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Epileptiform seizures revealing neurocysticercosis: report of two clinical cases in Libreville, Gabon

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ABSTRACT

Neurocysticercosis (NCC) is recognized as a cause of neurologic disease worldwide. We reported two cases (one co-infected with the HIV) of NCC. Medical treatment led to recovery. NCC should be considered in tropical countries as a cause of epilepsy and included in the diagnosis of neurologic infections in HIV patients.

1. Introduction

Neurocysticerosis(NCC) is a cosmopolitan infection increasingly recognized as a major cause of epilepsy worldwide. The key to this increased recognition is the development and application of non-invasive computerized neuro-imaging including computed tomography and magnetic resonance imaging combined with immunologic tests to confirm the diagnosis [1].

We are reporting, for the first time, two cases (one co-infected with HIV) of NCC diagnosed in Libreville, Gabon.

2. Case 1

A 30 year-old Gabonese man first presented with generalized tonic-clonic seizures. History of the disease suggested a 2 weeks-long fever with headaches and altered consciousness. Electroencephalography recorded epileptic seizures controlled with diazepam combined with phenobarbital. Screening for HIV was negative. Serologic tests for syphilis and cryptococcal antigen were negative. A computed tomography of the head showed disseminated nodules with perilesional oedema (Figure 1). Electroimmunotransfer blot (ETIB) detected specific antigen of *Taenia solium*. Long-term treatment combined albendazole (15 mg/kg/day) with phenobarbital (200 mg/day). Corticosteroid was used at 1mg/kg/day during five days.

3. Case 2

A 27-year-old Gabonese woman presented to hospital on May 2008 with a new onset of generalized tonic-clonic seizures. She also complained of headaches and had fever, oral candidosis, hairy leukoplakia and disseminated papular prurigo. HIV screening was positive and CD4 count=10/mm^3. Baseline computed tomography of the head with contrast revealed multiple calcifications with surrounding oedema located in the two hemispheres (Figure 2). ETIB detected specific antigen of *Taenia solium*. Long-term treatment with albendazole (15 mg/kg/day) combined with phenobarbital (200 mg/day) led to total recovery. Corticosteroid was used at 1 mg/kg/day during five days.

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4. Discussion

NCC, caused by the larval form of the tapeworm *Taenia solium*, is the most common parasitic disease of the central nervous system and the most common cause of acquired epilepsy worldwide. The host inflammatory response is now recognized as a key element in the pathogenesis of the disease. We report two cases of NCC diagnosed in 2006 for the first one and in 2008 for the second one, both in the internal medicine ward of the HIAOBO, Libreville, Gabon where data concerning this disease are lacking.

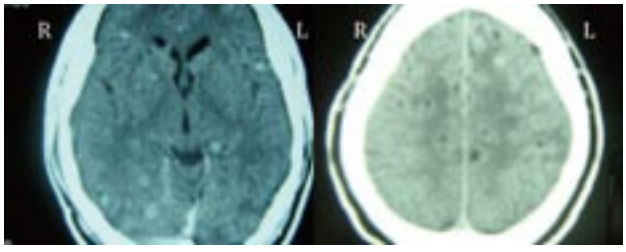

Figure 1. Computed tomography of the head shows multiple cysts with calcifications.

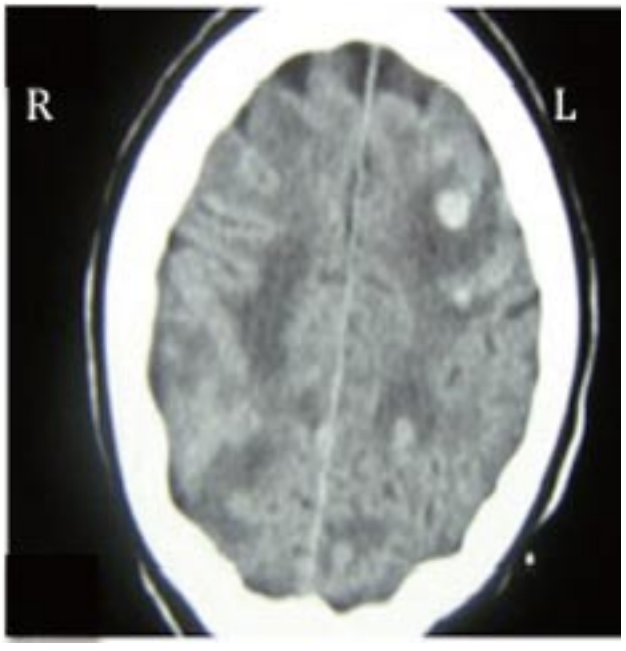

Figure 2. Computed tomography shows hyperdense scolices in the brain parenchyma (left fontal lobe++) surrounding with perilesional oedema.

NCC is a growing problem in tropical countries where pigs are raised and is increasingly recognized as a leading cause of epilepsy. In studies mainly conducted in Latin America, NCC has been shown to be present in 9-18% of randomly selected people in endemic areas and 80% or more of selected patients with seizures[2].

Symptomatic therapy is very important in NCC. In fact, the key determinants of seizure recurrence in patients with NCC are the optimal doses of antiepileptic drugs like phenobarbital used to treat our patients[3]. Increased intracranial pressure, not found in our two cases, must be addressed rapidly, usually by a neurochirurgical approach. Considering antiparasitic treatment, only 30-50% of lesions resolved within 6 months and antiparasitic drugs and steroids do not affect the formation of calcifications or risk of chronic epilepsy[4].

One of the two patients has HIV infection with severe immunodeficiency (CD4+=10/mm^3). In a recent review, NCC-HIV co-infected patients were more frequently associated with multiple parenchymental lesions and others opportunistic infections of the central nervous system like tuberculosis and toxoplasmosis. The response rate to cysticidal therapy in HIV patients is similar comparing to non-HIV patients. NCC is sometimes associated with immune reconstitution inflammatory syndrome (IRIS) after starting HAART and case fatality rate (12%) is higher in patients with HIV comparing with non-HIV patients[5]. NCC should be included in the differential diagnosis of neurologic infections in HIV patients in endemic populations. Given the growing problem of HIV-infection in Gabon, more research on how to treat co-infected patients is needed.

In tropical areas, like Gabon, NCC should be considered as a cause of epileptic seizures. More over, in HIV positive patients, NCC should be included as an alternative diagnosis of central nervous system infections. Performing a HIV test in new onset NCC should be discussed in areas where HIV is endemic.

Conflict of interest statement

We declare that we have no conflict of interest.

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