



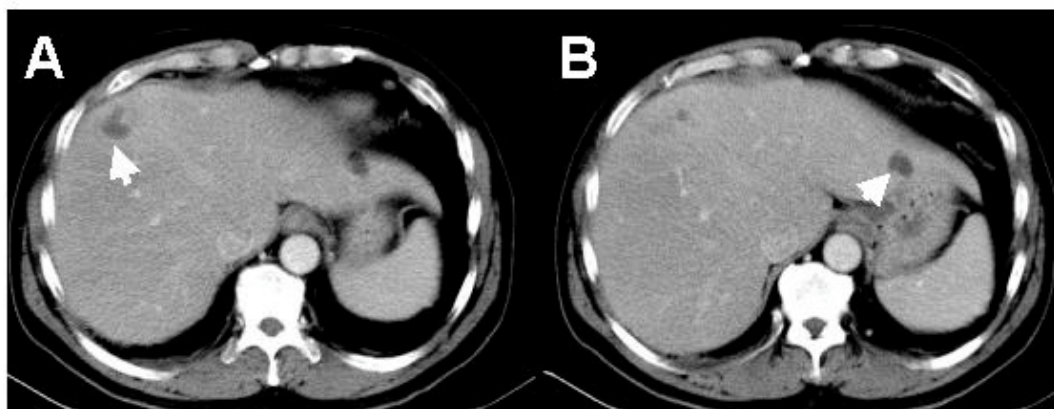
Differentiate hepatic abscess from simple cyst

Shih-Hung Tsai, Wei-Chou Chang, Shi-Jye Chu, Chin-Pyng Wu, Ning-Chi Wang

A 47-year-old previous healthy man presented to the emergency department due to a 2-day course of fever and rigor. He denied having any systemic illness and habitual drinking or illicit drug abuse. Physical examinations were unremarkable. Laboratory data showed white blood cell count of 18,500 μ L, C-reactive protein of 18.6 mg/dL, alanine aminotransferase of 76 U/L, and bilirubin of 1.6 mg/dL. The urine analysis and chest radiography were normal.

Contrast-enhanced computed tomography (CT) of the abdomen showed two cystic lesions over segment 8 and 2 respectively (Figure 1A and 1B, white arrows). To confirm the nature of these cystic lesions, magnetic resonance imaging (MRI) with gadolinium enhancement was performed.

Figure 1



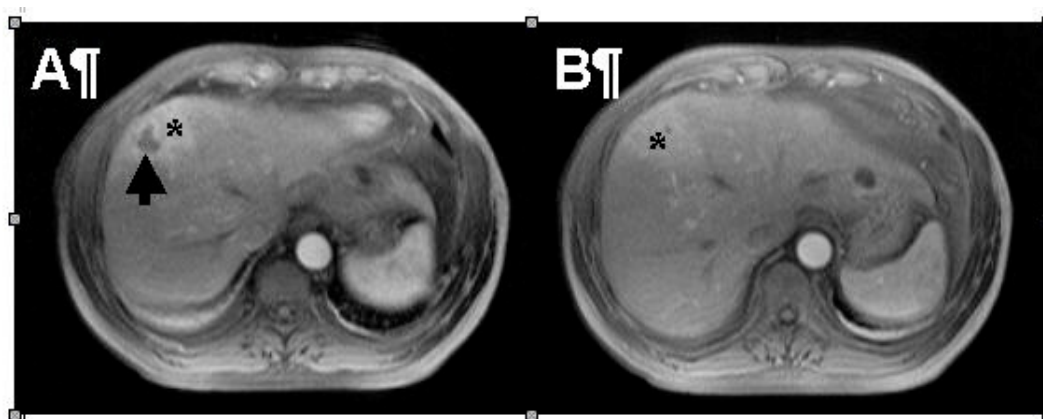
Questions:

Which one is the culprit lesion and what is the diagnosis?

Diagnosis?—Hepatic abscess over segment 8

MR imaging with gadolinium enhancement in the identical levels revealed that the lesion over segment 8 was of inhomogenous hypointensity (black arrow) with rim enhancement and wedge-shaped hyperaemic change (asterisk) in fat-saturated T1 weighted image (Figure 2A and B)—thus indicating a hepatic abscess. Ultrasound-guided percutaneous aspiration obtained 4 ml of pus-like material. His blood and pus cultures subsequently yielded *Klebsiella pneumoniae*. The patient had a full recovery after being treated with a 2-week course of intravenous ceftriaxone.

Figure 2



Hyperintense mural enhancement on early gadolinium-enhanced images and the presence of peri-abscess hyperintensity (either circumferential or wedge-shaped) are characteristic findings of a pyogenic abscess in MRI. Modalities such as a diffusion-weighted image and apparent diffusion coefficient maps are able to differentiate hepatic abscesses from cystic or necrotic liver tumours.

Author information: Shih-Hung Tsai, Resident, Department of Emergency Medicine; Wei-Chou Chang, Resident, Department of Radiology; Shi-Jye Chu, Emergency Physician, Department of Emergency Medicine; Chin-Pyng Wu, Emergency Physician, Department of Emergency Medicine; Ning-Chi Wang, Infectious Disease Specialist, Department of Internal Medicine; Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan

Correspondence: Ning-Chi Wang, No. 325, Cheng-Kung Road, Sec. 2, Neihu 114, Taipei, Taiwan. Fax: +886 2 27955682; email: wang-spring@yahoo.com.tw

References:

1. Mendez RJ, Schiebler ML, Outwater EK, Kressel HY. Hepatic abscess: MR imaging findings. *Radiology*. 1994;190:431–6.
2. Mortelet KJ, Segatto E, Ros PR. The infected liver: radiologic-pathologic correlation. *Radiographics*. 2004;24:937–55.
3. Chang JHM, Tsui EYK, Luk SH, et al. Diffusion-weighted MR imaging for the liver: distinguishing hepatic abscess from cystic or necrotic tumor. *Abdom Imaging*. 2001;26:161–5.