

Navigating a *Candida albicans* liver abscess case in an immunocompromised patient

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ABSTRACT

This case report describes a rare instance of *Candida albicans* liver abscess in a 46-year-old immunocompromised man with extensive medical history. The report underscores the diagnostic challenges in such atypical presentations and emphasizes the critical role of a multidisciplinary approach for effective management.

Keywords: *Candida albicans*, hepatic abscess

INTRODUCTION

Candida albicans liver abscesses are uncommon, severe manifestations of disseminated candidiasis, primarily seen in immunocompromised patients. This report reviews a case of a liver abscess caused by *Candida albicans* in an immunocompromised man. This patient was immunosuppressed due to type 1 diabetes mellitus and a history of multiple surgeries, including pancreatectomy, gastro-jejunostomy, and splenectomy.

This case reviews the pathogenesis, clinical manifestations, diagnostic challenges, and management strategies of this rare condition.

CASE

This patient was 46-year-old man with a significant medical history, including chronic alcoholic pancreatitis, type 1 diabetes, chronic obstructive pulmonary disease, epilepsy, depression, and multiple abdominal surgeries, including pancreatectomy and splenectomy one year prior to presentation and gastrojejunostomy four years prior to presentation. His home medications were

levetiracetam, aspirin, buprenorphine, citalopram, duloxetine, quetiapine, pregabalin, promethazine, cyanocobalamin, diphenhydramine, megestrol, methocarbamol, pancreatic lipase, and pantoprazole. He had no history of receiving total parenteral nutrition and no history of fungemia or bacteremia. He presented with intermittent right upper quadrant abdominal pain, which had worsened over the past two days. Given his complex medical history, an infectious etiology was suspected. Significant laboratory test included an elevated alkaline phosphatase of 146 U/L, a low albumin of 2.3 gm/dL, a low lipase of 11 U/L, an elevated glucose of 159 mg/dL; alanine aminotransferase, aspartate aminotransferase, and lipase levels were normal. Procalcitonin was elevated to 0.93 ng/mL. Complete blood count revealed an elevated white blood cell count of $17.2 \times 10^3/\mu\text{L}$, a low hemoglobin of 10.3 gm/dL, a low hematocrit of 32%, and a low platelet count of $96 \times 10^3/\mu\text{L}$.

Computed tomography of the abdomen and pelvis revealed two liver abscesses, measuring 5.6 × 5.7 cm and 1.7 × 1.7 cm (Figure 1). Image-guided drainage was performed, and cultures of the drain fluid grew *Candida albicans*. This finding was consistent with his history of *Candida* growth in intra-abdominal fluid collections following previous surgery and pancreatitis. The patient was started on oral fluconazole 400 mg daily for 4 weeks, which led to clinical improvement, and he was eventually transferred to inpatient rehabilitation before stable discharge.

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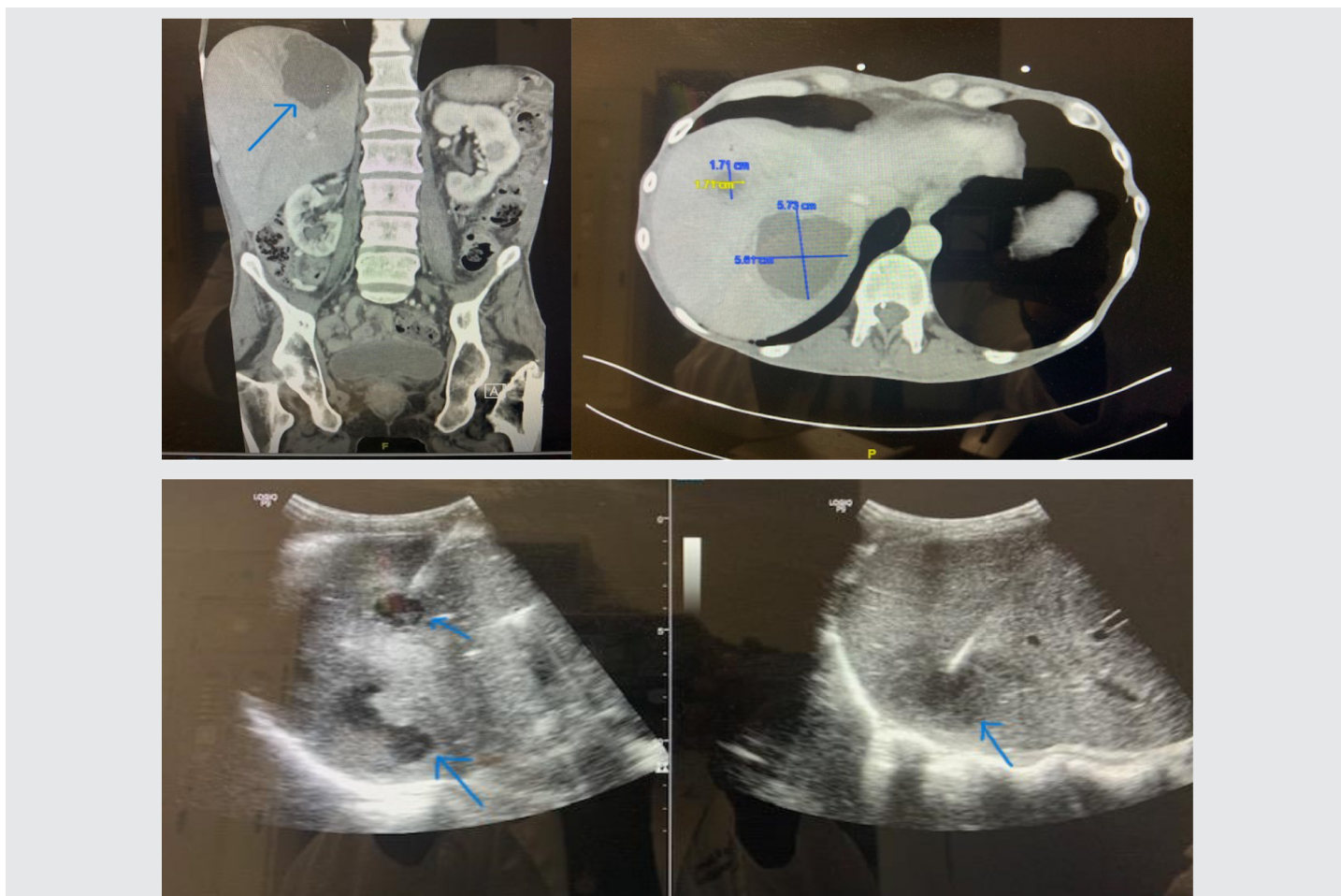


Figure 1. Computed tomography scans scan (upper row) showing 2 liver abscesses, measuring 5.6 × 5.7 cm and 1.7 × 1.7 cm. Right upper quadrant scans (lower row)-Interventional Radiology guided image of the liver abscesses.

DISCUSSION

Candida albicans liver abscesses occur more frequently in immunocompromised patients than in immunocompetent patients. The pathogenesis typically involves the dissemination of *Candida* species from a primary site, often the gastrointestinal tract, to the liver through the bloodstream. In this patient, a combination of factors, such as previous intra-abdominal surgeries, altered anatomy, poorly controlled diabetes mellitus, alcohol abuse, and malnutrition likely contributed to his susceptibility to this infection. The clinical presentation of these abscesses is often nonspecific, making the diagnosis challenging. It requires a high index of suspicion in patients with risk factors. Management

involves antifungal therapy, with choices including fluconazole, voriconazole, or echinocandins, and possibly surgical interventions. The prognosis is contingent upon the patient's immune status, the extent of the infection, and the timeliness of the intervention.

CONCLUSION

Candida albicans liver abscess, though rare, poses a significant threat, particularly in immunocompromised patients. Early recognition, accurate diagnosis, and aggressive therapeutic intervention are key to achieving optimal outcomes. A comprehensive, multidisciplinary approach is often indispensable for the management of complex patient needs in such cases.

Imaging had a pivotal role in this case. Computed tomography scans revealed two liver abscesses, and image-guided drainage procedures provided crucial diagnostic and therapeutic interventions.

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