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Case Report

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Clinical Case of Liver Abscess as A Manifestation of Hepatocellular Carcinoma

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Abstract

Hepatocellular carcinoma is between the first ten most common cancers in the world, and its incidence is predicted to increase. In this case report we present a 68 years old man who had type 2 diabetes mellitus and hypertension without adequate adherence to treatment. He started 15 days before getting admitted to the hospital with fever, abdominal pain located at the upper right quadrant and weight loss. He had some risk factors associated with liver abscess, therefore he was treated with multiple antibiotics but without adequate response. After performing imaging studies, a liver biopsy was performed and it was diagnosed as an abscessed hepatocellular tumor, classified as a Hepatocellular carcinoma (HCC) Barcelona C.

Keywords: Liver abscess, hepatocellular carcinoma, fever, loss weight, pain, immunosuppression.

Introduction

Hepatocellular carcinoma (HCC) is a primary malignant neoplasm of the liver that represents a major health problem worldwide. Its incidence is increasing due to the prevalence of chronic viral hepatitis and other risk factors such as liver cirrhosis and nonalcoholic steatohepatitis [1]. HCC can manifest itself in various ways, and in some cases, its initial presentation may be atypical, making its timely diagnosis difficult. One of these atypical presentations is the formation of liver abscesses, which can occur due to spontaneous tumor necrosis or biliary obstruction caused by HCC [2].

Pyogenic liver abscess (PLA) is a bacterial infection of the liver parenchyma characterized by the formation of pus. Although it is a rare entity, its incidence has increased in recent decades, especially in East Asian countries [3]. The differential diagnosis between HCC and liver abscess can be complex, since both conditions can present similar symptoms such as fever, abdominal pain, and abnormalities in liver function tests [4].

PLA as an initial manifestation of underlying hepatocellular carcinoma is a rare but not exceptional entity. In Taiwan, where both diseases are prevalent, a frequency of 2.15% of AHP as the first manifestation of HCC has been reported. The main risk factors for this presentation are liver cirrhosis, hepatitis B or C virus infection, and advanced age [5].

This case report describes a patient who presented with a liver abscess as the initial manifestation of underlying HCC, highlighting the importance of considering this possibility in patients with risk factors for HCC, especially in areas where both diseases are prevalent.

Clinical case presentation

This is a 68-year-old male, with a history of type 2 diabetes and high blood pressure without specific treatment. He was admitted due to a 15-day history of fever, generalized abdominal pain and jaundice. He arrived from another hospital already treated with multiple antibiotics without clinical response, with the diagnosis of probable pyogenic liver abscess. In the laboratories, leukocytosis of 14,000, abnormal liver function test with cholestatic pattern and alpha fetoprotein (AFP) greater than 20,000 were observed. In the abdominal computed tomography (CT) two lesions were identified: the first located in segments VI, VII and VIII, measuring 114.3 x 130.3 x 124.9 mm, with an approximate volume of 961 cc, compatible with liver abscess (Fig.1). The second lesion presented heterogeneous enhancement in the arterial phase and washout in the venous phase, located in segments IVa and measured 52.9 x 66 mm (Fig. 2). CT scan guided drainage was performed (Fig. 3) with discharge of purulent content, and a biopsy of the solid component was taken, which reported moderately differentiated hepatocellular carcinoma.

The microbiological study was negative, but the sample was obtained after starting intravenous antibiotics. He was evaluated by the surgical oncology department, which classified it as a Barcelona C hepatocellular carcinoma, not being a candidate for right hepatectomy due to liver volume try with functional residual liver of 20%. The clinical oncology department determined that he was not a candidate for systemic treatment due to the patient's functional status and deterioration of the liver profile. He was discharged with palliative care, and is currently being monitored at the medical oncology external department.

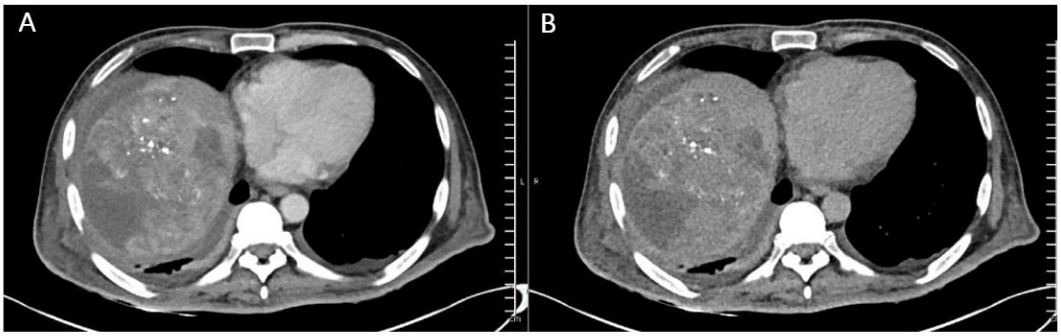

Fig. 1. Dynamic liver tomography, arterial fase (A) and delayed pase (B). Lesion in VI, VII and VIII segments, measuring 114.3 x 130.3 x 124.9 mm, with an approximate volume of 961 cc, compatible with liver abscess

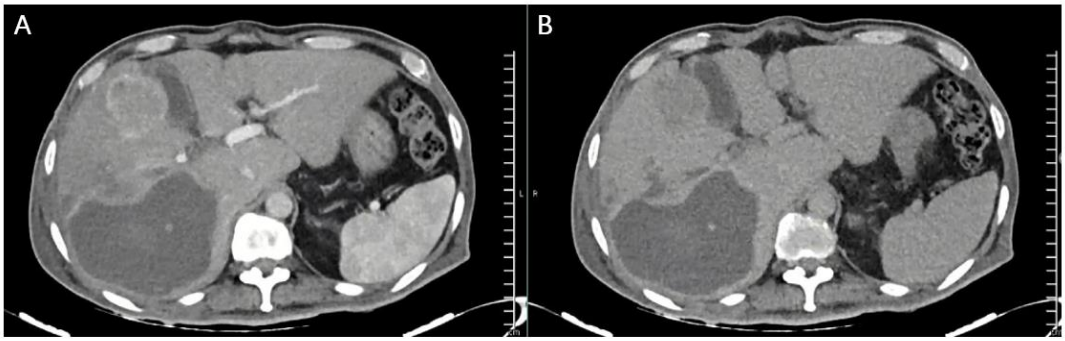

Fig 2. Dynamic liver tomography.
Lesion with heterogeneous enhancement in the arterial phase (A) and washout in the delayed phase (B), which are located in IVa segment and measures 52.9 x 66 mm

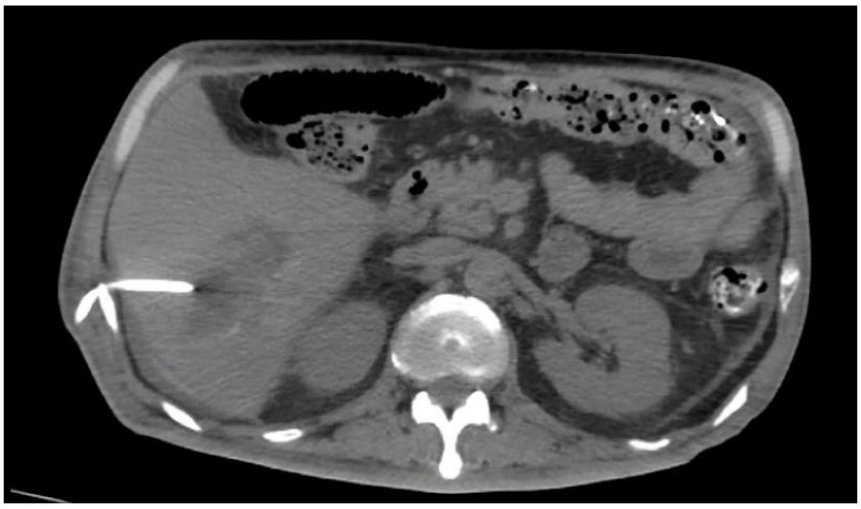

Fig 3. Simple liver tomography. Observed placement of catheter for drainage of liver abscess

Discussion

The prognosis of patients with PLA as the initial manifestation of HCC is generally unfavorable. The 2-year survival is lower in these patients compared to those with HCC without PLA (30% vs. 37%) [5].

The differential diagnosis of a liver abscess in a patient with risk factors for hepatocellular carcinoma includes entities such as amoebic abscess and complicated hydatid cysts. However, the presence of a hypervascular nodular lesion on computed tomography, together with elevated alpha-fetoprotein levels and histopathological biopsy findings, confirmed the diagnosis of hepatocellular carcinoma. Liver biopsy is essential for an accurate and timely diagnosis. A high index of suspicion for HCC should be had in patients with AHP who have risk factors. Aspiration of the abscess, guided by imaging studies, can be useful to obtain material for culture and antibiogram, as well as for cytological analysis in search of malignant cells [6].

In some cases, HCC may mimic an organized liver abscess with calcification, which may delay diagnosis [7].

Treatment of HCC in this setting may include transhepatic arterial chemoembolization, surgery, or both. The choice of treatment depends on several factors, including the patient's general condition, the size and location of the tumor, and the presence of metastases [6, 8].

Conclusion

Pyogenic liver abscess and hepatocellular carcinoma are two complex clinical entities. The coexistence of both pathologies represents a diagnostic and therapeutic challenge, since PLA can mask the diagnosis of HCC, especially in patients with liver cirrhosis.

It is essential that physicians get familiarized with atypical presentations of HCC, such as abscess formation, especially in those with risk factors such as cirrhosis, hepatitis B or C virus infection, immunosuppression and advanced age. The differential diagnosis between both entities can be complex, and liver biopsy plays a fundamental role in confirming the diagnosis and avoiding delays when there is a diagnosis doubt due to imaging and clinical presentation.

Early identification of HCC in these patients may improve prognosis and allow timely treatment. More studies are needed to understand the relationship between both diseases and develop new therapeutic strategies.

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