

Case report

Ptosis: a rare presentation of ocular cysticercosis

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Abstract

Background: Cysticercosis is a common parasitic infection involving multiple systems and caused by *Cysticercus cellulosae*, the larval form of the cestode, *Taenia solium*. The humans become infected by ingesting its eggs from contaminated food. Here, we present a case of ocular cysticercosis which presented with mild pain, ptosis, inflammation of upper eyelid and slightly restricted ocular motility. **Case:** A twelve-year-old girl presented with mild pain, unilateral ptosis and inflammation of the right upper eyelid for seven months. There was no history of diurnal variation and trauma. There was neither protrusion of the eyeball nor any mass was palpable in periorbital area. Visual acuity in both the eyes was normal. Periocular and ocular examination revealed a slightly restricted ocular motility in the right upward gaze and a reduced vertical fissure height with good levator palpebrae function. The Bell's phenomenon was good. The magnetic resonance imaging of the orbit showed an intra-conal retro-orbital mass involving the superior rectus muscle of the right eye suggestive of ocular cysticercosis. The orbital sonogram revealed a cystic lesion in the superior rectus muscle with an echogenic intramural nodule. The enzyme-linked immunosorbent assay for serum antibodies against the cysticercus was positive. The ptosis improved with a therapeutic trial of albendazole and oral steroids for 6 weeks. **Conclusion:** Extra-ocular cysticercosis can be treated with oral steroid and albendazole.

Key-words: ocular cysticercosis, ptosis, eye infection, *Taenia solium*

Introduction

Cysticercosis is a most common parasitic infection of the central nervous system caused by *Cysticercus cellulosae*, the larval form of the cestode, *Taenia solium*. It is endemic in many parts of the world including China, Southeast Asia, India, sub-Saharan Africa, and Latin America (Garcia et al, 2003). Humans become infected by ingesting its eggs from contaminated food. The most common sites of involvement of cysticerci are soft tissue, eye and central nervous system. Ocular cysticercosis may be

extraocular (in the subconjunctival or orbital tissues) or intraocular (in the vitreous, subretinal space, or anterior chamber) (Murthy et al, 1980). We report a case of ocular cysticercosis which presented with mild pain, ptosis, inflammation of upper eyelid and slightly restricted ocular motility.

Case report

A twelve-year-old girl from Gorkha, Nepal presented with progressively increasing ptosis associated with mild pain in the right eye for seven months. Examination revealed ptosis of right upper lid with mild restriction in the upward gaze with a good levator palpebrae superioris function (Figure 1A&B). The vertical fissure height was

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reduced (4mm in primary gaze, 5mm in up and down gazes). The Bell's phenomenon was good and Marcus Gunn jaw winking phenomenon was absent and the corneal sensation was normal. There was no fatigability and the icepack test was negative. The remaining extra-ocular muscles were normal. The sclera and cornea were normal. The pupils were bilaterally symmetrical and reacting to light. Fundoscopy was normal. The systemic examination was within normal limit. The left eye was normal. There was no intracranial focal lesion. There was no history of fever, headache, vomiting, weakness of limbs, and deviation of mouth or slurring of speech. The magnetic resonance (MR) imaging of the head and orbit showed approximately 28x13x15 mm sized retro-orbital intraconal mass in the superior aspect of the orbit inseparable from the superior rectus muscle of the right eye. The mass had an iso signal intensity in T1 and mixed signal intensity in T2 MRI. An oval T2 high signal intensity area was noted within the mass in the anterior aspect (Figure 2A&B), suggesting inflammatory pathology probably of cysticercosis. Orbital sonogram revealed a cystic lesion in superior rectus muscle with echogenic intramural nodule (Figure 3A). The Hess charting showed superior rectus paresis (Figure 3B). The enzyme-linked immunosorbent assay for serum antibodies against cysticercus was positive. Microscopy of the stool did not reveal any *Taenia* spp eggs. The complete blood count was normal. The child was treated with oral prednisolone 1mg/kg and albendazole 15mg/kg in two divided dosage for 6 weeks. On the follow-up at 3 months, the ptosis of the right upper eyelid had improved (vertical fissure height in primary gaze was 8mm).



Figure.1A

Figure 1B



Figure 1(A) and 1(B) showing right eyelid ptosis and extraocular muscle restriction in upward gaze respectively.



Figure 2(A): T2 weiged MRI axial scan of brain and orbit.



Figure 2(B): T1 weiged MRI axial scan of brain and orbit.

There was a mass with iso signal intensity in T1 and mixed signal intensity in T2. Oval T2 high signal intensity area was noted within the mass in anterior aspect suggestive of inflammatory pathology probably of cysticercosis.



Figure 3A: showing cystic lesion in superior rectus muscle with echogenic intramural nodule

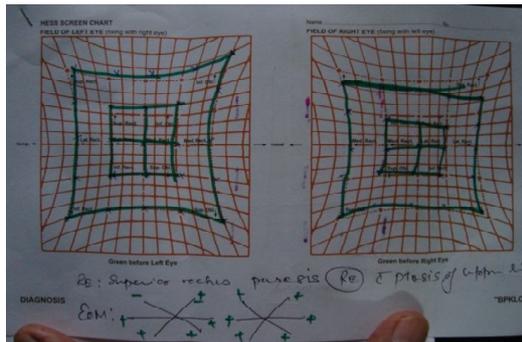


Figure 3B: Hess charting showing right eye superior rectus paresis

Discussion

Cysticercosis refers to tissue infection after exposure to eggs of *Taenia solium*, the pork tapeworm. The first case of ocular cysticercosis was reported by Semmering in 1830 and the larva was isolated by Schott in 1836 (Kaliaperumal et al, 2005). Ocular and adnexal involvement represents 13%–46% of systemic disease. Literatures on orbital and adnexal cysticercoses revealed a predilection for children and young adults with slight male preponderance (Rath et al, 2010). The ocular adnexa is the most common site as reported in the Indian literatures (Rath et al, 2010; Pushker et al, 2001). All the extraocular muscles can be involved in myocysticercosis. However, the superior rectus, inferior rectus, medial rectus, lateral rectus and the superior oblique muscles have been found to be affected to a greater extent (Rath et al, 2010). The clinical manifestations vary according to location, size, relation to adjacent structures and stage of development of the cyst. The most common symptoms associated with orbital cysticercosis are diplopia (due to restrictive ophthalmopathy) and recurrent pain and redness (Sundaram et al, 2004). Other presentations reported include proptosis, sub-conjunctival cyst, acquired ptosis, atypical optic neuritis, papilloedema, lid nodule, and sub-retinal and intra-vitreous cysts (Pushker et al, 2001). Concurrent orbital and systemic cysticercoses are rare. Ophthalmoscopy is a good method for diagnosing intraocular cysticercosis because of the visibility. However, the imaging modalities, such as computed tomography (CT) and MR imaging are highly specific for diagnosing orbital cysticercosis.

The CT and MR imaging not only confirm the diagnosis but also help to rule out neurocysticercosis. Contact B-scan ultrasonography also has a good diagnostic accuracy (Rath et al, 2010). The tissue diagnosis is not essential for starting treatment. Medical therapy with albendazole and oral steroid is recommended for the extraocular muscle form and retro-orbital cysticercosis, and improvements have been reported (Pushker et al, 2002; Rath et al, 2010; Ziaei et al, 2011). Despite the resolution of cysticercosis with medical management, a significant proportion of patients may have residual functional deficits (Rath et al, 2010). The intraocular cyst requires timely surgical removal to obviate the sight-threatening sequelae.

Conclusion

Extraocular cysticercosis should always be suspected especially in cases of painful ptosis and ocular motility disorder, particularly in a child or young adult living in an endemic area. The MR imaging of the orbit plays a vital role in diagnosis. Medical therapy with albendazole and oral steroid is an effective mode of therapy.

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