



## **A RARE CAUSE OF ACUTE ABDOMEN; PRIMARY ABDOMINAL TUBERCULOSIS. CASE REPORT.**

### **Akut karının nadir bir etkeni; Primer abdominal tüberküloz. Olgu sunumu.**

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**Cer San D (J Surg Arts), 2013;6(2):45-48.**

#### **ABSTRACT**

Discovery of mycobacterium tuberculosis by Robert Koch was the milestone for fighting with tuberculosis. However tuberculosis has begun to diverge from its classical course due to resistance developments against anti-tuberculosis drugs, increase of diseases impairing immune system. Extrapulmonary tuberculosis cases are encountered much more frequently compared to past. Abdominal tuberculosis has a unique importance among extrapulmonary tuberculosis. Tuberculosis bacilli may involve every organ in gastrointestinal system and also may mimic all diseases, mainly malignancy and inflammatory diseases. In this paper, we aimed to present a case of abdominal tuberculosis presented with acute abdomen and mimicked gynecologic malignancy.

**Keywords:** Extrapulmonary tuberculosis, acute abdomen, intraabdominal malignity

#### **ÖZET**

Robert Koch tarafından tüberküloz basilini keşfi, tüberküloz hastalığı ile savaşta dönüm noktası olmuştur. Yalnız günümüzde anti tüberküloz ilaçlarına karşı direnç gelişimleri, immun sistemi zayıflatan hastalıkların artışı ile birlikte tüberküloz klasik seyrinden uzaklaşmaya başlamıştır. Akciğer dışı yerleşimli tüberküloz olgularına geçmişe nazaran çok daha sık rastlanmaktadır. Abdominal tüberküloz, ekstrapulmoner tüberküloz içerisinde ayrı bir öneme sahiptir. Çünkü tüberküloz basili gastrointestinal sistemde her organı tutabilmekle birlikte başta malignite ve inflamatuvar hastalıklar olmak üzere tüm hastalıkları taklit edebilme yeteneğine sahiptir. Bu makalede akut karın tablosu başvuran, jinekolojik maligniteyi taklit eden abdominal tüberküloz olgusunu sunmayı amaçladık.

**Anahtar kelimeler:** Ekstrapulmoner tüberküloz, akut karın, intraabdominal malignite.

#### **INTRODUCTION**

Mycobacterium tuberculosis is the main causative agent of tuberculosis that shows multisystemic involvement and a contagious disease characterized with chronic and caseating granulomas. History of tuberculosis goes to antiquity. People still die of tuberculosis although it has been known for more than a century and it could be treated for half of a century. Five-ten millions of new active tuberculosis cases per year are known to be encountered worldwide despite all vaccination studies and antituberculosis drugs. However

resistance against antituberculosis drugs, improvements in life and nutritional standards led to significant changes in the course of the disease and especially extrapulmonary tuberculosis has begun to be more popular (1). Abdominal tuberculosis has a unique importance among extrapulmonary tuberculosis. All gastrointestinal system's, mainly peritoneum and gastrointestinal tract, being infected by Mycobacterium tuberculosis is defined as abdominal tuberculosis. Abdominal tuberculosis consists of 12% of extrapulmonary tuberculosis cases. Abdominal tuberculosis often

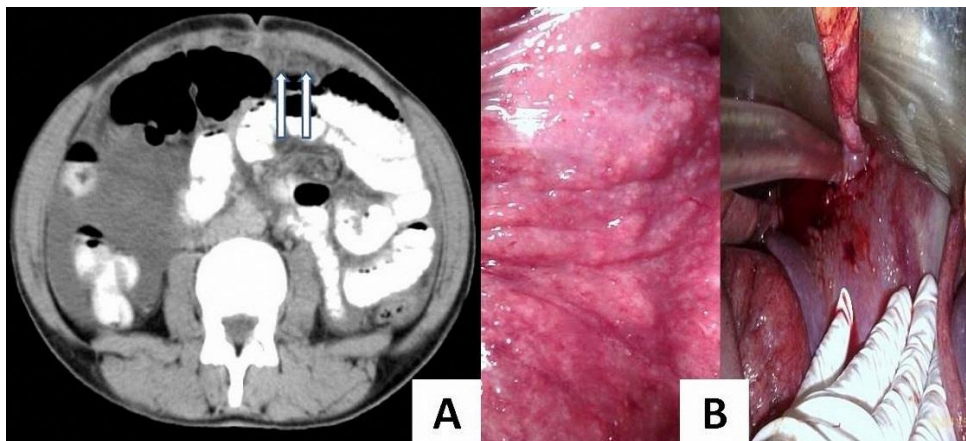
mimics intraabdominal malignancy, infectious and inflammatory diseases due to the absence of specific signs and symptoms (2). In this paper, we present a case of a primary abdominal tuberculosis presented with acute abdomen and mimicked malignancy.

**CASE**

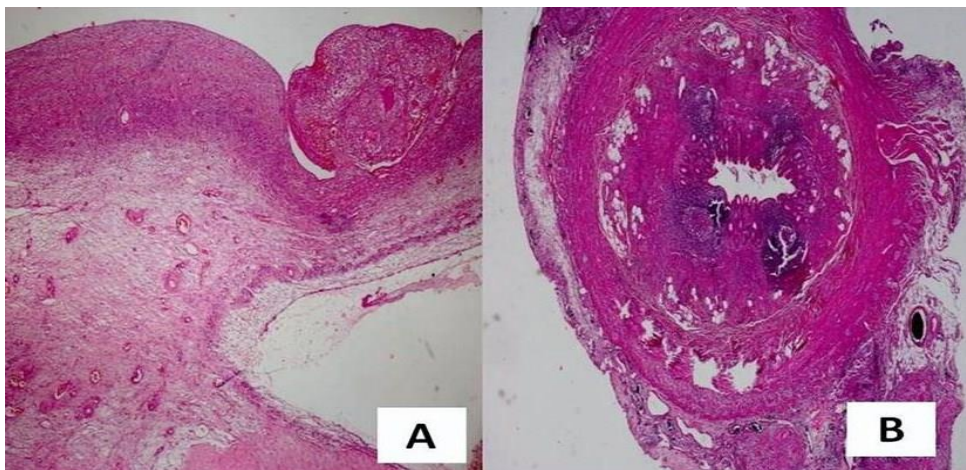
A 45-year-old female patient was admitted to emergency department with severe abdominal pain with a sudden onset. Blood pressure was measured as 80/40 mmHg, pulse was 140 bpm, and fever was 39 °C. On her physical examination, she had a marked abdominal distension and widespread peritoneal tenderness. She was learned to lose 10 kg during the previous 3 months. Her family history was remarkable for malignancy-related deaths in her mother and sister. On her laboratory examination, her white blood cell count was 18000 mm<sup>3</sup> with a predominance of neutrophils. Of tumor markers, CA-125 value was seen to be above 1000 U/mL. On her radiologic examinations, a 5 cm of mass with a cystic component arising from ovary in the right lower quadrant was detected besides widespread intraabdominal fluid, tumoral deposit appearances (Figure 1A). She underwent an operation as her peritoneal tenderness continued. Serohemorrhagic fluid was detected intraabdominally. Additionally a cystic mass, arising

from the right ovary and appendix, approximately 5 cm in diameter was detected besides nodular opacities showing a miliary distribution.

The patient was diagnosed as ovarian tumor-related peritonitis carcinomatosa. She underwent right ovariectomy and appendectomy and also biopsies were taken from peritoneal surface of small intestine, liver and peritoneal surface. Intra-abdominal fluid sample was taken and the procedure was terminated (Figure 1B). The patient who experienced no surgical problems in her postoperative follow up was discharged. As the result of histopathologic examination of operative specimen, granuloma formations including Langhans type giant cells in appendix serosa, ovarian surface and surrounding fat tissue of small intestine, showing central caseating necrosis were detected (Figure 2). The patient was suspected to have tuberculosis in the light of these findings. Tuberculin skin test was positive and mycobacterium grew in peritoneal fluid culture. The patient in whom no foci were detected on chest graphy and thorax tomography was diagnosed as primary abdominal tuberculosis and triple antituberculous therapy was started. Intraabdominal ascites was detected to completely resolve and CA-125 values were detected to be within normal ranges on her control on postoperative 4th month.



**Figure 1:** The peritoneal deposits (white arrow) and acid were detected on abdominal CT.



**Figure 2:** The White miliary nodules, spreading in abdomen were found on operation.

## DISCUSSION

A tuberculosis bacillus was first described by Robert Koch in 1882. One third of the world's population is estimated to be infected by tuberculosis bacilli although it has been a treatable and preventable disease since 60 years. Approximately 8 million new tuberculosis cases are reported each year. Especially in recent years, tuberculosis incidence has increased more than expected (3). Emergence of new drug-resistant strains, immunocompromised patients with AIDS, chronic renal insufficiency, chronic hepatic failure, gradually increasing population of the elderly and migrations towards the west account for this increase (4). Besides, usual clinical course of tuberculosis varies. Extrapulmonary tuberculosis cases have begun to be encountered instead of classical pulmonary tuberculosis in developed and developing countries like ours (5).

Abdominal tuberculosis is unique among extrapulmonary tuberculosis. It may involve any organs in gastrointestinal system although peritoneum and intestinal system are involved most (6). It is most commonly seen in 3. and 4. decades as in our case. It is seen in both gender and it is a slowly progressing disease. However it has been reported to be seen more commonly among women in some case series (7). It has no specific diagnostic or clinical findings. Symptoms like fever, weight loss, abdominal pain, diarrhea and especially abdominal distension are frequently seen. Abdominal pain is hardly localized and begins slowly. Anemia is seen in most cases and leukocytosis is seen rarely (8). The most commonly seen laboratory abnormalities are elevated erythrocyte sedimentation rate and elevated CA-125 levels. Although CA-125 is used for follow up of ovarian cancer, it is not specific. It may elevate in many diseases including abdominal tuberculosis (9). Widespread ascites is seen in 97% of abdominal tuberculosis cases and that type of cases are named as wet type. Rebound is not seen in those cases as ascites hinders rubbing of parietal and visceral peritoneum. However, our case had severe peritoneal tenderness despite ascites. Thus she underwent urgent operation due to acute abdomen. As known, tuberculosis may mimic many diseases mainly malignancy. In our case, primarily gynecologic malignancy was considered due to family history and examination findings. We evaluated nodular masses on omentum and peritoneal surface as metastatic intraoperatively. We forgot to include tuberculosis in differential diagnosis of the patient who apply with ascites and abdominal pain in endemic areas as our country and exposed the patient to an additional surgical load.

Pathogenesis of abdominal tuberculosis is still speculative. Four main theories are in the foreground. Hematogenous spread of the primary infection, ingestion of infected milk or dairy products or infected saliva in cases with pulmonary tuberculosis are the first

two factors. Others possible mechanisms are direct contamination during dialysis in chronic renal failure patients and direct transport from fallopian tubes and infected intestinal system. Pulmonary tuberculosis is known to be present in 20% of abdominal tuberculosis cases. But making a diagnosis becomes difficult in absence of acute pulmonary tuberculosis. Abdominal tuberculosis may mimic inflammatory diseases, mainly Chron's disease, infectious diseases and malignancy. Presence of the patients who are diagnosed as Chron's disease in presence of ileocaecal involvement, who undergo aggressive surgical procedures like stomach resections or pancreaticoduodenectomy by misdiagnosing as malignancy in involvement of stomach or pancreas are known. There are neither specific radiologic findings nor specific clinical and laboratory findings. Calcified granulomas may be seen in solid organs like liver, spleen and pancreas on direct abdominal graphy. Widespread ascites, enlarged lymphadenopathies, omental and mesenteric thickenings may be detected on ultrasonography and tomography.

Diagnosis is usually made with examination of surgical specimen in patients who could not be diagnosed through laboratory and radiologic examinations. Surgical requirement is quite surprising for diagnosing a non-surgical disease. The most appropriate surgical treatment option is laparoscopic exploration and biopsy. Small whitish tubercles are seen intraabdominally. This appearance is pathognomonic in 85-90% of the cases (7,8). Alternatively, fluid sampling may be done in patients with widespread ascites. Culture results should be waited if the microorganism cannot be seen with direct examination. However, as in case series of Wells, cases in whom growing occurs neither with direct examination nor in culture are known. Additionally, paracentesis is not a harmless intervention. It has complications like intestinal perforation and hemorrhage. Alternatively, Lin reports that patients may be protected from unnecessary explorative laparoscopy through biopsy obtained with colonoscopy in abdominal tuberculosis cases with abdominal involvement (10). Treatment of abdominal tuberculosis is medical. Surgical treatment is indicated only in cases irresponsive to medical therapy. Studies indicate that 20% cases with abdominal tuberculosis are subjected to surgery at any period of their lives. Leading surgical indication is mechanic intestinal obstruction followed by bleeding, perforation, and fistulization. Surgical intervention is also applied when discrimination between malignancy cannot be made. Mortality rates are very high in undiagnosed and untreatable abdominal tuberculosis cases. Although Chang and Chen reported the mortality rate in their series as 13,2% and 14,8%, this rate is known to be able to reach 50-60%. Septic complications are the leading mortality causes (7-10).

In conclusion; abdominal tuberculosis may be detected in any organs of gastrointestinal system, mainly peritoneum and terminal ileum. Ascites is seen in most of the cases. Abdominal pain is frequently seen

and is blunt. It may mimic infectious and inflammatory diseases, mainly malignity. Thus, tuberculosis should be kept in mind in patients who present with ascites and peritoneal nodules in endemic areas as our country. Additionally, that peritoneal tenderness may be seen in abdominal tuberculosis should be kept in mind.

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