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CASE REPORT

A Rare Cause of Acute Appendicitis: Caecal Tuberculosis Mimicking Colon Cancer

Nadir Bir Akut Apandisit Sebebi: Kolon Kanserini Taklit Eden Çekum Tüberkülozu

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ABSTRACT

Tuberculosis (TB) is an infectious disease that can involve all organs and tissues. Although pulmonary TB is more common, extrapulmonary TB is an important clinical problem due to its nonspecific symptoms. Clinical presentation of abdominal TB includes abdominal pain, diarrhea, fever and weight loss, and it is difficult to make differential diagnosis with inflammatory bowel disease and gastrointestinal system malignancies. In this case report, we aimed to present a case of TB infection in the differential diagnosis of ileocecal region diseases in patients without a history of active or previous pulmonary TB mimicking colon tumor and presenting with acute appendicitis.

Keywords: Tuberculosis, colon, appendicitis, cancer

ÖZ

Tüberküloz (TB) tüm organ ve dokuları tutabilen bir enfeksiyon hastalığıdır. Daha çok pulmoner TB karşımıza çıkmakla birlikte, ekstrapulmoner tüberküloz nonspesifik semptomları nedeniyle önemli bir klinik sorundur. Abdominal TB'de klinik başvuru karın ağrısı, ishal, ateş, kilo kaybı şeklinde olup enflamatuvar barsak hastalığı ve gastrointestinal sistem maligniteleri ile ayırıcı tanı yapmak güçtür. Bizde bu olguda akut apandisit kliniği ile başvuran kolon tümörünü taklit eden aktif ya da geçirilmiş pulmoner tüberküloz öyküsü olmayan hastalarda ileoçekal bölge hastalıklarının ayırıcı tanısında tüberküloz enfeksiyonun da düşünülmesi gerektiğini sunmayı amaçladık.

Anahtar Kelimeler: Tüberküloz, kolon, apandisit, kanser

Introduction

Tuberculosis (TB) is an infectious disease that can involve all organs and tissues. Although pulmonary form is more commonly observed, extrapulmonary TB remains to be an important clinical issue. Although it is less prevalent in Western society, its incidence has increased in the last two decades. The incidence of TB is increasing due to immunosuppression-related TB cases caused by human immunodeficiency virus, immunosuppressive drugs following organ transplantation or chemotherapy of cancers that have become increasingly more prevalent lately. In developing countries, poor living conditions are seen as the main cause of TB infection.[1,2] Gastrointestinal system (GIS) TB occurs through infection of the abdominal organs and peritoneum by *Mycobacterium tuberculosis* spp. GIS is the sixth most commonly involved region in cases with extrapulmonary TB following genitourinary system, lymphatic system, skeletal system, meninges and miliary TB.[3] GIS TB may be either primary or secondary. The disease involves ileocecal region or jejunum in approximately 75% of cases with GIS TB.[4] Isolated colon involvement (other than ileocecal region) is extremely rare, accounting for 2-3% of all abdominal TB cases.[5] Abdominal TB presents with abdominal pain, diarrhea, fever and weight

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loss, making it difficult to differentiate from inflammatory bowel disease and GIS malignancies. Although it is valuable to show bacilli by biopsy in suspected cases with clinical and imaging findings, it is difficult to cultivate bacilli.[6,7] Here, we aimed to emphasize that TB should be considered in patients without history of active or previous pulmonary TB who present with clinical findings of acute appendicitis and mimics colon tumors.

Case Report

A 37-year-old woman presented to emergency department with abdominal pain. In her medical history, the patient reported pain in the right lower abdominal quadrant and nausea for 2-3 days. Physical examination revealed tenderness and defense in the right lower abdominal quadrant. Laboratory evaluations showed following results: hemoglobin:12.4 g/dL, hematocrit:37.6, white blood cell count:13400/µL, C-reactif protein:236 mg/dL. Biochemical values were within normal limits. In abdominal CT scan, the diameter of the appendix was reported to be 8 mm with contamination in the surrounding mesentery and enlarged lymph nodes. After consultation with anesthesiology clinic, surgery was initiated under general anesthesia with McBurney incision. Operative findings included diffuse inflammation in the peritoneum, and a mass was observed in the cecum. Appendix had a mucocele appearance. After planning right hemicolectomy, colectomy consent was obtained from the relatives of the patient. The incision was extended to the midline and the surgery was continued. Due to presence of diffuse lymph node involvement at pericecal area, right hemicolectomy plus side-to-side ileotranverse colostomy was performed. On the 6th after surgery, abdominal drain was removed, as there was no significant discharge. The patient was discharged uneventful. The histopathological examination of surgical specimens revealed necrotizing granulomatous inflammation and granulomatous lymphadenitis in 20 lymph nodes. The patient was referred to chest disease and TB outpatient clinic for further treatment of TB.

Discussion

GIS TB, caused by *Mycobacterium tuberculosis*, can be seen in any localization throughout GIS. Although GIS TB is rarely seen in Western countries, it remains an important cause of morbidity and mortality in developing countries. While extrapulmonary TB accounts for 15-20% of all TB cases, abdominal TB accounts for 2-3% of cases with extrapulmonary TB.[5,8] The patients suffer from non-specific complaints, while majority of patients present with abdominal pain. Diarrhea, fever, loss of appetite and weight loss can also be seen. It may also lead to partial or complete obstruction by lesions that cause restriction of the intestinal lumen. It is difficult to suspect GIS TB in the absence of active or previous pulmonary disease. In our case, the presenting complaint was abdominal pain. On physical examination, a palpable mass can be detected in the right lower abdominal quadrant in 25-50% of patients. In our case, there was tenderness and defense in the right lower abdominal quadrant on physical examination. GIS is the sixth most common involved region in cases with extrapulmonary TB. It commonly involves ileocecal region, followed by ascending colon, jejunum, appendix, duodenum, stomach, esophagus, sigmoid colon and rectum. Multiple foci of intestinal TB may occur, but isolated colon involvement is extremely rare. The findings of imaging studies are non-specific in GIS involvement. Stricture or apple core sign in barium enema may be suggestive for abdominal TB. In CT scan, omental thickening, ascites, abdominal lymph node involvement and thickened intestinal wall may be seen. However, these findings alone are not diagnostic and disease-specific. Colonoscopy is a valuable tool in the diagnosis of TB in the ileocecal region or colon. Ulceration, nodular appearance, mass appearance in cecum and ileocecal valve deformation can be detected in colonoscopy.[9,10] The disease can be diagnosed by colonoscopy and biopsy.[11] In our case, no imaging study other than CT scan could be performed due to acute presentation. No finding suggestive of TB was detected in CT scan. The differential diagnoses include inflammatory bowel disease, colon cancer, diverticulitis, appendicitis and other causes of infectious colitis. The medical management includes anti-TB agents. In intestinal TB, surgical treatment should be considered in case of complications. Intestinal obstruction, GIS fistula, perforation and GIS bleeding are the most common complications. In our case, diffuse inflammation and mass appearance in the cecal region were observed during surgery. It was seen that appendix had mucocele appearance. Due to presence of diffuse lymph node involvement in the pericecal area, right hemicolectomy plus side-to-side ileotranverse colostomy was performed. In conclusion, TB should be kept in mind in patients without history of active or previous pulmonary TB who presented with non-specific GIS symptoms, who had inflammation and mass lesion during surgery and who had enlarged lymph nodes in cecum in preoperative CT scan. We think that TB should be suspected in case of granulomatous inflammation in biopsy samples obtained from GIS organs in our country with high TB incidence.

Ethics

Informed Consent: Patient consent was obtained.

Peer-review: Internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: M.P., Concept: M.P., D.A.Ç., Design: T.G., Y.Y., Data Collection or Processing: M.P., T.G. Analysis or Interpretation: D.A.Ç., Y.Y., Literature Search: D.A.Ç., T.G., Writing: M.P.

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