

Eosinophilic Meningitis due to *Angiostrongylus Cantonensis*: First Reported Case in the UK

Angiostrongylus cantonensis, the rat lungworm, is the commonest cause of eosinophilic meningitis worldwide.¹ The organism is endemic in Southeast Asia and the Caribbean, although an increase in world travel has seen cases occurring outside of these areas. Cases have been documented in the USA,² Switzerland,³ Australia,⁴ and New Zealand.⁵ There are no previous reported cases of angiostrongyliasis in the UK. Eosinophilic meningitis is rare in the UK and awareness of parasitosis as an emergent cause of infectious disease remains relatively low. We report a case of *A. cantonensis* infection in a female patient returning to the UK from Thailand.

Case report

A thirty-year-old Thai woman, living in the UK, attended her local district general hospital with five days of worsening headache and meningism. The patient had been a resident of the UK for two years but had visited Thailand recently, returning ten days prior to her presentation to hospital. On her admission she was pyrexial with a temperature of 38°C. She had nuchal rigidity and photophobia, but no focal neurological deficits. A CT brain scan was reported as normal and lumbar puncture revealed slightly turbid CSF with 626 WBC per mm³ (90% lymphocytes, 10% polymorphs). CSF protein was 0.55g/L (normal 0.15-0.45). No organisms were seen on Gram stain and there was no growth on bacterial culture. The patient was treated symptomatically with a presumptive diagnosis of viral meningitis and discharged after seven days. At home, the patient's headache worsened and she developed diplopia and hyperaesthesia of the right lower limb. She was readmitted to her district general hospital nine days later and underwent further lumbar puncture. This revealed slightly turbid CSF with 483 WBC per mm³ (70% lymphocytes, 30% polymorphs). CSF protein was 0.75g/L. She was commenced on intravenous Aciclovir and an MRI of the brain ordered. MR scanning revealed multiple hyperintense white matter lesions and the patient was then transferred

to the regional neurology centre.

On arrival, the patient was pyrexial (38°C) with signs of nuchal rigidity and photophobia. She had a right sixth cranial nerve palsy and a patch of altered sensation over the lateral border of her right lower limb. No other abnormalities were evident on neurological examination. Review of her MRI scans revealed multiple white matter hyperintense lesions in the deep cerebral white matter, periventricular regions and in the corpus callosum, which did not enhance with gadolinium contrast (Figures 1 and 2). There was no enhancement of the pachymeninges. Lumbar puncture was repeated and revealed an opening pressure of 28cm of water, 361 WBC per mm³ (70% lymphocytes), protein of 0.73g/L, glucose of 2.61mmol/L (serum glucose 5.3mmol/L) and was negative for AAFB.

Further questioning revealed that whilst recently in Thailand she had visited Bangkok and the Northern region of Isaan. She had eaten snails, which she believed to be cooked, as part of a salad in the village from where she originally came. She had no specific risk factors for HIV infection and said she had tested negative six months prior to this illness. Review of her blood results from the original hospital admission revealed an eosinophilia of 1.35*10⁹/L (total white cell count 10.1*10⁹/L), which had persisted into her second admission. This prompted re-examination of the original CSF samples for eosinophils. Cytological analysis revealed a significant eosinophilia (Figure 3). In light of this, a parasitic infection was considered likely, in particular 'rat lungworm' meningitis caused by *Angiostrongylus cantonensis*.

While further microbiological investigations were being performed, the patient was treated with isoniazid, rifampicin, pyrazinamide and ethambutol with dexamethasone to cover the possibility of tuberculous meningitis. We discussed the case with the Department of Parasitology at the Hospital for tropical diseases in London, who arranged to send the patients serum and CSF samples to Bangkok to test for *Angiostrongylus cantonensis* and *Gnathostomia spinigerum* antibodies.



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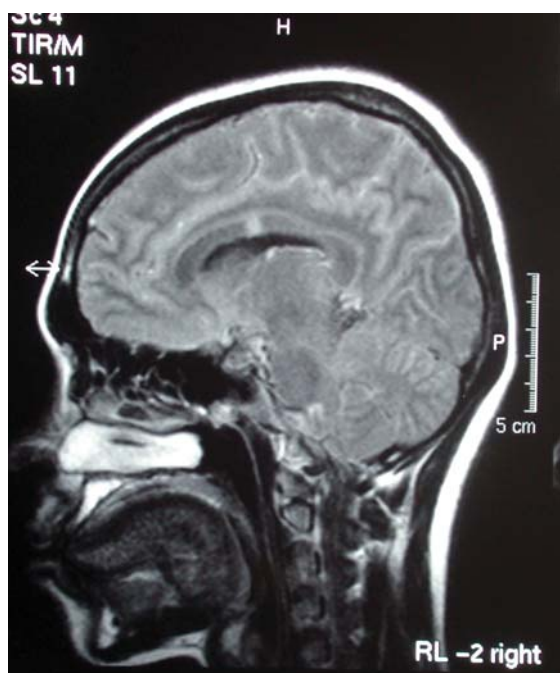


Figure 1: MR scan of the brain showing high signal lesion on the corpus callosum on T1 weighted images.

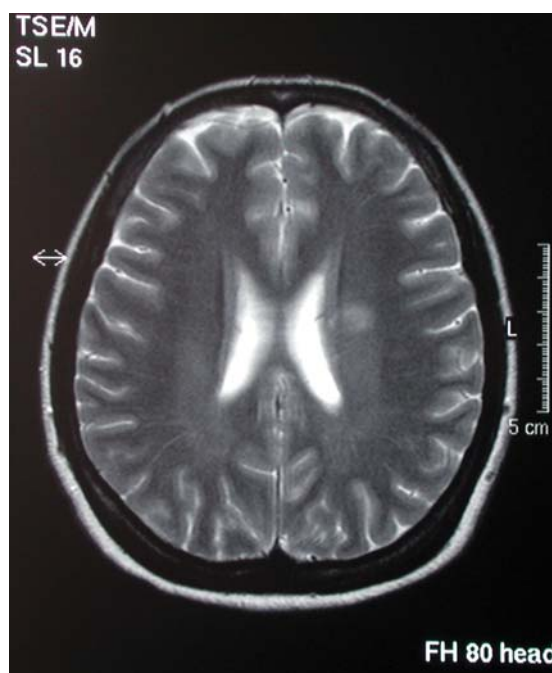


Figure 2: High signal lesion in the deep white matter on T2 weighted images.

This is the ABN Case Report Winner and we congratulate the authors on this achievement.

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