

Abstract

A 43-year-old immunocompetent woman presented with fever, constitutional symptoms, weight loss, and multiple organ abscesses and inguinal lymphadenopathy. Initially suspected as a pyogenic liver abscess caused by *Escherichia coli*, further investigations revealed a mixed infection with *Mycobacterium tuberculosis*. The patient had a history of tuberculosis (TB) exposure and exhibited features suggestive of disseminated tuberculosis on imaging and biopsy. A positive TB GeneXpert test and TB culture confirmed the diagnosis. Prompt recognition and appropriate treatment are crucial in managing mixed pyogenic and tuberculosis liver abscess. This case highlights the importance of considering tuberculosis as a potential cause of liver abscess, even in immunocompetent individuals, particularly in regions with high tuberculosis prevalence.

Case presentation

We present a case of a 43-year-old previously healthy woman with a three-month history of fever, constitutional symptoms, weight loss, and generalized fatigue. She exhibited night sweats, productive cough, and bilateral inguinal lymphadenopathy. The patient denied specific gastrointestinal, respiratory, or genitourinary symptoms. On examination, she appeared emaciated, febrile, and pale, with tenderness noted in the right hypochondrium. Laboratory investigations revealed anemia, leukocytosis, thrombocytosis, elevated inflammatory markers, deranged liver function tests, and hypercalcemia. Imaging studies demonstrated multiple abscesses in the liver, kidneys, spleen, and lungs, along with mediastinal and hilar lymphadenopathy. Inguinal lymph node biopsy showed non-necrotizing granulomatous inflammation, raising

possibilities of atypical mycobacterial infection or tuberculosis. Liver aspiration revealed a mixed presentation with turbid fluid, numerous pus cells, and positive TB GeneXpert and culture for *Mycobacterium tuberculosis*. Concurrently, bacterial culture identified Lactose fermenting coliform bacteria (LF coliform). Bronchoscopy and sputum cultures also grew LF coliform. The patient was diagnosed with disseminated tuberculosis and underwent a multidisciplinary team approach for treatment. She was initiated on a nine-month course of Anti-TB drugs. Additionally, the patient received comprehensive management, which involved the administration of intravenous antibiotics, mebendazole, and a blood transfusion. The treatment plan was specifically tailored to address both the pyogenic and tuberculosis components of the liver abscess, ensuring the best possible care for the patient's condition. This case highlights the diagnostic challenges and importance of considering tuberculosis as a potential etiology in patients with multiorgan abscesses, constitutional symptoms, and granulomatous inflammation. Prompt recognition, appropriate diagnostic tests, and multidisciplinary management are essential for optimal patient care and outcomes.

Conclusion

This rare case of a mixed pyogenic and tuberculosis liver abscess emphasizes the significance of considering tuberculosis as a potential cause, even in immunocompetent individuals with multiorgan abscesses. Prompt recognition, accurate diagnostic tests, and a comprehensive multidisciplinary approach are vital for effective management and improved patient outcomes, particularly in regions with high tuberculosis prevalence.