CASE REPORT

HEPATIC LYMPHOMA AND SPLENIC ASPERGILLOSIS MIMICKING HEPATOSPLENIC ABSCESSES FROM MELIOIDOSIS IN THAILAND

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Abstract. We report here a case of hepatic lymphoma and splenic aspergillosis in an elderly patient with diabetes mellitus, exhibiting hepatosplenic abscesses mimicking melioidosis. Immunohistochemistry confirmed the diagnosis of a diffuse hepatic large B-cell lymphoma. Biopsy of the spleen revealed a clump of fungus with a slender shape and dichotomous branching, morphologically consistent with aspergillosis. Hepatosplenic abscesses are a common presentation in melioidosis, but this case reveals this assumption can lead to misdiagnosis. Histological and microbiological confirmation are required, especially in patients with hepatosplenic lesions.

Keywords: hepatic lymphoma, aspergillosis, melioidosis, liver abscess, splenic abscess

INTRODUCTION

Melioidosis, caused by the environmental gram-negative bacillus *Burkholderia pseudomallei*, is an important cause of community-acquired infection in Southeast Asia, including Thailand (Limmathurotsakul *et al*, 2010). In endemic regions, empiric antibiotics with activity against *B. pseudomallei* are used to treat suspected bacterial sepsis in patients with risk factors for melioidosis, since a delay in treatment can be fatal (Wiersinga *et al*, 2012). Melioidosis is characterized by formation of abscesses, especially in the lungs, liver, spleen, skeletal muscles, and prostate (White, 2003).

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CASE REPORT

We report a case of a diabetic patient whose clinical symptoms initially mimicked abscesses in the liver and spleen

similar to melioidosis.

A 69-year-old Thai male who was a retired driver, was referred to the Hospital for Tropical Diseases (HTD) with a one month history of fever. He had fever and fatigue and had been treated in the outpatient department of a private hospital without improvement. He had a history of diabetes mellitus and hypertension. An initial ultrasound of the upper abdomen showed multiple well-defined, round, hypoechoic lesions scattered in the liver and spleen (Fig 1A, 1B). An initial diagnosis of liver and spleen abscesses was made and he was treated with ceftazidime to cover melioidosis. Despite this treatment, his symptoms did not improve. He was then referred to the HTD. On physical examination he had fever, drowsiness, mild icteric sclera and marked hepatomegaly. There was neither Cushing's appearance nor lymphadenopathy. Melioidosis liver and splenic abscesses remained the most likely diagnosis, therefore treatment with meropenem was initiated at this time. The patient had a decline in renal and liver function despite the treatment. All sets of blood cultures were negative for growth. Serum tumor markers for α-feto protein (AFP), CA19-9 and CEA were normal but his lactate dehydrogenase level (LDH) was high at 1,380 mg/dl.

Upper and lower endoscopy were performed with normal findings. Serology for melioidosis and *Entamoeba histolytica* were negative.

Computed tomography imaging revealed multiple, small low attenuation nodules in the liver and spleen, compatible with hepatosplenic abscesses. No lymphadenopathy or other abnormalities were found (Fig 1C).

Percutaneous aspiration of a liver lesion was conducted. The aspirated fluid was negative for organisms or neoplasms and *16S rRNA* gene sequencing for melioidosis.

The patient developed multi-organ failure and tissue biopsy was not possible due to severe coagulopathy. Despite treatment with hemodialysis, ventilator support and intensive care, the patient died.

Tissue necropsy was conducted of the liver and spleen under ultrasound guidance. Histopathology of the liver showed atypical discrete round cells possessing obvious pleomorphic basophilic nuclei and scant clear cytoplasm infiltrating the liver (Fig 1D). Immunohistochemistry confirmed the diagnosis of diffuse large B-cell lymphoma with diffusely positive CD20 and negative CD3. Histopathology of the spleen showed necrotic tissue with a clump of fungus with a slender shape and dichotomous branching, morphologically consistent with *Aspergillus* spp (Fig 1E). Pathological diagnosis was hepatic lymphoma and splenic aspergillosis.

DISCUSSION

Melioidosis is a serious infection caused by the gram-negative bacillus *Burkholderia pseudomallei*, found in soil and water; the incidence of human melioidosis in Thailand is the highest in the northeast (Limmathurotsakul *et al*, 2010). Concurrent hepatic and splenic abscesses are usually indicative of melioidosis in northeastern Thailand and diagnosed through imaging (Apisarnthanarak *et al*, 2011). The lack of support from other clinical data is a significant drawback with this diagnosis. Invasive aspergillosis most commonly involves the lungs (Denning *et al,* 1998). Solid organ involvement, such as the liver and spleen is rare (Denning *et al,* 1998). Common risk factors for invasive aspergillosis include neutropenia and corticosteroid

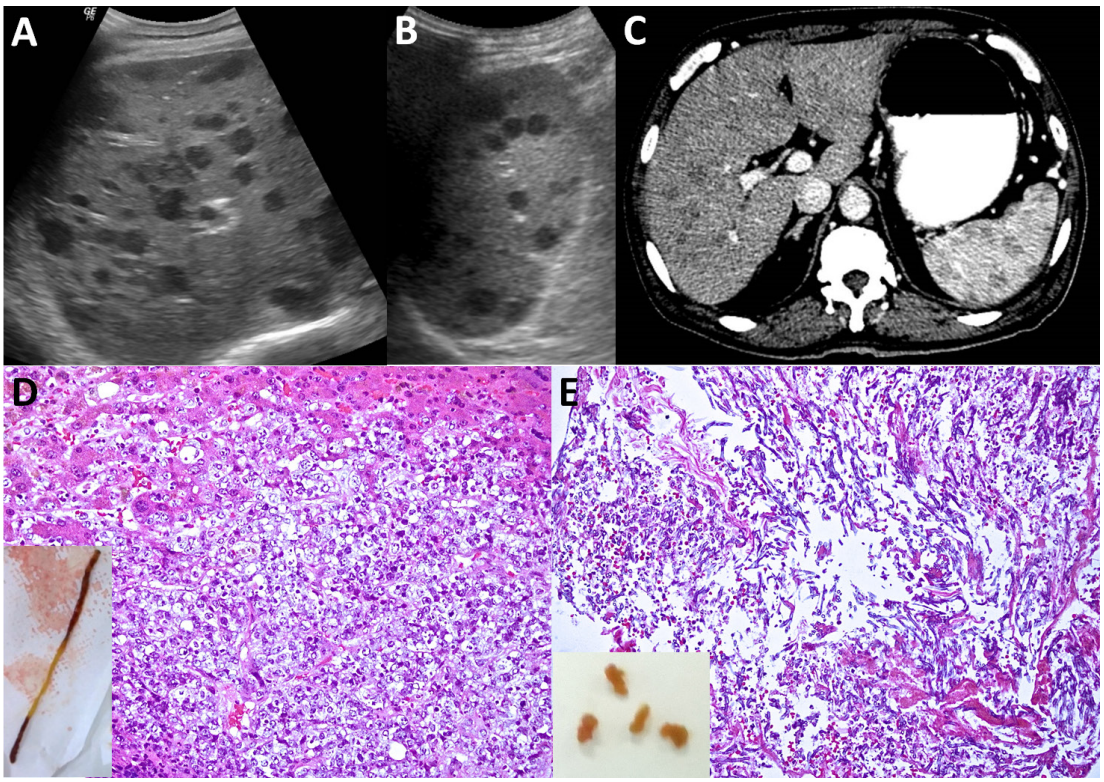

Fig 1–Ultrasonography showed multiple well-defined round hypoechoic lesions scattered in the liver and spleen (A, B). Computed tomography showing multiple small low attenuation nodules in the liver and spleen (C). Histopathology of liver showing atypical discrete round cells possessing obvious pleomorphic basophilic nuclei and scant clear cytoplasm infiltrating the liver (D). Histopathology of the spleen showing necrotic tissue with a clump of fungus having a slender shape and dichotomous branching, morphologically consistent with *Aspergillus* spp (E).

usage (Denning *et al*, 1998). Aspergillosis has been reported as a secondary infection in a large prospective study of hematologic patients (Denning *et al*, 1998).

In conclusion, a typical presentation of hepatosplenic abscesses in a melioidosis endemic area may not necessarily be melioidosis. Prompt microbiological and histological confirmation should be performed to confirm the diagnosis with such hepatosplenic lesions.

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