

## A Persistent Red Eye and Diplopia—When to Neuroimage?

### Dear Editor,

Human cysticercosis is a parasitic infection caused by *Cysticercus cellulosae*, the larval form of the cestode, *Taenia solium* (*T.solium*). Cysticercosis in humans is acquired through the ingestion of faecally contaminated food containing ova of *T.solium*, such as uncooked meat. The condition is endemic in some parts of the world including Mexico, Africa, Southeast Asia, Eastern Europe, Central and South America and India.<sup>1-3</sup> Human cysticercosis can develop in any organ but predominantly affects the central nervous system, subcutaneous tissues and eye.<sup>4</sup>

Neurocysticercosis is uncommon in Singapore, and a lack of clinical cases in recent years suggests a lack of local transmission of the disease or very low levels of endemicity.<sup>5</sup> In Singapore, there exists a large population of immigrants making it truly cosmopolitan, hence it is important to evaluate any persistent red eye presentation for systemic associations. There is a need to consider other aetiologies in the setting of a significant travel history to an endemic area. The prevalence of cysticercosis in India has been reported to range from 0.5% to 2% in hospitalised patients in northern India and up to 12% to 15% in labour colonies where pigs are raised.<sup>6</sup> This is also likely an underestimation of the true prevalence.<sup>6</sup>

### Case Report

A 27-year-old healthy Indian female, presented with a 4-month history of left eye redness and itching associated with periocular pain and binocular diplopia. She had just returned from India, and had been using tobramycin/dexamethasone eyedrops for a month prior, with no improvement.

Evaluation of the left eye revealed localised temporal conjunctival chemosis with dilated underlying scleral vessels (Fig. 1a). Abduction was limited with horizontal binocular diplopia present on right gaze. The rest of her left eye examination and right eye was unremarkable. Systemic evaluation was normal.

Thyroid function tests were normal. Toxoplasma serology was normal. Magnetic resonance imaging (MRI) orbits revealed a thickened left lateral rectus muscle with a focal cyst, scolex and mild surrounding oedema (Fig. 2a). MRI brain showed 2 other small focal cystic lesions, each with a central scolex in the left frontal cortex and right temporal cortex (Fig. 2b). A diagnosis of concomitant extraocular muscle (EOM) and neurocysticercosis was made.

She was treated with oral albendazole, dexamethasone, phenytoin (for seizure prophylaxis) and topical prednisolone acetate 1% eye drops, with the latter tapered over a month. Four months later, EOM limitation and diplopia resolved completely. However, the left temporal scleral vessels remained mildly dilated (Fig. 1b).

### Discussion

Given the rarity of cysticercosis in Singapore, we wish to highlight the importance of a high index of suspicion of myocysticercosis in young patients who hail from endemic areas of cysticercosis and for physicians to bear this differential diagnosis in consideration. Although uncommon, it can masquerade as an acquired motility disorder, thyroid eye disease, or a persistent red eye. The horizontal recti and superior oblique, with the latter



Figure 1a

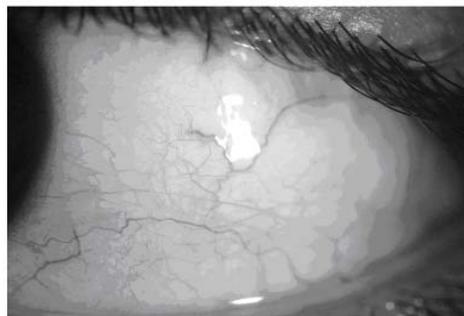


Figure 1b

Fig. 1(a). Photograph of left eye revealing localised temporal conjunctival chemosis with dilated underlying scleral vessels.(b). Residual mild dilation of left temporal scleral vessels 4 months later.

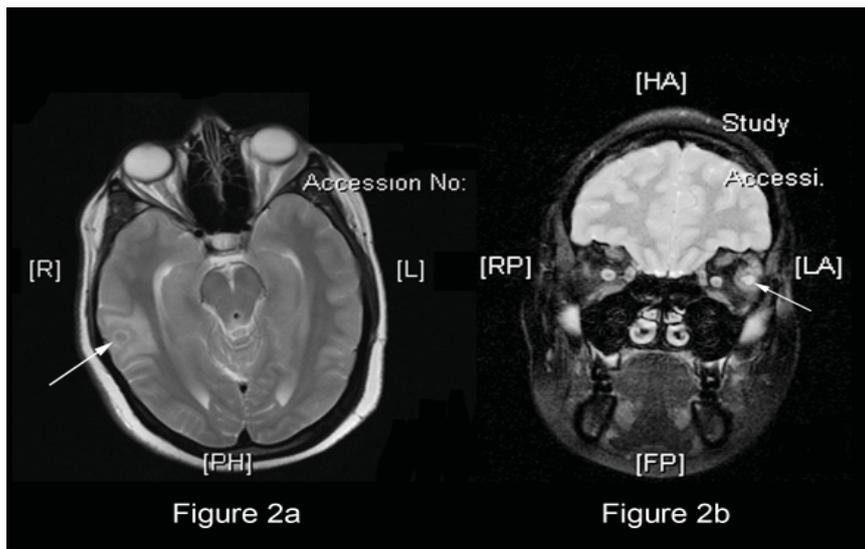


Fig. 2(a). Magnetic resonance imaging (MRI) brain showed 2 other small focal cystic lesions, each with a central scolex in the left frontal cortex and right temporal cortex. (b) MRI of orbits that revealed a thickened left lateral rectus muscle with a focal cyst, scolex and mild surrounding oedema.

presenting as Brown's syndrome, have been reported to be more commonly involved in myocysticercosis.<sup>7</sup> Sensitivity of anti-cysticercosis antibodies is higher in multiple cysts (94%), decreasing to 28% in single or calcified cysts.<sup>8</sup> Lastly, neurological symptoms may be absent as in one case, but EOM cysticercosis has also been reportedly associated with neurocysticercosis in 16.7% of cases.<sup>9</sup> Therefore, neuroimaging should be done routinely to rule out concomitant intracranial lesions that require a neurology consult.

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S Sanjay,<sup>1,2</sup> MBBS, MRCS(Edin), MMed(Ophth), Nicola Y Gan,<sup>3</sup> MBBS, MMed(Ophth), Yan Tong Koh,<sup>3</sup> MBBS

<sup>1</sup>Ophthalmology and Visual Sciences, Khoo Teck Puat Hospital, Singapore

<sup>2</sup>Eye Clinic, Jurong Medical Centre, Singapore

<sup>3</sup>Tan Tock Seng Hospital, National Healthcare Group, Singapore

Address for Correspondence: Dr S Sanjay, Ophthalmology and Visual Sciences, Khoo Teck Puat Hospital, 90 Yishun Central, Singapore 768828. Email: sanjay\_s@alexandrahealth.sg