Idiopathic CD4+ T-lymphocytopenia with cryptococcal meningitis: first case report from Cambodia.

Case Series and Case Reports

Idiopathic CD4+ T-lymphocytopenia with cryptococcal meningitis: first case report from Cambodia

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SUMMARY We report on a patient with cryptococcal meningitis with CD4+ T-lymphocytopenia and no evidence of HIV infection.

Case history

A 42-year-old married woman living in rural Cambodia was admitted to Donkeo Referral Hospital of Takeo province with a history of dizziness, vomiting and headache progressively worsening over a period of one week. The only notable physical findings were fever, Kerning's and Brudzinski's signs. Her body mass index (BMI) was 17.3 kg/m^2. A lumbar puncture was performed and the cerebrospinal fluid (CSF) showed elevated leukocytes at 43/mm^3 (14% polynuclear cells and 86% mononuclear cells), a protein concentration of 0.6 g/L and a glucose level of 28.11 mg/dL. India ink staining revealed encapsulated yeasts and culture of CSF grew *Cryptococcus neoformans*.

Prior to hospitalization, the patient was healthy. She had no risk factors for HIV infection or immunosuppression (e.g. steroid treatment). HIV was repeatedly negative (HIV rapid test, enzyme-linked immunoadsorbent assay and multiple enzyme immunoassay tests for HIV-1 and -2, plasma HIV-ribonucleic acid levels by real-time reverse transcriptase polymerase chain reaction at the 250 copies/ml level). The patient's spouse and children were HIV-negative. Her CD4 blood cell count was measured three times over a three-week period, with values of 67, 63, and 254 cells/μL. Serologic tests for hepatitis B virus (microparticle enzyme immunoassay [MEIA] technique), hepatitis C virus (MEIA technique), human T-cell leukaemia virus-1, treponema pallidum haemagglutination, Venereal Disease Research Laboratory, fluorescent treponemal antibody test for immunoglobulin M and G, Anti Ro (anti-SSA) and Anti LA (anti-SSB) were all negative.

Amphotericin B (0.7 mg/kg daily) was given for 15 days, followed by oral fluconazole (400 mg daily). During hospitalization the patient complained of blurred vision and hypertension was diagnosed. The last CSF before the patient's discharge showed 9 leukocytes/mm^3, protein concentration of 0.75 g/L, and a glucose level of 18.73 mg/dL. Rare encapsulated yeasts were found on India ink stains and a subsequent CSF culture was sterile. After 42 days of hospitalisation the patient was discharged clinically well.

Three months later she was seen in follow-up and was clinically well. The hypertension was under control with enalapril 10 mg/day. A haemogram showed mild normocytic anaemia and lymphocytopenia (total lymphocytes: 1.21 × 10^3/mm^3), CD4+ T cell count 439/mm^3, CD8 cell count 267/mm^3 and ratio 1.64. HIV testing was again negative (antibody HIV test, HIV-ribonucleic acid viral load).

Cryptococcal meningitis is one of the most common opportunistic infections in adult HIV-positive patients in Cambodia and is rarely observed in HIV-negative patients. However, our patient showed no evidence of HIV infection or any other type of immunodeficiency. Severe malnutrition may lead to impaired cell-mediated immunity, but the mild malnutrition seen in this patient could not have led to the severe depletion of CD4+ T cells observed. We therefore conclude that she fulfills the criteria for the Centre for Disease Control (CDC) case definition of idiopathic CD4+ T-lymphocytopenia (ICL) (<300 CD4+ cells per cm^3 or a CD4+ cell count <20 % of total T cells on two occasions and no evidence of infection on HIV testing, and the absence of any defined immunodeficiency or therapy associated with depressed levels of CD4+ T cells).[1]

The CDC definition of ICL requires repeated CD4 lymphocyte measurement, but the interval between measurements is not specified. This could raise some question of the diagnosis of ICL here as her CD4+ cell count increased to >300/mm^3 three months after the meningitis episode. However, such normalization of the CD4+ count in ICL patients is known to occur and has previously been described.[2,3] A more precise definition of the time interval between CD4+ count measurements would better facilitate the diagnosis of ICL, especially for patients whose CD4+ count normalizes after an infectious episode.

To the best of our knowledge, this patient, who presented with cryptococcal meningitis with CD4+ T lymphocytopenia and no HIV infection, is the first case of ICL reported in Cambodia.

Acknowledgements

Written informed consent was obtained from the patient for publication of this case report.

References

1 Smith DK, Neal JJ, Holmberg SD. Unexplained opportunistic infections and CD4+ T-lymphocytopenia without HIV infections. An investigation of cases in the United States. The Centers for Disease Control Idiopathic CD4+ T-lymphocytopenia Task Force. *N Engl J Med* 1993;**328**:373–9

2 Ho DD, Cao Y, Zhu T, *et al.* Idiopathic CD4+ T-lymphocytopenia – immunodeficiency without evidence of HIV infection. *N Eng J Med* 1993;**328**:386–92

3 Duncan RA, von Reyn CF, Alliegro GM, Toossi Z, Sugar AM, Levitz SM. Idiopathic CD4+ T-lymphocytopenia – four patients with opportunistic infection and no evidence of HIV infection. *N Engl J Med* 1993;**328**:393–9

Amoebic liver abscesses complicated by inferior vena cava and right atrium thrombus

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SUMMARY Amoebiasis is a common protozoal infection that is endemic in South Asia. Hepatic involvement that manifests as abscess formation occurs in approximately 10% of all patients. Identified expeditiously, this can be treated with metronidazole. We present a case of multiple, large amoebic liver abscesses, that were complicated by thrombus formation in the inferior vena cava extending to the right atrium, requiring surgical removal.

Introduction

Amoebiasis is a common gastrointestinal infection affecting 10% of the world population.[1] It is more common in tropical and subtropical regions and is endemic in south asia.[2] Hepatic involvement is common and may develop in 3–9% of cases, with rates of infection being higher for men.[1,3] Hepatic disease manifests as liver abscess (es), which, if left untreated, may rupture into peritoneal, pleural, pericardial cavities or into bile ducts. [2]

Though rare, thrombosis of the hepatic inferior vena cava, referred to as obliterative hepatocavopathy, is a reported complication of hepatic amoebiasis.[2,4,5] However, thrombosis involving the right atrium is extremely rare – only two cases have been reported in the published literature.[4,5] We report a rare case of inferior vena cava thrombus extending to the right atrium in the setting of amoebic liver abscess.

Case history

A 46-year-old man presented to the emergency department with a six-day history of high grade fever, rigors, chills and anorexia. He gave a two-day history of progressively worsening dull abdominal pain, distention and jaundice. He reported normal bowel function. The patient had type II diabetes, well controlled on glimepiride. He had a 20-year history of smoking and was a labourer.

Physical examination revealed a temperature of 38º centigrade, pulse of 108 beats/minute, respiratory rate of 22 breaths/min and blood pressure of 108/77 mmHg. His oxygen saturation at room air was 97%. He was moderately dehydrated and icteric. His abdomen was moderately distended, soft and tender in the right hypochondrium. There was no evidence of peritonitis. The liver was palpable 4 cm below the costal margin. Bowel sounds were present and a digital rectal examination was unremarkable. The remaining examination was unremarkable.

Initial laboratory investigations revealed haemoconcentration, marked leucocytosis (predominantly neutrophilia with a left shift), mild liver function dysfunction and a deranged prothrombin time. Detailed values are listed in Table 1.

An ultrasound examination of the abdomen revealed two subtle heterogeneous areas in the right lobe of the liver. The larger area measured 6.6x5.5 cm and was posterior to the main portal vein. The second area measured 5.4x3.8 cm within the superior segment of the right lobe. Bilateral polycystic kidneys were also noted. An indirect haemagglutination assay (IHA) for entamoeba histolytica was positive (1:512).

The patient was resuscitated and treatment with metronidazole 750 mg every eight hours was initiated. Over the next 48 hours there was a significant improvement in the symptoms, with an improvement in pain scores. He remained afebrile. However, on the third day of admission, he became short of breath and complained of worsening right upper quadrant pain. A chest X-ray revealed bilateral pleural effusion and right base atelectasis. Arterial blood gases revealed hypoxia and hypocarbia (oxygen pressure 76 mmHg, carbon dioxide pressure 26 mmHg). A computerized tomography scan of the abdomen showed two large abscesses in the liver. One was located in segment IV and measured 7x6 cm and the other lying adjacent to the capsule in segment V measured 8x5.7 cm (Figure 1A). No evidence of abscess rupture was seen. However, the inferior vena cava (IVC) was externally compressed by one of the abscesses and a low attenuation thrombus-like lesion was discovered which partially occluding the lumen (Figure1B) and extended into the cavity of the right atrium (Figure1C). Under ultrasound guidance, the