Ocular filariasis: “Dancing sensation in the anterior chamber”

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INTRODUCTION

A patient presenting with worm in the anterior chamber (AC) has been reported several times in the literature dating back to early 1900s,[1] although the first recorded case of an intraocular filaria was published by Mercier in 1771. Still its varied presentation remains a challenge for ophthalmologists. The most common clinical presentation of ocular filarial infestation is chemosis, lid edema, orbital cellulitis, anterior uveitis, or worm in the AC. Filariasis is an important public health problem in India, with about a third of the total population lives at risk of this disease.[2]

This vector-borne parasitic disease is caused mainly by two nematode parasites, *Wuchereria bancrofti* and *Brugia malayi*. Filariasis is mainly a disease of the lymphatic system. However, rarely it can present as intraocular filariasis in an otherwise asymptomatic patient without any constitutional symptoms. We are reporting a case of removal of a large live filarial worm from the AC of the eye, presenting with corneal edema and iridocyclitis, without damaging any ocular structure, and was subsequently sent to a parasitologist for microscopic examination.

CASE REPORT

We are reporting a case of a 28-year-old male, resident of Uttar Pradesh (UP), who came to our outpatient department with complaints of irritation, redness, and blurring of vision in the left eye (LE) for 2 months. His presenting visual acuity was 6/6 in the right eye (RE) and 6/36 in the LE.

His anterior segment (A/S) examination in the RE was quiet and in the LE showed circumciliary congestion with corneal edema and A/S reaction (cells + 2) with long, motile worm dancing within the AC [Figure 1a]. Both eyes (BE) showed clear phakic lens with normal intraocular tension. Fundus in BE showed retina ON with clear media. Systemic workup included complete blood count with hemoglobin: −11 mg/dl, total leukocyte count: 8000 mm³, differential leukocyte count of moderate eosinophilia, peripheral blood smear negative for microfilaria, and stool examination which did not reveal any parasitic cyst/ova. A provisional diagnosis

We report a case of ocular filariasis in a 28–year-old male who presented with a 2-month history of irritated acute red eye. Examination revealed a living and active large worm dancing in the anterior chamber of the left eye causing acute iridocyclitis, leading to drop in vision to 6/36. The worm whose size was approximately 33 mm in length was extracted under local anesthesia in toto using viscoelastics without damaging the ocular structures. Microscopic examination confirmed adult *Wuchereria bancrofti*.

Keywords: Ocular filariasis, worm in the anterior chamber, *Wuchereria bancrofti*
of the LE iridocyclitis with a live intraocular parasite was made. The patient was started with topical antibiotics, steroids, and cycloplegics. Surgical removal of the worm was done under local anesthesia. Viscoelastics was injected through the side port. AC entry was done using 3.2-mm keratome and the worm came out on its own. Since the worm was curled up in two to three loops inside the AC, its approximate size would be 33 mm considering limbal to limbal length is around 11 mm. Worm was sent in formalin for microscopic examination. Postoperatively, the topical medications were continued. Due to negative parasitemia, the patient was not started on oral antihelminthic drugs. On follow-up visits, patient’s vision had improved to 6/9 with quiet AC. Worm was diagnosed of filarial family W. bancrofti adult stage [Figure 1b].

**DISCUSSION**

The patient was resident of UP which is highly endemic for filariasis.[3] The patient had knowledge of the worm in his eye for a period of 2 months before which he was asymptomatic. As he may not have noticed a microfilarium, the larva remained in the eye and grew to an adult worm to the present size. Microfilariae are more commonly known to cause intraocular filariasis than by adult worms.[4] W. bancrofti and B. malayi are main causative organisms to cause uveitis secondary to intraocular filariasis in the Indian subcontinent.[5]

*W. bancrofti* is a helminth belonging to class nematodes. Man is the definitive host, the intermediate host being species of *Anopheles* mosquitoes. Adult worms live in the lymphatic system, discharging live embryos (microfilaria) into the bloodstream. Adult filarial worms are thread-like structures that live in the subcutaneous tissues and the lymphatic system. They sexually reproduce microfilaria, the first larval stage. Microfilariae are ingested by hematophagous arthropods, where they develop into infective larvae that grow in the vertebrate host and mature into adult worms. The exact route of invasion of microfilariae into the eye is still unknown. They enter the eye probably through the long and short posterior ciliary vessels, cerebrospinal fluid, or the optic nerve sheath.[6]

Corneal edema due to dead filarial worm has been reported in few case reports,[6] but we present corneal edema in a case with live worm in the AC. Presumably, this particular worm came to the iris tissue through the ciliary vasculature and was lodged there where it developed and attained a length of 33 mm. If it had not been removed, it would have caused damage to the iris and surrounding tissues. In our case, the worm was removed from the AC using viscoelastic material. Visco was injected in the AC which being viscous entrapped the worm and pushed it outside through the other side port without the help of forceps. Khokhar *et al.* removed worm from the AC whose size was 9 mm in length.[7] We were able to remove such large worm around 33 mm alive in toto without damaging any ocular structure, thus preserving the vision.

Once a parasite is identified, it should be removed immediately live and intact to prevent inflammation and further damage to the eye. Furthermore, in filariasis endemic states, intraocular filaria as a cause of secondary uveitis must be kept in mind.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

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