Ocular parasitosis: A rare cause of hypertensive uveitis

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A middle-aged Asian gentleman presented with four weeks’ history of recurrent redness, pain and deterioration of vision in his right eye. He was diagnosed with chronic, unilateral, granulomatous hypertensive uveitis. During one of the serial examinations a single, off-white, extremely motile, thread-like worm about 15 mm long was noted in the anterior chamber. Surgical retrieval of the worm was unsuccessful. The worm disappeared in the eye and was never seen again. Patient suffered from chronic waxing and waning granulomatous inflammation with uncontrolled high intraocular pressure despite treatment. The vision dropped down to no perception of light. Therapeutic success in such patients depends upon early and complete surgical removal of the worm, which could be a real challenge as worms are highly motile and only visible sporadically, as in this case. Ocular parasitosis should be kept in mind as a differential diagnosis in treating non-responsive chronic hypertensive granulomatous inflammation, especially if the patient is of Southeast Asian origin or has recently visited the region.

Key words: Hypertensive uveitis, inflammatory glaucoma, ocular parasitosis

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Ocular parasitosis is a rare and sight-threatening condition faced by clinicians mainly in developing nations. The presence of a live worm poses unique challenges. Physical presence of the worm or toxins released by the dead worm could lead to chronic granulomatous hypertensive uveitis. Ocular parasitosis, as a cause of hypertensive uveitis has not been reported in the past.

Case Report

A middle-aged Asian gentleman living in Nepal presented with four weeks’ history of recurrent redness, pain and deterioration of vision in his right eye. There were no significant ocular problems in the past. Medical history and systemic examination was unremarkable.

On ocular examination, visual acuity in the right eye was 20/80 and in the left eye was 20/20. Slit-lamp examination showed ciliary congestion, corneal haze and mutton fat keratic precipitates on the corneal endothelium. There was moderate anterior chamber activity. Intraocular pressure (IOP) was 35 mm Hg in the affected eye. Posterior segment examination was normal. Examination of the fellow eye was normal. He was treated with oral Diamox 250 mg thrice daily, topical Pred forte 1% every hour, Timolol 0.5% twice daily and Alphagan twice daily in the affected eye. During serial examinations, initially, mutton fat keratic precipitates fainted quickly on intensive steroid therapy but, later on, inflammation and raised IOP seemed non-responsive to the treatment. During one of the examinations a single, off-white, extremely motile, thread-like worm about 15 mm long was noted in the anterior chamber [Figure 1]. The IOP was still 32 mm Hg. A complete blood count revealed mild eosinophilia. Thick and thin peripheral blood smears were normal and standard three consecutive stool examinations did not show any parasitic ova or cyst.

The appearance of the worm resembled Angiostrongylus sp. (most likely A. cantonensis), which is a nematode (roundworm) prevalent in Southeast Asian countries.

Surgical retrieval of the worm was tried but was unsuccessful. The worm disappeared in the eye and was never seen again during serial repeated examinations. Patient suffered from chronic waxing and waning granulomatous inflammation with uncontrolled high IOP despite treatment. He denied any further surgical interventions. The vision dropped down to no perception of light. The eye eventually, went into phthisis over a period of 24 months. Patient was counselled for enucleating the phthisical globe for histopathological diagnosis, prevention of late complication and better cosmetic appearance. He declined enucleation as the eye was stable and comfortable.

Discussion

Parasitic infestation is a major health problem in tropical countries. Common ocular parasites are Toxocara, Onchocerca, Wuchereria, Ankylostoma, Loa, Dirofilaria and Angiostrongylus. Ocular angiostrongyliasis has been reported from Vietnam, Sri Lanka, Japan, Thailand, Indonesia and Papua New Guinea. It has never been reported as a cause of hypertensive uveitis.

Rat is the definitive host of A. cantonensis. The intermediate host is the snail or slug. Humans acquire the infection by eating raw or undercooked snails or slugs infected with the parasite. It is thought to enter the eye by the hematogenous route and possibly favours the anterior chamber owing to the presence of free fluid or the cooler temperature or both.

Figure 1: Worm in the anterior chamber
Chronic inflammation and raised IOP in the eye could be either due to the physical presence of a motile worm or immune reaction to the toxins released from the dead worm or both. Therapeutic success depends upon early and complete surgical removal of the worm, which could be a real challenge as worms are highly motile and only visible sporadically. A slight change in the microenvironment during corneal section leads to increased motility and sometimes disappearance of the worm in the eye.

Ocular parasitosis should be kept in mind as a differential diagnosis in treating non-responsive chronic hypertensive granulomatous inflammation, especially if the patient is of Southeast Asian origin or has recently visited the region.

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