

Case Report

Ocular filariasis

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KEY WORDS

Anterior chamber filariasis, *Brugia malayi*, ocular infestation

ABSTRACT

Human ocular infestation by a live filarial adult worm is a rare occurrence. We report a case of ocular infestation of a female adult *Brugia malayi*. A 35-year-old female presented with chief complaint of severe headache, blurring of vision, redness, and lacrimation since one year. On examination, there was conjunctival chemosis, congestion, and white-colored worm with wriggling movement in the anterior chamber of eye. The worm removed by paracentesis of anterior chamber. Identification basing on typical morphology showed to be adult female *B.malay*i, and was confirmed by immunochromatographic test. The patient responded completely to diethylcarbamazine treatment. Live adult worm in the anterior chamber of eye is uncommon in India; nevertheless, ophthalmologists should be aware of this clinical manifestation and go for a proper identification of the worm.

INTRODUCTION

Intraocular infestation by the filarial worm is a rare occurrence in humans and most of the published reports are from Southeast Asia.^[1] Lymphatic filariasis caused by *Brugia malayi* occurs in southwest India, China, Indonesia, Malaysia, Korea, Philippines, and Vietnam.^[2] Brugian filariasis is mainly a rural disease and transmitted by mosquitoes of the genera *Mansonia*, *Anopheles*, and *Aedes*. Domestic animals like cats and dogs may serve as reservoirs of infection. During a blood meal, mosquitoes ingest microfilaria and they become infective in 10 days. Patients contract the disease through repeated episodes of mosquito bite.

The ocular manifestations of filariasis are elephantiasis of the eyelids, iritis, retinal hemorrhages, or the presence

of microfilaria in the lacrimal gland secretion.^[3] Entry into the anterior chamber may be through ciliary vessels.

Here we report a case of a woman belonging to slum area of Kendarapara district of Odisha. In this patient, live adult worm was found wriggling in the anterior chamber of the left eye.

CASE REPORT

A 35-year-old female belonging to the slum area of kendarapara district of Odisha presented to the ophthalmology outpatient department with chief complaint of severe headache, blurring of vision, redness, and lacrimation since one year in left eye. The right eye was normal. The symptoms were insidious in onset and progressive in nature. The patient was a housewife and had some pet animals like cats and dogs. On examination, conjunctival chemosis, congestion, lacrimation, and white-colored worm with wriggling movement in the anterior chamber of left eye [Figure 1]. Movement of the live worm was seen during slit lamp examination of the left eye. The conjunctival fornices and the cornea were normal. Ocular movement and fudoscopy of both the eyes were normal. The worm removed by paracentesis of the anterior chamber and was sent in normal saline to the department of microbiology. Under low and high power magnification, morphology

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Figure 1: White-colored worm in the anterior chamber of eye

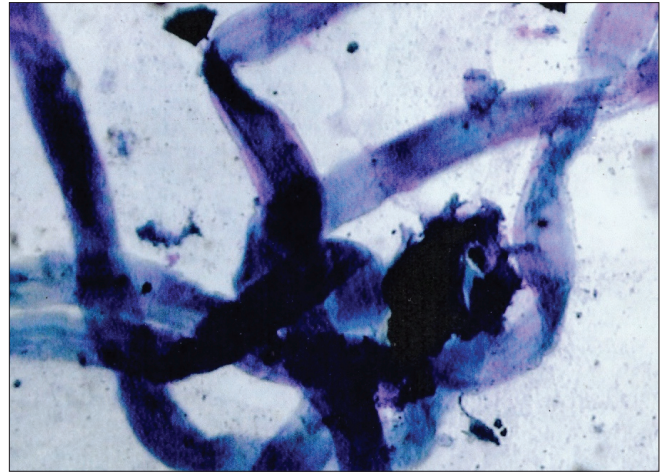


Figure 2: Coiled adult worm (200x)

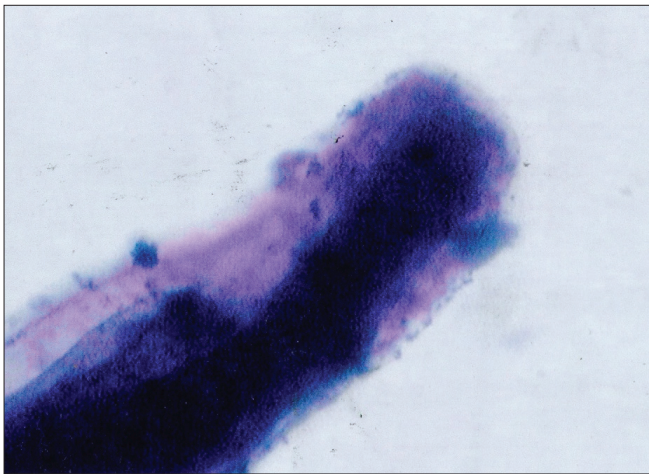


Figure 3: Distended mouth part (400x)

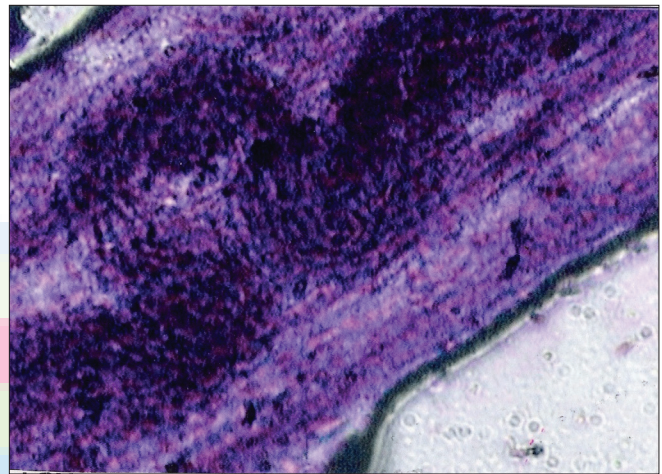


Figure 4: Long doubled-walled tube merging with the uterus (400x)

of the parasite studied in wet mount as well as after staining with leishman stain. The worm was found to be approximately 40 mm in length, and 130 μ m in breadth. [Figure 2]. In the leishman-stained smear, the worm had a blunt cephalic end with slight bulging [Figure 3]. There was no clear demarcation of the mouthparts anteriorly. The tail end slightly curved and tapered. There was long double-walled tube with a normal lumen, which merged with the uterus [Figure 4]. The posterior end showed many cuticular bossing. Due to the above-mentioned typical features, the worm identified to be adult *B.malayi*. Immunochromatographic test (ICT) for filarial (*Wuchereria bancrofti*) antigen was negative. The sensitivity and specificity of ICT for filarial antigen is 96 to 100% and 95 to 100%, respectively.

DISCUSSION

The first recorded case of *B.malayi* microfilaria in a patient with uveitis was reported by Anandakanan and Gupta in 1977 in India.^[4] Rose (1960) reported an unproven case of

B.malayi adult worm in the anterior chamber of the eye of a man in Malaysia.^[5] Mak *et al* (1974) report a case of human eye infection caused by adult worm of *B.malayi* in Malaysia.^[6] Rao *et al* reported intravitreal live adult Brugian filariasis from Orissa.^[1]

B.malayi is a helminth belonging to class nematodes. Man is the definitive host for *B.malayi*, the intermediate host being species of Mansonian mosquito. Adult worms live in the lymphatic system discharging live embryo (microfilariae) into the blood stream, which are capable of living in the peripheral blood for a considerable period without undergoing any developmental metamorphosis. Intermediate host takes up microfilariae where they undergo further development becoming infective to man.

The most common clinical presentation of ocular filarial infestation is chemosis, lid edema, orbital cellulitis anterior uveitis, or worm in the anterior chamber.

Once a parasite is identified in the vitreous cavity it should be removed immediately live and intact. Immediate removal is necessary because (i) it is capable of migrating to various parts of the eye and could cause structural damage and severe intraocular reaction, (ii) severed parasite may cause serious intraocular inflammation, and (iii) intact parasite is necessary for proper identification of species and any systemic treatment if needed for it.^[7,8]

The drug of choice for lymphatic filariasis is diethylcarbamazine (DEC). This regimen clears microfilariae from the blood and has a limited but definite effect on adult parasites. Use of ivermectin, in trials for therapy for lymphatic filariasis, in a single dose, appears to be as effective as DEC at clearing microfilariae.^[9] Karam and Ottesen in 2000 reported that combined treatment using albendazole plus ivermectin or albendazole plus diethylcarbamazine has resulted in near-zero microfilaremia levels for at least one year. Based on these new developments, the World Health Assembly adopted a resolution calling on member states to work for the elimination of lymphatic filariasis as a public health problem.^[10]

One of the control measures is mosquito eradication. *Mansonia* species are the major vectors in rural areas. Control of mansonias mosquitoes is by destruction or removal of the aquatic vegetation.

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