

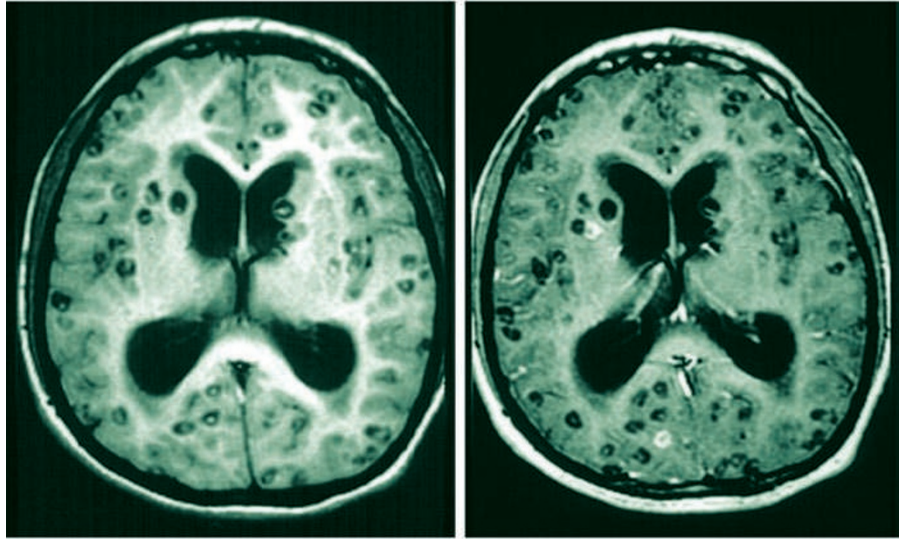
INFECTIOUS DISEASE

Cognitive impairments and dementia in neurocysticercosis

Cognitive impairments are believed to be common in patients with neurocysticercosis (NCYST), but few data are available regarding their prevalence and features. To address this problem, researchers in Brazil have characterized cognitive impairments and dementia in a group of patients with NCYST. “As far as we know, this is the first controlled study to assess the cognitive profile of patients with NCYST compared with two carefully matched comparison groups,” says senior author Paulo Caramelli.

NCYST is a parasitic disease of the CNS that causes cystic lesions in the brain and presents clinically with seizures, epilepsy and headache. Caramelli and his colleagues cognitively evaluated 45 treatment-naïve patients with active NCYST (at least one cystic lesion) and compared them with two control groups: a healthy control group, and a cryptogenic epileptic (CE) group matched for seizure frequency and antiepileptic drug regimen. The latter group was included to evaluate whether the presence and treatment of epilepsy (which is common in patients with NCYST) is related to cognitive decline.

The researchers found that nearly two-thirds of patients with NCYST had marked impairments in executive functions, episodic memory, fluency and constructive praxis. Dementia was diagnosed in 12.5% of the sample.



MRI scan (T1-weighted images, axial view) of a patient with several active brain lesions characteristic of neurocysticercosis. Image provided by Dr Paulo Caramelli.

Performance was significantly worse in the NCYST group than the CE group in multiple cognitive domains, suggesting that the impairments in the former group were directly attributable to the brain lesions of NCYST, or to associated complications. However, scores did not correlate with the types or locations of lesions seen on MRI.

This study indicates that cognitive impairments and dementia are direct results of NCYST, broadening previous knowledge of this condition. The authors' work is ongoing; they have also recently

evaluated a group with inactive NCYST (calcified brain lesions) and hope to include longitudinal follow-up of patients in future. According to Caramelli, longitudinal studies “would allow a better understanding of the natural course of cognitive decline in NCYST.”

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