

## Abdominal tuberculosis in a non-immunosuppressed patient

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Tuberculosis (TB) remains prevalent in developing countries and has recently re-emerged in the Western world. The spread of the disease is aided by poverty and overcrowding. However, the increased prevalence of HIV and multidrug-resistant TB has accelerated the gravity of this epidemic [1-5]. The true incidence of intra-abdominal TB is unknown as patients with concurrent pulmonary TB may be asymptomatic from their abdominal disease or have a varied presentation mimicking other common and rare infectious and non-infectious abdominal diseases, including malignancies. This situation can make a proper diagnosis difficult, and may not only result in mortality but also in unnecessary surgery [1,2,5]. We report a case of abdominal tuberculosis who was admitted with severe abdominal pain and a palpable abdominal mass mimicking neoplasm on imaging studies.

A 29-year-old man originating from Ghana, presented with a two month history of abdominal pain. He had a free medical history and has lived in Athens for the last three years, without traveling abroad recently. The abdominal pain was constant and mainly peri-umbilical. He complained of constipation, anorexia and aggravation of abdominal pain by food intake. No fever, night sweats, diarrhea, or nausea were described. On clinical examination his abdomen was soft, but deep palpation was painful in the peri-umbilical area revealing a palpable mass of diameter 8cm. Additional findings included mild hepatomegaly and generalised lymphadenopathy (one cervical lymph node of diameter of 1cm, and multiple inguinal and femoral lymph nodes of maximum diameter of 2cm). Laboratory tests were non-specific and showed mild anemia (Hb 11.7g/dL), elevation of inflammatory markers (ESR 57mm, CRP 99.1mg/L, FIB 616 mg/dL) and increased CA-125 (69.1 U/mL). No parasites were found in stool examination. HIV antibodies were absent. TB skin test was

positive (20mm). The chest and plain abdomen radiography were unremarkable. A computed tomography of the abdomen revealed a hypodense mass of mesentery in midline, 5x8x8.5 cm, with normal outline, multi-lobed in some areas, and with mild peripheral enhancement. No ascites or lymphadenopathy was observed. The differential diagnosis included primary neoplasms (lymphangioma, mesothelioma, lipoma/sarcoma, leiomyoma/sarcoma, GIST), metastases from gastrointestinal tract tumors or testicles, lymphoma and infection (tuberculosis, actinomycosis). The computed tomography of the chest did not reveal any lesions. Bone marrow examination had non-specific findings. Exploratory laparotomy was performed to exclude the possibility of malignant tumor and during the operation a mesenteric mass that included jejunal loops was found, which was partially resected. It was a caseating epithelioid granulomas with central caseous necrosis and multinucleated giant cells, supposedly of tubercles. Acid-fast staining was negative and no microorganism grew from culture including the mass, bone marrow, blood, and urine. The patient received quadruple anti-TB therapy (rifampicin 600mg, isoniazid 300mg, pyrazinamide 1500mg, ethambutol 750mg) and recovered.

During the last few years an important increase in the proportion of extra-pulmonary TB has been noted, especially in immunosuppressed patients. A high index of suspicion

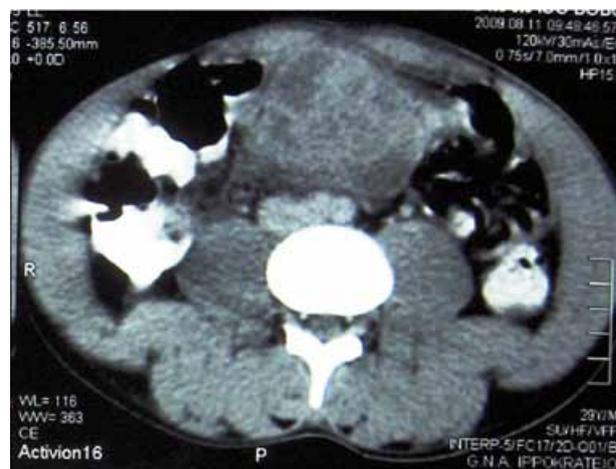
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**Figure 1** Computed tomography of the abdomen. A hypodense mass of mesentery 5x8x8.5 cm, multi-lobed in some areas, with mild peripheral enhancement

is an important factor in early diagnosis. Abdominal TB should be included in the differential diagnosis in persons originating from regions where TB is endemic, especially when an abdominal mass, ascites or elevated CA-125 is observed [1]. Smear and cultures are helpful only in a few cases, and investigation of ascitic fluid may be of diagnostic value for PCR and ADA examination [3]. Diagnosis is often delayed due to lack of specific symptoms and laboratory findings, therefore effective treatment is delayed with ensuing morbidity and mortality [1,5]. With increasing experience, laparoscopy has become the diagnostic procedure of choice and histology remains the main confirmatory method [1,4]. The treatment is aimed at improving nutrition, hydration status, administration of anti-TB drugs and surgical management of complications [3]. Early initiation of treatment helps to prevent morbidity and mortality [1,3].

In conclusion, intra-abdominal tuberculosis can mimic a variety of conditions including malignancies, and the prognosis

is good if the condition is quickly diagnosed and treated. A high index of suspicion and a non-surgical diagnosis remains a challenge.

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