Unusual presentation of tuberculosis in an elderly male: a case report

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Key Clinical Message
Tuberculous liver abscess is an extremely rare condition, even in tuberculosis endemic countries. A 68-year-old male presented with 2 months of fever, significant weight loss, and hepatomegaly. Ultrasonography revealed a right hepatic lobe abscess. Guided aspiration of the fluid showed tubercular bacilli. He had no evidence of active Tuberculosis elsewhere.

Keywords
Elderly, liver abscess, Mycobacterium tuberculosis.

Introduction
In the elderly, liver abscess has been emerging as one of the common differentials of acute abdomen. Liver is the organ most subjected to the development of abscesses [1]. Based on etiology, liver abscess has been conventionally classified as (a) Amoebic, (b) Pyogenic, and (c) Fungal [2]. Tuberculous liver abscess (TLA) is an extremely rare condition, even in the countries of South Asia, where tuberculosis is an alarming public health problem. Hepatic tuberculosis is a rare but not an exceptional form of extrapulmonary tuberculosis [3]. The respiratory and gastro-intestinal tracts are the major sources of infection and the bacilli travel there via hepatic artery or the portal vein [4]. Primary TLA, with no evidence of infection elsewhere, is even less common.

Case Report
A 68-year-old male was admitted in our in-patient ward with a history of low-grade fever for 2 months, epigastric pain with episodic nausea and vomiting, anorexia and history of unintentional weight loss. He was diagnosed with pulmonary tuberculosis thirty years back and had taken a full course of antitubercular drugs. He denied the use of tobacco products, alcohol, or any other illicit drugs. Similarly, he had no history suggestive of any high-risk behavior.

On examination, he was conscious, well oriented in time, place, and person. He was febrile with other vital parameters within the normal range. He did not have clubbing, edema, or palpable lymph nodes. He had a nontender hepatomegaly but no splenomegaly. Respiratory and cardiovascular system examination was essentially normal in this patient.

He had hemoglobin level of 10.1 g/dL (normal: 13.3–16.2 g/dL) and total leukocyte count of 6500/mm³ (normal: 4000–11000/mm³). Erythrocyte sedimentation rate was 70 mm in the first hour (normal: 0–20 mm in the first hour, Wintrobe’s method). Kidney function test was normal. Liver functions tests (LFT) showed a total bilirubin of 1.4 mg/dL (normal: 0.3–1.2 mg/dL), serum alkaline phosphatase (ALP) of 290 U/L (normal: 40–280 U/L), aspartate aminotransferase (AST) of 132 U/L (normal: 12–38 U/L), alanine aminotransferase (ALT) of 181 U/L (normal: 7–41 U/L). Ultrasonography (US) of the abdomen revealed a large heterogeneously hypoechoic lesion with internal echoes in the segment six of liver suggestive of abscess (Fig. 1). A contrast-enhanced computerized tomographic (CT) scan of abdomen also revealed abscess in the right lobe of liver (Fig 2). There was no significant
mesenteric, retroperitoneal, or pelvic lymphadenopathy with no other focal lesion. No perihepatic or pleural effusion was seen. All other abdominal viscera appeared normal with no free fluid.

He was started on intravenous Ceftriaxone and Metronidazole. His clinical conditions did not improve even after 1 week of treatment. A follow-up US showed no reduction in the size of the abscess. Under US guidance, a pig-tail catheter was inserted, and around 100 mL of thick cream colored fluid was aspirated. The fluid was negative for any gram positive or negative bacteria. Fungal stain was also negative. Ziehl–Neelsen staining of the specimen showed *Mycobacterium tuberculosis* (MTB) in the specimen (Fig. 3). Contrast-enhanced CT of the chest had signs of old pulmonary tuberculosis but none of active tuberculosis. Sputum as well as broncho-alveolar lavage fluid stain for acid-fast bacilli (AFB) as well as Gene-expert for MTB were negative. The patient was nonreactive in HIV serology. The diagnosis of primary TLA was made.

As he had a history of pulmonary tuberculosis, TLA was considered as a relapsed form of tuberculosis. With that consensus, he was started on systemic antitubercular treatment (ATT) of twelve months duration, and this included isoniazid (300 mg once daily), rifampicin (450 mg once daily), pyrazinamide (1200 mg once daily), ethambutol (750 mg once daily), intramuscular streptomycin (750 mg once daily), and pyridoxine (20 mg once daily) which was to be continued for 2 months. After 2 months, the patient was instructed to take all the drugs, other than Streptomycin for 2 more months. For the remaining last 8 months, the patient was instructed to take rifampicin (450 mg once daily) and isoniazid (300 mg once daily) with pyridoxine (20 mg once daily). The patient improved significantly within 1 week of initiation of ATT with normalization of his biochemical parameters. He was then discharged with periodic follow-up plans.

At the follow-up visit after 4 months, the patient was asymptomatic, his liver size had decreased and a repeat US of abdomen revealed regression of the abscess. He was free of adverse drug effects like drug-induced hepatitis (common with isoniazid and rifampicin), gastro-intestinal upsets (common with rifampicin), or symptoms suggestive of peripheral neuropathy (common with isoniazid). The patient will be under our observation till he finishes the complete course of ATT.

**Discussion**

TLA is as a very rare condition. No isolated TLA was described in two prospective reviews by Amarapurkar et al.
et al. [5] and Maharaj et al. [6] involving 171 non-AIDS patients with hepatic Tuberculosis. Primary tuberculuous abscess of the liver has been reported sporadically, with only 17 cases previously reported in the literature [7]. Chaudhary reports a single case of isolated tuberculuous liver abscess in his review article on hepatic tuberculosis and mentions it to be a rare manifestation of hepatobiliary tuberculosis [8]. Miliary tuberculosis was frequently associated with most of the cases of TLA. TLA has nonspecific symptoms and signs. Fever, vague abdominal pain, anorexia, and weight loss are the most common modes of presentation by the patients. Hepatomegaly is a common physical finding.

TLA is frequently confused with hepatoma, amoebic, and pyogenic liver abscess [9] or empyema of gall bladder [10]. It is usually diagnosed at autopsy or occasionally after laparotomy because of its nonspecific clinical presentation [11]. Despite having low specificity in TLA [12], CT and US are very helpful in delineating the site, size, and multisepate nature of the abscess [4]. AFB are most easily found in caseous necrotic material. Demonstration of AFB in the aspirated pus, pus culture showing MTB, positive Enzyme-linked Immunosorbtant assay (ELISA), and Polymerase Chain Reaction (PCR) for MTB are the various methods for the confirmation of the diagnosis [13]. Even the absence of AFB should not detract from diagnosis, especially in countries with high prevalence of tuberculosis [3]. Medical treatment of TLA has always been a disputable issue. Some of the authors postulate that the presence of thick fibrous tissue around the abscesses and their large size may prevent antitubercular drugs from reaching the target [14]. Despite that, ATT alone or in conjunction with percutaneous aspiration is the preferred therapeutic option till date [15]. Surgery is reserved for cases of unsuccessful attempts of percutaneous aspiration, inaccessible site, and multisepate nature of the abscess. In our case, the abscess was drained percutaneously and the patient was discharged on ATT.

Conclusion

Thus, tuberculosis can have a varied presentation in the elderly population. The clinical features are also quite different in the elderly in comparison to their younger counterparts. We suggest that treating physicians should be vigilant for TLA in cases of liver abscess not responding to optimal therapy with conventional antibiotics, antiprotozoals, or antifungals.

Conflict of Interest

None declared.

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