

NEUROCYSTICERCOSIS PRESENTING AS ACUTE PSYCHOSIS: AN UNUSUAL CASE

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Dear Editors,

Neurocysticercosis (NCC), caused by larval cysts of the pork tapeworm *Taenia solium*, is the most frequent parasitic infection of the central nervous system (Ramirez-Bermudez et al. 2017, Verma & Kumar 2013a). It reaches the human body through undercooked pork meat (Ramirez-Bermudez et al. 2017, Srivastava et al. 2013). It is endemic on devolving countries worldwide, and appears rarely in western Europe (Ramirez-Bermudez et al. 2017, Srivastava et al. 2013, Verma & Kumar 2013b). Clinical manifestations are heterogenic, including seizures, cognitive deficits, and, more uncommonly, behavioural changes or psychosis (Ramirez-Bermudez et al. 2017, Verma & Kumar 2013a, Srivastava et al. 2013).

We report a case of an organic psychosis in a young male with NCC. He is from Cape Verde, living in Portugal for 11 years. Personal and familiar pathological history was irrelevant, except for his regular use of cannabinoids since adolescence. At the age of 25 (in 2014) he was admitted for the first time in a Psychiatric Service due to gradual behaviour changes, namely social withdrawal, soliloquies and persecutory delusions. The etiological investigation for First Episode Psychosis revealed normal blood tests and electroencephalogram, but a cranial magnetic resonance (MR) with multiple cysts, some of them with prominent scolex (Figure 1). The ELISA test to IgG antibody against *Taenia solium* glycoprotein in serum was positive, admitting the diagnosis of NCC. He was medicated with aripiprazole with positive response, and also albendazole and corticosteroids for one month, showing a significant improvement and full remission of symptoms at discharge.

The follow-up was inconstant, with continuous drop-out of the antipsychotic therapy and three more psychiatric hospitalizations. The first readmission (2016) occurred due to persecutory delusions, auditory and visual hallucinations, anomalous self-experiences, insomnia and weight loss. In 2017, after abandoned the maintenance treatment in the previous 3 months, he presented to emergency room with one-month history of negative symptoms, in the form of blunted emotions, apathy, social withdrawal, clinophilia and negligence in self-care. At that time, a second MR was performed, showing up small calcifications, described as probable cysticercosis' sequels. At the last hospitalization (2019) the patient presented persecutory delusions with heteroaggressivity, depressive mood and akathisia.

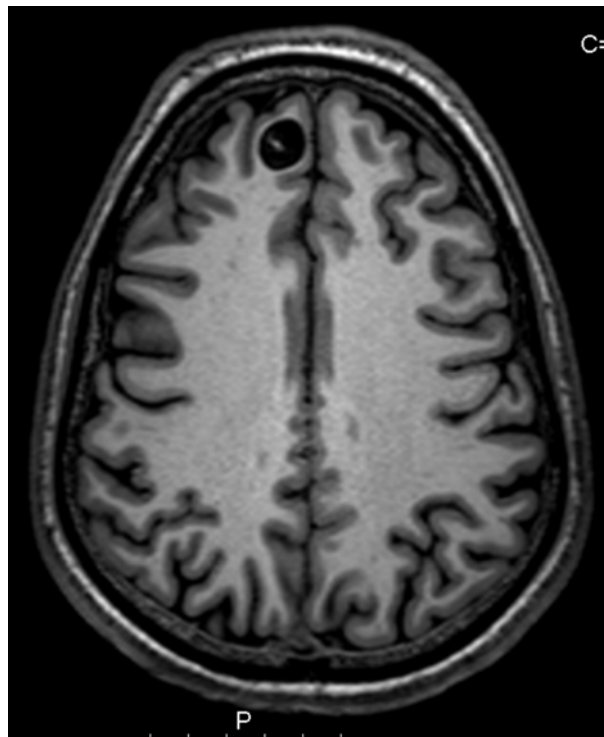


Figure 1. Patient's MR in T1 sequence, showing a frontal located solitary parenchymal cysticercus

In all the three readmissions, the workup was unremarkable, and after antipsychotic restitution, a fast and sustained improvement on the clinical picture was always observed, with full remission of symptoms and recovered insight.

NCC is a pleomorphic disease, with varied and non-specific clinical manifestations, including psychiatric symptoms (Verma & Kumar 2013a, Srivastava et al. 2013). Psychotic episodes may occur in patients with NCC. Although rarely as the isolated presentation (Verma & Kumar 2013a, Verma & Kumar 2013b), they assume mainly the form of an organic psychosis.

NCC manifestations vary with the number, size and topography of the lesions, as well as with the intensity of the immune response of the host to the parasite (Verma & Kumar 2013a). The extent to which organic mechanisms related to brain lesions may underlie mental alterations is uncertain (Forlenza et al. 1997). Psychopathology may be related to mechanical variations in cerebral spinal fluid

pressure, or to parenchymal inflammatory process (Verma & Kumar, 2013a). Active disease and intracranial hypertension correlate with higher levels of psychiatry morbidity (Forlenza et al. 1997).

Our case represents a rare presentation of NCC, as a schizophreniform psychosis. It underlines the importance of considering NCC in the differential diagnosis of neuropsychiatric conditions, keeping a high index of suspicion particularly in patients from endemic areas (Verma & Kumar 2013a, Srivastava et al. 2013).

Moreover, this case highlighted the importance of maintaining antipsychotic medication chronically, despite the non-psychiatric etiology. This fact perhaps is related to pathophysiological mechanisms of a neurochemical nature, which remain altered in the central nervous system, even after the treatment of the underlying cause.

Parasitic diseases still produce a notable impact on global mental health (Ramirez-Bermudez et al. 2017). However, their neuropsychiatric symptoms are reversible and mostly curable with early diagnosis and convenient management (Verma & Kumar 2013a). To date, few publications have focused on the psychiatric manifestations of NCC, so we consider that further research is still needed.

Acknowledgements:

The authors would like to acknowledge the support provided by Dr. Filipa Senos Moutinho.

Conflict of interest: None to declare.

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