ISOLATED ORBITAL CYSTICERCOSIS... CAUSE OF PTOSIS IN CABBAGE EATERS

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ABSTRACT

PURPOSE: To report case of isolated orbital cysticercosis

METHODS: Patients with drooping of eyelid were referred to our hospital. Patients were evaluated and investigated to find the cause of ptosis.

RESULTS: Two patients with acute unilateral ptosis were referred to our hospital. Patients were investigated, blood test, stool tests and MRI were done to rule out the causes. In both the patients ptosis was due to involvement of LPS muscle by cysticercus larva. All the patients gave history of excessive consumption of cabbage and pork. The mainstay of treatment included oral albendazole (15 mg/kg/day) and oral prednisolone (1mg/kg/day) for 4 weeks. After 4 weeks, oral albendazole was stopped and oral prednisolone was slowly tapered over the next one month. The effect of above treatment was seen after few days with regression of swelling and improvement of signs and symptoms.

CONCLUSION: Orbital cysticercus stands as one of the major causes of ptosis in the lower socio-economic status people who are consuming mainly unhygienic leafy vegetables such as cabbage, burgers and under-cooked pork. Therefore, these patients should be vigorously evaluated on scans (MRI and CT) so that early diagnosis can be made and treatment can be given to prevent the permanent visual loss or dissemination to brain.

Keywords: Orbital cysticercosis ; Ptosis ; Taenia.solium
INTRODUCTION
Cysticercosis is one of the most serious parasitic infections spreading almost all over the world and listed as one of the neglected tropical disease.\cite{1,2} Cysticercus cellulosae is the causative organism of cysticercosis which is the larval form of the pork tapeworm *Taenia solium* (*T. solium*). The human becomes the accidental intermediate host of *T. solium* by ingesting eggs of *T. solium* from contaminated food and water. Nowadays, the incidence of human cysticercosis is decreased due to improved living and hygienic condition. The larval form of pork tapeworm causes orbital cysticercosis by involving orbital cavity such as: extra ocular muscles, fatty tissue, and nerve ganglion. Ocular cysticercosis may be extraocular (in the sub-conjunctival or orbital tissues) or intraocular (in the vitreous, sub-retinal space, or anterior chamber).\cite{3,4,5} Orbital cysticercosis can lead to significant visual loss, especially if the cyst is located intraocular or is compressing the optic nerve.\cite{3} Ocular manifestations of cysticercosis vary from asymptomatic to painful blind eye and may be associated with neurological symptoms such as headache, diplopia, and restriction of the ocular movements, diminution of vision. The intraocular cysticercosis presents with decreased vision, pain and recurrent redness in the affected eye. According to some authors the most common location of the orbital cysticercosis is the sub retinal region (35 %), followed by the vitreous cysticercosis (22 %), conjunctival cysticercosis (22 %), and anterior segment cysticercosis (5 %)\cite{6} while involvement of other regions (e.g., extraocular muscles, optic nerve) are relatively less common.\cite{3} While either eye may be affected, bilateral involvement is rare\cite{7} and multiple cysts may develop in the same eye.\cite{8} Ocular manifestations may be devastating as the cysticercus enlarges. The cysticercus may lead to blindness in 3-5 years.\cite{9}

CASE REPORT
CASE 1
We report a case of 55 years male who complained of on and off drooping of right eye since 5 months (Fig 1.1) with restricted movements in upward gaze in right eye. It was not associated with pain, proptosis, redness or diminution of vision. The patient consulted a local practitioner who started him on oral steroids for one month after which drooping of lid improved. Again, ptosis reappeared after 3 months for which he was referred to our hospital. The patient was non-vegetarian by diet with occasional pork eater with excessive liking for burger. Slit lamp examination for anterior segment was normal. Fundus was seen under full mydriasis and was normal.

![Fig 1.1. Drooping of right upper lid with hypertropia](image)

INVESTIGATION
Haematological investigations showed eosinophilia. In routine microscopic examination of stool cysts of *T. solium* was found. Enzyme-linked immunosorbent assay (ELISA) done for anticysticercal antibodies in serum was positive.
Other laboratory investigations were non-contributory. B-scan ultrasonography showed no evidence of intra-retinal or sub-retinal cyst but Magnetic Resonance Imaging (MRI) orbit showed thickening of Superior Rectus (SR) and Levator Palpabrae Superioris (LPS) complex with lymphocytic infiltration (Fig 1.2). Other orbital muscles were normally seen. Both intraconal and extraconal compartments were otherwise normal. There was no evidence of neurocysticercosis (NCC). A diagnosis of extraocular cysticercosis involving superior rectus and LPS muscle was made.

**Fig 1.2. MRI scan showing thickening of SR and LPS complex.**

**TREATMENT**

The mainstay of treatment included oral albendazole (15 mg/kg/day) and oral prednisolone (1mg/kg/day) for 4 weeks. After 4 weeks, oral albendazole was stopped and oral prednisolone was slowly tapered over the next one month. The effect of above treatment was seen after few days with regression of swelling and improvement of signs and symptoms (Fig 1.3).

**CASE 2**

A similar case was referred to our O.P.D of a 64 years female who complained of progressive drooping of right upper lid and pain in upward gaze since 2 months (Fig 2.1). It was not associated with proptosis, diminution of vision or diplopia. There was no restriction of movement in any gaze. The patient was vegetarian by diet with history of eating of excessive cabbage and spinach and belonged to lower socio-economic status. Slit lamp examination for anterior segment was normal. Fundus was seen under full mydriasis and was normal.
INVESTIGATION
Haematological investigations showed increased eosinophils. In routine microscopic examination of stool cysts of *T. solium* was found. ELISA done for anticysticercal antibodies in serum was positive. Other laboratory investigations were non-contributory. B-scan ultrasonography showed no evidence of intra-retinal or sub-retinal cyst but MRI scan showed enlargement of right SR muscle and LPS complex and mild haziness in preseptal and retro-orbital fat suggestive of inflammation (Fig2.2). Other orbital muscles were normally seen. Both intraconal and extraconal compartments were otherwise normal. There was no evidence of NCC. A diagnosis of orbital cysticercosis involving SR and LPS muscle was made.

TREATMENT
The mainstay of treatment included oral albendazole (15 mg/kg/day) and oral prednisolone (1mg/kg/day) for 4 weeks. After 4 weeks, oral albendazole was stopped and oral prednisolone was slowly tapered over the next one month. With the onset of treatment, the symptoms subsided and ptosis gradually recovered(Fig2.3).
**DISCUSSION**

As seen in the above cases the drooping of eyelids with restriction of movement is the most common symptom with involvement of extraocular muscle especially superior rectus and LPS in ocular cysticercosis. The diagnosis of ocular cysticercosis can be presumptively established by presence of extraocular involvement (especially SR and LPS) seen on various CT and MRI scans. Eosinophilia may be present in disseminated disease. Oral albendazole and oral steroids were the mainstay of treatment in all the cases and the patients got relieved in 4-6 weeks. Orbital cysticercus stands as one of the major causes of ptosis in the lower socio-economic status people who are consuming mainly unhygienic leafy vegetables such as cabbage, burgers and under-cooked pork. Therefore, these patients should be vigorously evaluated on scans (MRI and CT) so that early diagnosis can be made and treatment can be given to prevent the permanent visual loss or dissemination to brain.

**REFERENCES**