Bilateral intraocular dirofilariasis

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Ocular dirofilariasis mostly presents as a subconjunctival or eyelid lesion.[1] Intraocular dirofilarial infestation is rare.[2,3] We report a case of a young woman who was accidentally detected to have a live motile worm in the anterior segment in one eye and a cystic lesion on the optic disc in the other eye. To our knowledge, bilateral intraocular dirofilariasis has never been reported.

Key words: *Dirofilaria*, intraocular *dirofilaria*, worm

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A 38-year-old Indian woman presented to our Outpatient Department in north India with complaints of redness in her right eye since 6 months. She had no history of recent travel. On examination, the right eye had mild conjunctival congestion. Her vision was 6/6 in both eyes without glasses. Slit lamp examination revealed a live motile transparent worm in the anterior chamber of her right eye [Fig. 1]. The worm was not adherent to the cornea or iris. Cross-sectional thickness measured by ultrasound biomicroscopy was 130 microns. There was no inflammatory reaction in the anterior chamber. On dilated fundus examination of the left eye, a small lesion, approximately 1/10th of the size of optic disc was noted on the superonasal quadrant optic disc. The lesion was confirmed to be separate from the disc and contained inflammatory debris on posterior segment optical coherence tomography [Fig. 2]. No scolex was noted. Computed tomography of brain and orbits revealed no abnormality. Stool examination was normal. There was no hepatomegaly or splenomegaly. Her hemogram, including eosinophil counts was normal.

Under topical anesthesia, two paracentesis were made in the anterior chamber of the eye. The worm extruded with the aqueous. Morphologically, the features of the worm were consistent with an adult *Dirofilaria repens*. The worm was unsheathed with a blunt head and a tapering tail. It was 20-mm in length, surrounded by a thick cuticle, with multiple transverse ridges. Under the cuticle, a thick muscular layer was seen. Postoperatively, the right eye remained quiet with no inflammatory episode. The cystic lesion in the left eye did not show further change over 3 months. In view of normal visual acuity and no ocular inflammation in the left eye, no intervention was performed. The patient remains under close follow-up.

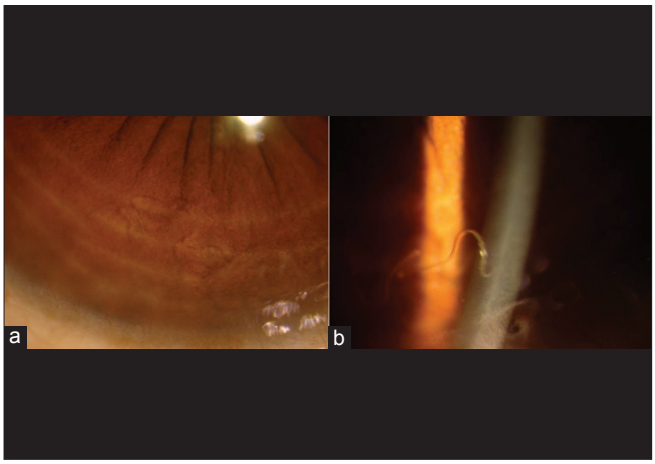

Figure 1: Anterior segment diffuse (a) and slit (b) photograph of the live worm in right eye

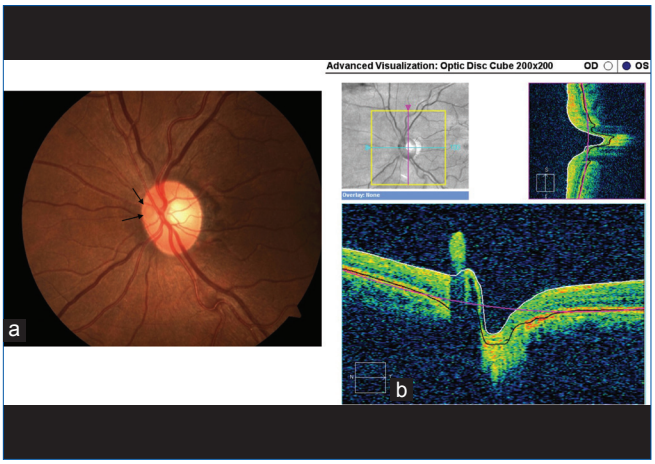

Figure 2: Fundus photograph showing a small lesion over the optic disc in the left eye (a) that was confirmed on posterior segment optical coherence tomography (b)

Discussion

The most common Dirofilarial species isolated from humans have been *D. tenuis, D. immitis,* and *D. repens*.[4] Determining the species of *Dirofilaria* is sometimes difficult, especially if a male worm is not present, and the final diagnosis is often based on the presumed location of acquisition (i.e., *D. tenuis* if in the United States, *D. repens* elsewhere).[4]

The route for intraocular penetration is still unknown. Rarely, lesions corresponding to its migration have been reported in the posterior segment, as active areas of choroiditis.[5] Although our patient had no such active retinal lesions in the right eye, the lesion in the left eye pointed to the possible site of entry of the worm. The hypotheses are that the adult worm penetrates the sclera, or the larva penetrates the blood-ocular barrier, and matures inside the eye. We suspect that the lesion in the left eye occurred as an inflammatory response to a dead Dirofilarial worm, similar to subcutaneous nodules. On cross-section of these lesions, a degenerated worm is usually seen, with necrotic area surrounded by a granulomatous reaction with epithelioid cells, giant cells, lymphocytes, macrophages, and eosinophils.[6] The present case report underscores the necessity to perform a comprehensive examination in a case of red eye, including examination of the fellow eye to detect any sign of parasitic infestation.

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