Epilepsy revealing neurocysticercosis in an HIV positive patient with subcutaneous nodules
Une épilepsie révélant une neurocysticercose chez un patient HIV positif avec nodules sous cutanés

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Introduction

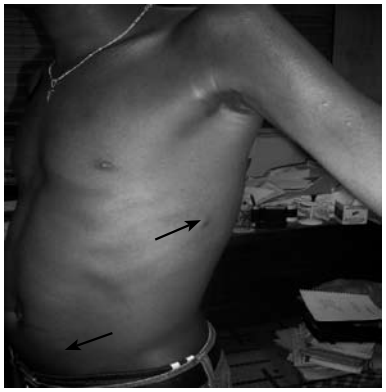
The clinical presentation of neurocysticercosis is polymorph, with seizures being the most common presentation [1], and the combination of neurocysticercosis with HIV infection is an occurrence that could be found in tropical regions.

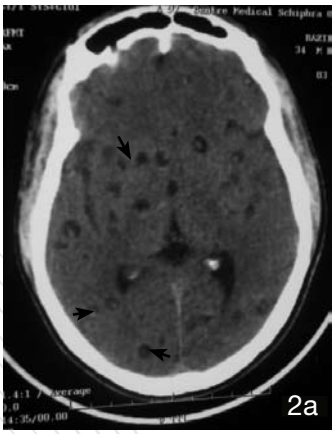
Observation

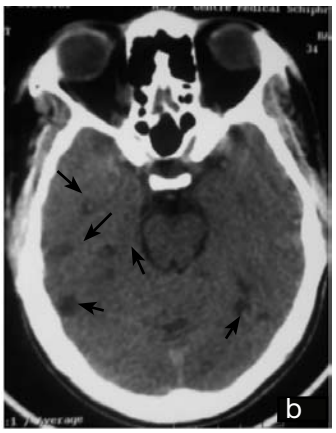
A 34 year old man presented on 12 March 2007 with a one-year history of generalized tonic-clonic seizures. A native of Burkina Faso, West Africa, he had been working since 1992 in Bobo-Dioulasso. His first tonic-clonic seizure occurred in March 2006 with a prodrome including vertigo followed by post-ictal amnesia. He was then treated for hypoglycemia. A second seizure of the same type occurred three months later and was not treated. A third seizure of the same type occurred on 12 February 2007 without any prodrome but with post-ictal amnesia. The patient had no personal, familial or infectious history that could be linked to epilepsy. He had had frequent headaches in the past which had spontaneously resolved three years earlier. He consulted a neurologist in March 2007 who ordered a brain CT-scan with contrast and an HIV test. The patient was diagnosed as HIV positive. Nothing special was found in his family history but he has in his childhood many episodes of haematuria due to Schistosoma infection. Alcohol and tobacco consumption were regular since his youth.

The neurological exam was normal. The dermatological exam revealed the presence of seven firm, indolent, mobile skin nodules of sizes between 0.5 and 1 cm in various locations on the neck, trunk, arm and leg prurigo associated with prurigo (Figures 1).

No cysticercosis serology was conducted. The CT-scan revealed multiple, small hypodense, non-enhancing, vesiculocystic lesions in the cerebral and cerebellar parenchyma (Figures 2a, b), leading to a diagnosis of neurocysticercosis.







The patient was treated with prednisone and albendazole. No more seizure occurred after the treatment. Because of inability to pay for another CT-Scan examination, none was done at the end of the treatment. The treatment with albendazole associated to Carbamazepine was prescribed. And after 5 the patient is still seizure free and his examination normal.

Discussion

Neurocysticercosis (NCC) is a parasitic zoonosis occurring when the immature larvae of Taenia solium, shed in infected human faeces, are ingested and migrate to the brain. Pork consumption is a high risk for developing NCC. The clinical features of NCC largely depend on the number, type, size, localization and stage of development of cysticerci, as well as on the host immune response against the parasite [2, 3].

HIV infection may be responsible of seizure, especially in the later stages of this infection [4]. In Burkina Faso, with a high rate of HIV infection (around 4%), seizures could be considered as part of toxoplasmosis diagnosis, especially when CT-scan is not available. Seizures in NCC may occur at all stages of cyst development, from the vesicular and colloidal to the calcified stages [5]. As HIV infection and cysticercosis are prevalent in this area, any seizure should lead for screening for both affections. The association of seizure with subcutaneous nodes is helpful for the diagnosis of cysticercosis [6]. NCC diagnosis is based on CT-scan imaging [7], showing number, locations and stages of the lesions as well as the inflammatory reaction surrounding these lesions. The presence of multiple parenchymal lesions suggests a probable role of immune reconstitution inflammatory syndrome [8]. NCC

should be investigated as a possible cause of seizures in persons living in endemic areas for cysticercosis that have subcutaneous nodules and are HIV positive. The interaction between HIV infection and the appearance of cysticercosis nodules in the development of NCC should be explored.

This report suggests that NCC should be considered as aetiology of epilepsy in tropical endemic areas. The combination of HIV infection and NCC should suggest a CT scan examination to discriminate the causes of brain occupying mass. NCC should be included in the differential diagnosis of neurologic infections in HIV patients in endemic populations.

References

1-Carabin H, Ndimubanzi PC, Budke CM, Nguyen H, Qian Y, et al. Clinical manifestations associated with neurocysticercosis: A systematic review. PLoS Negl Trop Dis. 2011; 5(5): 1152.

2-Patel R, Jha S, Ydav RK. Pleomorphism of the clinical manifestations of neurocysticercosis. Trans R Soc Trop Med. 2006; 100: 134-41.

3-Handique SK, Das RR, Saharia B, Das P, Buragohain R, et al. Coinfection of Japaneeses encephalitis with neurocysticercosis: an imaging study. Am J Neuroradiol. 2008; 29: 170-5.

4-Millogo A, Lankoandé D, Yaméogo I, Yaméogo AA, Sawadogo A, Sawadogo AB. Crises d'épilepsie d'apparition récente et infection par le VIH au Centre hospitalier de Bobo-Dioulasso (Burkina Faso). Bull Soc Pathol Exot. 2004: 97: 268-70.

5-Bhigjee AI, Rosemberg S. Optimizing therapy of seizures in patients with HIV and cysticercosis. Neurology 2006; 67: S19-22.

6-Niamba P, Faye O, Traoré A, Barro-Traoré F, Gaulier A. Nodules cutanés de cysticercose. Presse Méd. 2006; 3: 435-6.

7-Garcia HH, Del Brutto OH. Imaging findings in neurocysticercosis. Acta Trop. 2003; 87: 71-8.

8-Serpa JA, Moran A, Goodman JC, Giordano TP, White AC Jr. Neurocysticercosis in the HIV era: a case report and review of the literature. Am J Trop Med Hyg. 2007; 77: 113-7.