Dirofilariasis: an uncommon parasitosis of the eye

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Dirofilariasis, a disease rarely seen in humans, occurs commonly in carnivorous mammals. Two important species in the Dirofilaria genus are found in the eye. One of these is *D. tenuis*, whose natural host is raccoons. As there are no raccoons in Turkey, this parasite is not found there. The other is *D. repens*, which is found in dogs and cats. Since only immature forms are found in humans, no microfilariae are detected in the circulation. Although it is an uncommon parasite in humans, when found it is usually located in the subepithelial tissues of the eyelids, fingers, cheeks, breasts, abdomen, and very rarely in conjunctivae. The source and the route of infection is not known definitely. Diagnosis could only be made by detecting the parasite in the histological specimen. Treatment is only by surgical excision.

Case reports

CASE 1

A 22-year-old man, complaining of photophobia, redness, and conjunctival swelling in the left eye of 1 week’s duration, was admitted to hospital. In the ophthalmic evaluation a ciliary injection and a supertemporally located subconjunctival mass were detected (Fig 1). The mass contained a thin, white living worm. Routine blood tests were within normal limits, and no microfilariae were detected in the blood smear. The worm was removed with a forceps, the subconjunctival mass was excised with the conjunctiva, and the exposed sclera was covered by Tenon’s capsule under local anaesthesia. The specimen measured 1×0.5 cm and histopathologically exhibited a mixed inflammatory
infiltrate and a moderate number of eosinophils around the transverse sections of the nematode (Fig 2). In a parasitological evaluation the nematode was 95 mm long and 0-46 mm wide. It had a rounded anterior tip without a mouth cavity (Fig 3). The worm was identified as the immature female form of *D repens*. No systemic treatment was given to the patient. The postoperative period was uneventful.

**CASE 2**

A 77-year-old woman had a slowly growing lesion involving the right upper eyelid for 2 months. Ophthalmic examination disclosed a 5×10 mm solid mass and oedema of the upper eyelid (Fig 4). The mass was clinically diagnosed as an orbital pseudotumour. Orbital computed tomography confirmed the diagnosis. There was no pathology in routine blood tests and smears. An orbital biopsy was planned. At surgery the lesion was noted to lie deep in the orbit, and a moving parasite was detected and removed with a forceps (Fig 5). The tissue surrounding the parasite was excised. Microscopically the lesion disclosed a granulomatus inflammatory reaction. The parasite was 102 mm long and the widest region was 0-55 mm. In the parasitological investigation it was identified as the immature female form of *D repens*.

**Comment**

A small number of cases of dirofilariasis have appeared in published reports. The most common sites of involvement of the ocular adnexa are the subcutaneous tissues of the eyelids and periorbital region.\(^1\)\(^2\) Conjunctival involvement is relatively uncommon. The greatest incidence of known human infestation with *Dirofilaria* occurs in Italy, Sri Lanka, and in the south eastern part of the United States.\(^1\)\(^2\) Only two cases of dirofilariasis in the eye have been reported in Turkey.\(^1\)\(^2\) The cases reported in our study were found to be interesting as there were no previous reports from the Çukurova region, located in the southern part of Turkey.

Although rare, dirofilariasis should be taken into account in epidemiological and parasitological studies, and should be considered in the differential diagnosis of the cases with orbital pseudotumour and conjunctivitis.

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Br J Ophthalmol 1993 77: 602-603
doi: 10.1136/bjo.77.9.602

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