

A Neglected Cause of Seizures - an Imported Case of Disseminated Cysticercosis

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Background

Cysticercosis, one of the neglected tropical diseases (NTDs) is caused by ingestion of the cystic larvae of *Taenia solium*, a porcine tapeworm. It is endemic in sub-Saharan Africa, Central and South America and Asia, and felt to cause up to 30% of epilepsy in affected regions[1].

Case

A 36 year old gentleman presented with a collapse episode. He had recently moved to Ireland from Sub-Saharan Africa. He gave a history of recurrent headaches and collapse episodes over the preceding five years but had no known past medical history and was not taking any medication. He denied drug or alcohol consumption. While being assessed, he had a tonic-clonic seizure and proceeded to have neuroimaging which showed multiple intracranial cystic lesions within both cerebral hemispheres and his cerebellum (figure 1).

Axial imaging of the chest, abdomen and pelvis showed further cystic lesions in the lungs, liver, pancreas, myocardium, pericardium and subcutaneous nodules in the torso, limbs and scrotum.

MR imaging of the brain was consistent with a diagnosis of neurocysticercosis and cysticercal antigen was positive in peripheral blood. A HIV test was negative.

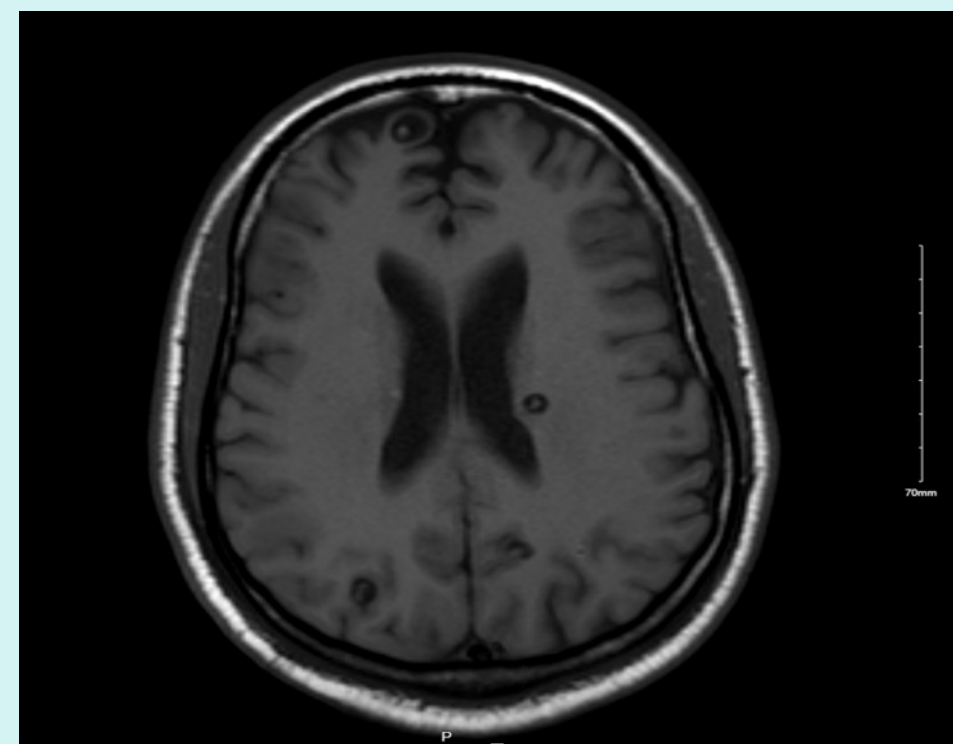


Figure 1. MRI brain showing multifocal cystic lesions without hydrocephalus



Figure 2. Scolex of *Taenia solium*, adapted from [1]

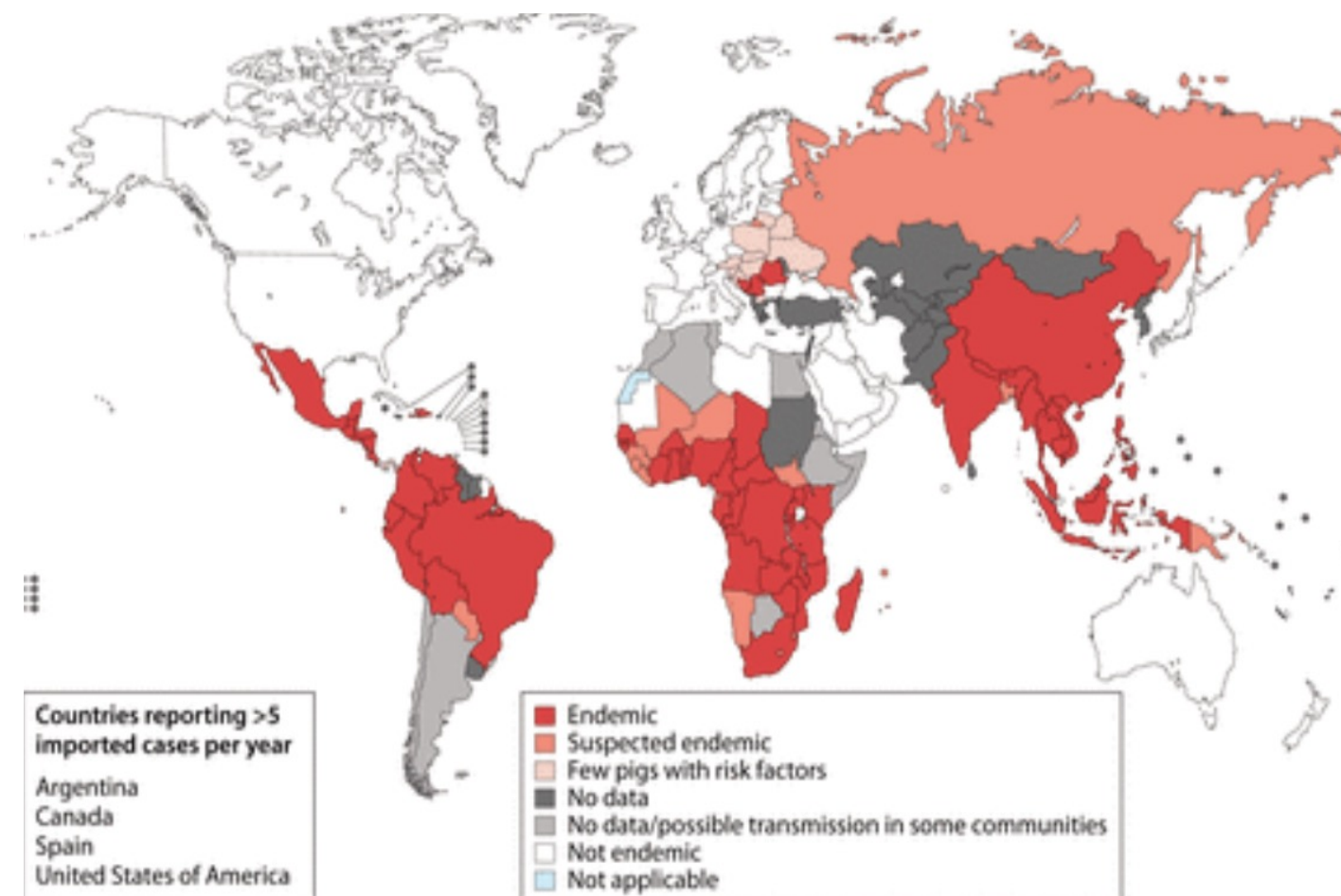


Figure 3. Map showing regions where *Taenia solium* is endemic [2]

Treatment

Advice was sought from the Neuroparasitology MDM at the Hospital for Tropical Diseases in London. He was transferred to a hospital with a neurosurgical unit to begin treatment, which consisted of Dexamethasone and subsequently a 2-week course of high-dose Albendazole. A stat dose of Niclosamide was given for eradication of the luminal stage of the parasite. *Strongyloides stercoralis* serology was negative. Interferon gamma release assay (IGRA) was positive so Isoniazid monotherapy was started for latent TB infection given the need for prolonged corticosteroids.

Progress

Symptoms resolved on commencing treatment. The patient was discharged home to continue a tapering course of steroids over 6 weeks, with weekly outpatient review. Unfortunately, he developed further seizures on down-titration of steroid therapy and required admission and another 8-week course of oral steroids.

On cessation of the second course of steroids, he had a series of tonic-clonic seizures and was brought to hospital with a reduced Glasgow Coma Score, requiring intubation and ventilation as well as serial electroencephalograms (EEGs). He was treated for prolonged non-convulsive status epilepticus, requiring multiple sedating and anti-epileptic agents for seizure control. He was commenced on high-dose Methylprednisolone intravenously and eventually switched to Etanercept as a steroid-sparing agent following rediscussion at the Neuroparasitology MDM.

Discussion

With global travel and the proportion of the population who were born outside Ireland increasing[3], imported cases of disseminated cysticercosis and Neurocysticercosis may be seen more frequently here and in other non-endemic countries. The importance of collaborating with specialist centres was highlighted by this challenging case.

References:

[1] From Garcia HH, Gonzalez AE, Gilman RH. *Taenia solium* cysticercosis and its impact in Neurological Disease. *Clinical Microbiology Reviews* May 2020

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[3] From Population and Migration estimates, April 2022. Central Statistics Office Ireland as accessed at:

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