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Case Report

Isolated Tubercular Liver Abscess- A Rare Phenomenon.

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Abstract

Introduction: Isolated hepatic tuberculosis is an uncommon and often under-recognized manifestation of extrapulmonary tuberculosis. Its presentation as a persistent sterile liver abscess poses significant diagnostic difficulty, particularly in the absence of microbiological confirmation.
Case report: We report a 42-year-old immunocompetent male with multiple hepatic abscesses unresponsive to prolonged broad-spectrum antimicrobial therapy and repeatedly sterile aspirate cultures. Despite appropriate conventional management, clinical and radiological findings remained static. In the context of endemicity and after systematic exclusion of common aetiologies, empirical antitubercular therapy was initiated following multidisciplinary evaluation. The patient demonstrated rapid defervescence within 72 hours, followed by sustained biochemical normalization and progressive radiological resolution.
Conclusion: This case highlights the limitations of conventional diagnostics in hepatic tuberculosis and emphasizes the role of informed, context-driven therapeutic decision-making in refractory hepatic abscess.

Keywords: Hepatic tuberculosis; Liver abscess; Sterile. Refractory hepatic abscess; Empirical antitubercular therapy.

INTRODUCTION

Tubercular liver abscess (TLA) is most commonly associated with an immunocompromised state, a focus of infection in the lungs or gastrointestinal system, or as part of congenital or miliary tuberculosis. [1] Isolated TLA is rare, with only a few cases reported in the literature. [2] It remains a major global health concern, with endemic regions continuing to bear a substantial disease burden. Although pulmonary involvement predominates, extrapulmonary tuberculosis accounts for a significant proportion of cases. Hepatic tuberculosis, particularly in its isolated form, is rare and frequently overlooked. From a hepatology standpoint, focal hepatic tuberculosis can mimic pyogenic abscess, amoebic abscess, or necrotic hepatic malignancy. Clinical manifestations are nonspecific, laboratory findings are variable, and imaging lacks pathognomonic characteristics. Furthermore, microbiological confirmation from hepatic lesions is often limited by low bacillary load and sampling constraints. These factors collectively contribute to diagnostic delay and therapeutic uncertainty.

CASE REPORT

A 42-year-old male with a 13-year history of tobacco and alcohol use presented with high-grade fever of two weeks' duration and right hypochondrial pain. He also reported a brief episode of loose stools (1–2 days), associated abdominal discomfort, and mild unintentional weight loss. There was no history of diabetes mellitus, hypertension, chronic liver disease, or immunosuppression. On examination, he was hemodynamically stable (blood pressure 106/54 mmHg, pulse 98/min, oxygen saturation 98% on room air). Abdominal examination revealed localized tenderness in the right upper quadrant without peritoneal signs. Laboratory investigations demonstrated anemia (haemoglobin 8.1 g/dL), leucocytosis (13,900/mm^3), platelet count 3.5 lakh/mm^3, and hypoalbuminemia (2.3 g/dL). Liver biochemistry revealed mild transaminitis (AST 74 U/L, ALT 30 U/L) with elevated alkaline phosphatase (339 U/L), while bilirubin levels remained within normal limits. Renal function, serum electrolytes, lipid profile, and viral serologies for hepatitis B, hepatitis C, and HIV were unremarkable. Ultrasonography identified multiple hepatic

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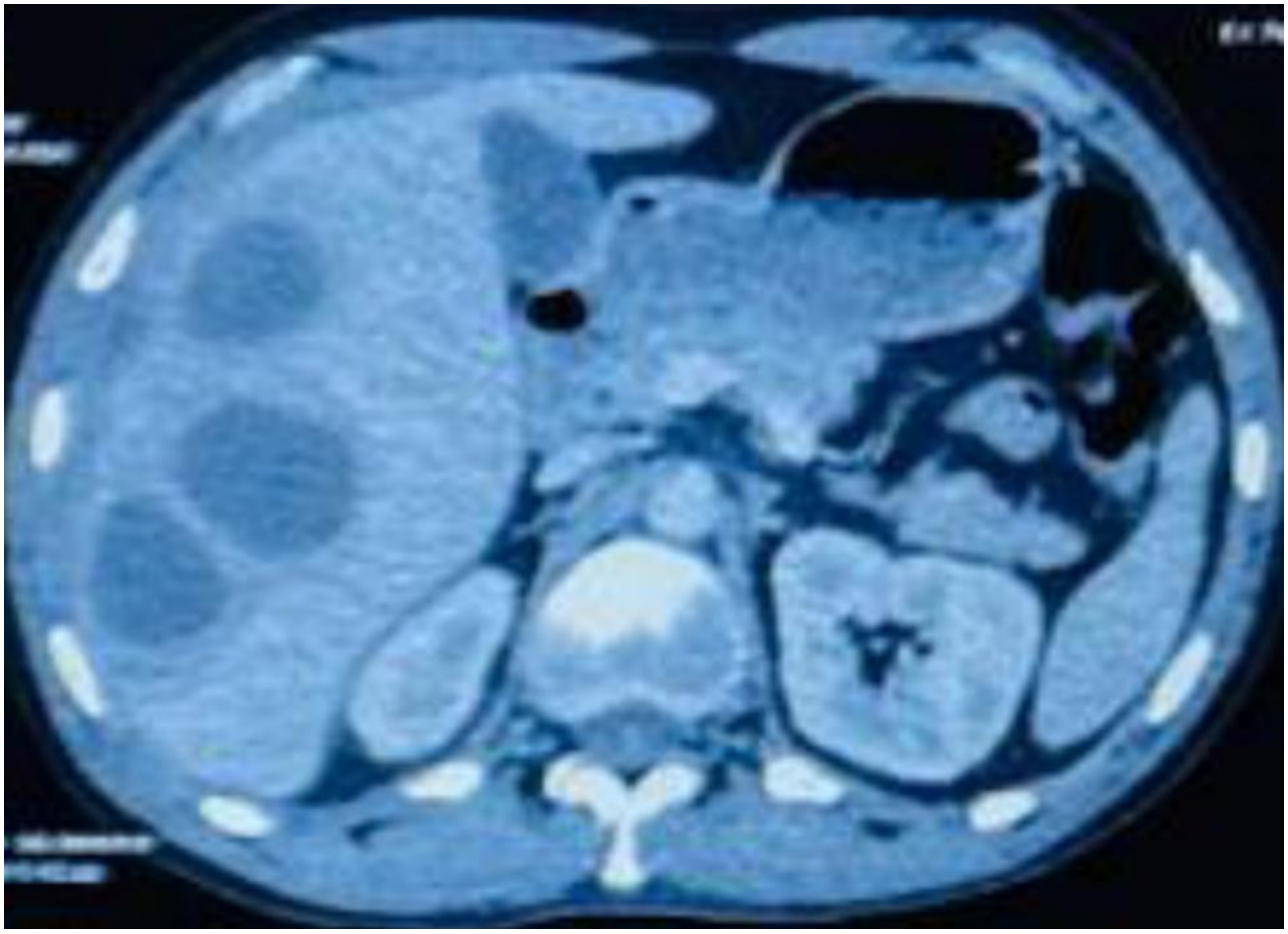
abscesses, the largest measuring 4.2 × 5.6 × 6.2 cm in the right lobe. Ultrasound-guided aspiration yielded approximately 20 mL of thick purulent material. Pus culture was sterile, and no microbial growth was detected. Later on, two more aspiration of pus was done of 120 ml and 50 ml respectively but after that repeat aspiration attempts were unsuccessful due to poorly liquefied contents. At this stage, due to non- resolution of symptoms, contrast enhanced computed tomography scan was done which confirmed the findings of ultrasonogram abdomen of multiple liver abscess. Despite three weeks of appropriate broad-spectrum intravenous antimicrobial therapy, the patient continued to experience evening febrile spikes and persistent pain, with no appreciable radiological regression on contrast-enhanced CT imaging. Given the refractory clinical course, persistently sterile aspirates, endemic epidemiological context, and exclusion of common pyogenic and parasitic causes, a tubercular aetiology was considered in the differential diagnosis. Following multidisciplinary deliberation, normalization of liver function parameters, and informed consent, empirical antitubercular therapy was initiated with close biochemical monitoring. Within 72 hours of therapy initiation, the patient became afebrile and reported significant symptomatic relief. Subsequent follow-up demonstrated progressive normalization of inflammatory markers, improvement in serum albumin, and radiological regression of hepatic lesions, thereby supporting the working diagnosis.

Figure 1. CECT Scan Abdomen Showing Multiple Liver Abscess.



DISCUSSION

Isolated hepatic tuberculosis is an infrequent yet clinically important differential diagnosis in persistent sterile liver abscess, particularly in tuberculosis-endemic regions. Abscess formation secondary to Mycobacterium tuberculosis is uncommon and radiologically indistinguishable from pyogenic collections in most cases. Hepatic tuberculoma is characterized by the formation of granulomas, which may heal with localized fibrosis and calcification or merge to create tuberculomas or necrosis, which can lead to an abscess if the lesion is large enough. [3] The diagnosis of TLA is difficult and usually made at autopsy or sometimes if a laparotomy has been done [4]. In endemic regions, hepatic TB can present in the form of a hepatic abscess, as an intrahepatic mass, or as granulomatous hepatitis (fever with hepatomegaly and mildly deranged liver function tests) [5]. The presentation of the TLA is usually nonspecific symptoms such as fever, vague abdominal pain, malaise, and weight loss. Hepatomegaly

is a common finding on examination, but jaundice is rarely encountered and usually suggests biliary involvement in the form of extra or intrahepatic obstruction. There is no apparent link between the severity of liver disease and jaundice [6]. Negative cultures do not reliably exclude tuberculosis, given the typically low bacillary burden in hepatic lesions. Failure to respond to appropriate antimicrobial therapy should prompt systematic reassessment of aetiology. In this case, sustained symptoms despite adequate coverage and sterile aspirate findings necessitated diagnostic reconsideration. The marked and rapid clinical response to antitubercular therapy provided therapeutic confirmation in the absence of microbiological proof. While empirical therapy must be exercised with caution and only after reasonable exclusion of common causes, this case underscores the importance of integrating epidemiological context, clinical trajectory, and biochemical trends in hepatology practice. Thoughtful, evidence-informed clinical judgment remains indispensable when conventional diagnostics are inconclusive.

CONCLUSION

There is limited literature regarding Tuberculous liver abscess cases without active pulmonary or miliary tuberculosis or other clinical signs of tuberculosis. The symptoms and signs of isolated TLA are non–specific, and the diagnosis requires a high index of suspicion, especially in endemic TB areas. An early diagnosis and timely treatment with anti- tubercular medications leads to favourable outcome.

Conflict Of Interst

The authors declare that there was no conflict of interest and patient consent was taken before publication of this case report. Moreover, no financial assistance was taken for the same.

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