Figure 3. A colonic biopsy with dense inflammation and a collection of epithelioid histiocytes forming an ill-formed granuloma (arrow) (hematoxylin-eosin, original magnification X100).**

## Discussion

In recent years, in world-wide the incidence of ITB has been increasing along with the overall resurgence of TB [8]. The pathophysiology of ITB can be attributed to hematogenous spread from active pulmonary or miliary TB, contiguous spread from neighbor organs, swallowing of infected sputum in active pulmonary TB, or intake of contaminated milk products [4, 6, 9]. Neither past history of treatment for tuberculosis nor a family history of tuberculosis was present in our patient. *Mycobacterium bovis* can be transmitted to humans during consumption of unpasteurised milk products from infected cows [10]. *Mycobacterium bovis* infection was suspected in our patient because of consumed unpasteurised milk before the onset of abdominal symptoms.

The symptoms of intestinal TB are non-specific; a high index of doubt is so important to ensure an appropriate diagnosis; missed or delayed identification can result in preventable morbidity and mortality [11, 12]. The most frequent symptoms of ITB are diarrhea, weight loss, anorexia, fever, anemia, and lower gastrointestinal hemorrhage. Lower abdominal pain and distension and/or palpable abdominal mass are also relatively common physical examination findings [13, 14]. Khan et al. [6] reported that study which 209 patients with intestinal TB enrolled was detected abdominal pain in 93%, weight loss in 47% of patients. Leung et al. [4] reported that the presenting symptoms of 22 with intestinal TB patients are the most frequent being abdominal pain 82%, diarrhea 55%, weight loss 55%. Alvares et al. [9] were evaluated in 43 patients with colonic tuberculosis, reported abdominal pain 72%, weight loss 56%. Many of these signs and symptoms were present in our patient. In the patient was present later 6-month history of 15 kg weight loss and diarrhea.

Most commonly affected areas of gastrointestinal tract are the jejunioileum and ileocecum, which consist of >75% of gastrointestinal TB sites [2]. Because of comparatively frequent involvement of terminal ileum in intestinal TB is to either physiological stasis, large surface area of this part of the intestine, entire digestion of food and abundant lymph nodes in the area [4, 6, 15]. In consequence of the increased use of colonoscopy may have facilitated early diagnosis of intestinal TB [5]. In patients with intestinal TB on colonoscopy may be detected various appearance such as, ulcers, strictures, nodules, pseudo polyps, fibrous bands, fistulas, and deformed ileocaecal valve [16]. In our patient, on colonoscopy were detected deformed ileocaecal valve, stricture and nodules. The most diagnostic histological lesions of intestinal TB are caseating granulomas, however their existence in colonoscopic biopsy specimens is highly variable (0-44%) [17] Histological features of the granulomas associated with TB are frequently large and numerous, tend to coalesce, and include AFB [2, 18]. In our patient, the diagnosis of confirmed ITB was based on affected tissues of the following [1] histological evidence of granulomas, [2] demonstration of acid-fast bacilli (AFB) by Ziehl-Neelsen (ZN) stain. Culture of biopsies was not carried out.

The Mantoux test is positive in 70±86% of patients with TB, but has limited helpfulness in immunocompromised patients [2]. In our patient, this skin test was evaluated negative. PCR, extremely specific is not markedly sensitive (26.5±75.0%) [7]. In this case was not carried out PCR because acid-fast bacilli were seen in histopathology examination.

Intestinal TB is completely treatable, provided that the diagnosis is made early enough and suitable treatment is ordered [6]. Antitubercular therapy with rifampicin (10 mg/kg) p. o., isoniazid (5 mg/kg) p. o., pyrazinamide (30mg/kg) p. o., and ethambutol (15 mg/kg) p. o. or streptomycin (0.75±1.0g) i.m. was given for 2 months, followed by rifampicin (10 mg/kg) p. o. and isoniazid (5 mg/kg) p. o. for an additional 8 months [4, 6, 9, 15]. We ordered same as 4 anti-TB drugs and symptoms began improved after one month of treatment.

Intestinal TB is uncommon and curable disease. It should be kept in mind treatment resistant diarrhea of differential diagnosis, especially consumption of unpasteurised milk products in areas.

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