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ABDOMINAL IMAGING

LETTER TO THE EDITOR

Hepatic alveolar echinococcosis: a great tumor mimicker

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To the editor,

We read with great interest the recent article titled "Tumor-like conditions that mimic liver tumors" by Stanietzky et al.[1] which comprehensively reviewed non-neoplastic hepatic lesions that can resemble liver malignancies on imaging. We would like to contribute to this important discussion by drawing attention to another critical mimicker of hepatic tumors: alveolar echinococcosis (AE). In this context, we aim to present a case from our institution that demonstrated magnetic resonance imaging (MRI) findings mimicking a hepatic mass. A 35-year-old female patient was referred following the detection of a liver mass on ultrasonography due to abdominal pain. Dynamic contrast-enhanced liver MRI performed at our hospital revealed a 7-cm hypovascular lesion in segments 2/4a of the liver. The lesion appeared hypointense on T1-weighted images and mildly hyperintense on T2-weighted images. On T2-weighted sequences, punctate hyperintense foci were observed within the lesion. Diffusion-weighted imaging demonstrated peripheral ring-like diffusion restriction, and the apparent diffusion coefficient map showed a hypointense rim limited to the periphery. Except for septum-like internal structures, no significant contrast enhancement was noted in the lesion (Figure 1). Prospectively, the lesion was interpreted as an unspecified hepatic mass with concerning features. The mass-like appearance, peripheral diffusion restriction, and hypovascular enhancement pattern suggested intrahepatic cholangiocarcinoma as the primary differential diagnosis, with metastatic disease also considered despite no known primary malignancy. The case was discussed in a multidisciplinary tumor board meeting, and surgical resection was planned for both diagnostic and therapeutic purposes, as percutaneous biopsy was not performed due to concerns regarding potential tumor seeding. Preoperative imaging evaluation suggested a localized lesion confined to the left hepatic lobe without evidence of lymphadenopathy or distant metastases (clinical stage T1–2 N0 M0, assuming intrahepatic cholangiocarcinoma). Given the resectable nature of the lesion and the patient's good performance status, upfront surgical resection was indicated according to standard management guidelines for early-stage intrahepatic cholangiocarcinoma, as neoadjuvant therapy is not routinely recommended for resectable disease. The patient underwent left hepatic lobectomy. Macroscopic examination of the resected specimen revealed a tumor-like lesion measuring 8 × 7 × 4 cm, infiltrating the liver capsule, with a cream-yellow color and focal areas of hemorrhage, but without overt necrosis. Histopathological evaluation confirmed the diagnosis of AE. Upon retrospective review of the MRI, punctate hyperintense foci within the lesion—possibly corresponding to small vesicles—were noted on T2-weighted images. The term "alveolar" in AE refers to the presence of multiple vesicles resembling alveoli within the lesion.[2] Therefore, these small cystic components could have raised the suspicion of AE in the differential diagnosis of this mass-like lesion on MRI.

AE is a parasitic infection caused by *Echinococcus multilocularis* that primarily involves the liver. This disease may manifest as infiltrative hepatic masses with irregular borders, central necrosis, calcifications, and absence of significant contrast enhancement—features that can closely mimic cholangiocarcinoma or metastasis. Its tumor-like growth pattern and potential for local invasion and distant spread further complicate differentiation from true neoplastic entities.[2,3] In endemic areas, including parts of Central Europe and Türkiye, AE should be considered in the differential diagnosis of atypical hepatic lesions, particularly when calcifications and multiple small vesicular components are present.

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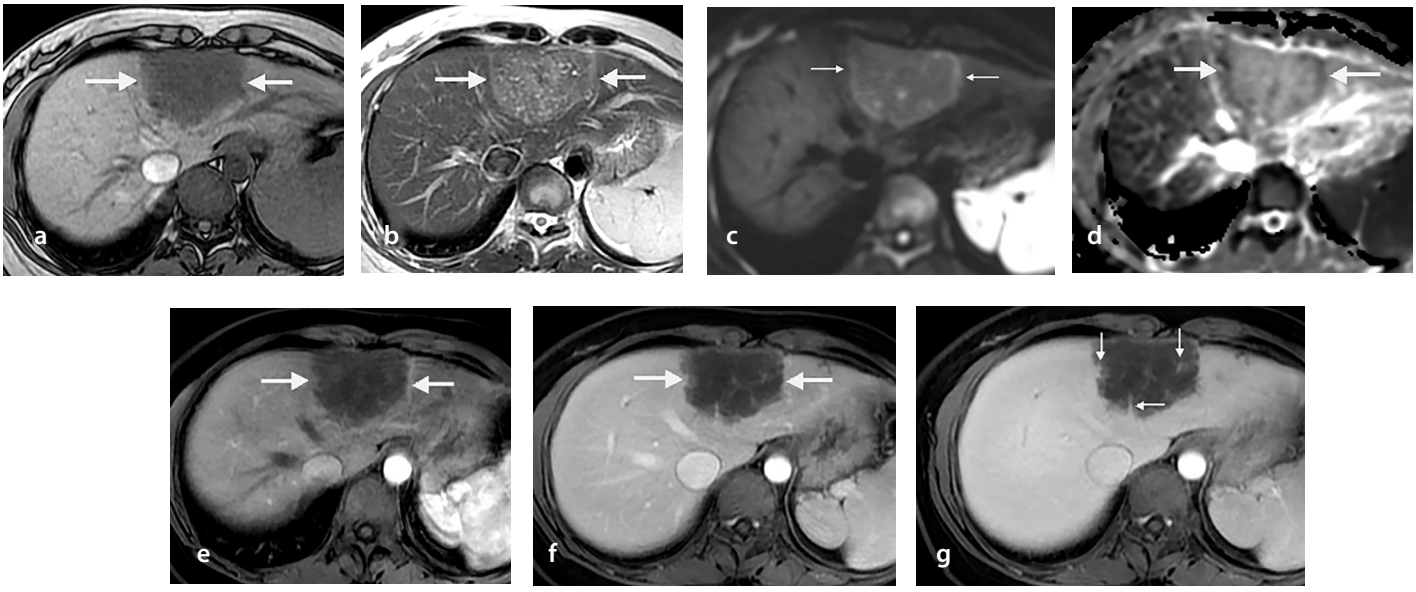

Figure 1. A 35-year-old woman with hepatic alveolar echinococcosis. On dynamic contrast-enhanced liver magnetic resonance imaging, a 7-cm mass-forming lesion (arrows in **a–f**) was observed in segments 2/4a. It appeared hypointense on T1-weighted images **(a)** and mildly hyperintense on T2-weighted images **(b)**. Note the punctate hyperintense foci within the lesion on T2-weighted images, possibly corresponding to small vesicles. Diffusion-weighted imaging **(c)** demonstrated peripheral ring-like diffusion restriction, and the apparent diffusion coefficient map **(d)** revealed a hypointense rim confined to the periphery. On post-contrast arterial **(e)**, venous **(f)**, and hepatobiliary **(g)** phases, no significant contrast enhancement was noted within the lesion, except for minimal enhancement along septum-like internal structures (small arrows in **g**).

Misdiagnosis may lead to inappropriate management, including unnecessary surgical resections or delayed antiparasitic treatment in inoperable patients.[3] We believe that recognizing AE as a hepatic tumor mimic and including it among radiologic differentials—especially in endemic regions—is vital for accurate diagnosis and appropriate therapy planning.

Footnotes

Conflict of interest disclosure

The authors declared no conflicts of interest.

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