

Subconjunctival Ocular Filariasis—Case Report

Anita Sylja Lokaj*, Blerta Rama, Agim Xhafa, Mire Shoshi

Department of Ophthalmology, University Center Clinic of Kosova, Priština, Kosova

Email: *anitasylaj@live.com

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Abstract

Purpose: We report a case of ocular worm diagnosed clinically and treated surgically. **Methods:** A 68-year-old man presented to the ophthalmology clinic, complaining of redness, foreign body sensation and lacrimation in the left eye since 1 week. Slit-lamp examination disclosed a subconjunctival whitish cord like structure with movement. Presentation, clinical, surgery removal, and treatment are described. **Results:** At the time of surgery, an alive and still intact worm was extracted through conjunctiva incision. **Conclusions:** As a not yet known endemic region, we would like to emphasize the importance of this zoonosis with its ocular manifestation, knowing previously the diagnostic difficulties. From this perspective, we conclude that the incidence of ocular dirofilariasis may be much higher than that is reported in our region.

Keywords

Dirofilariasis, Subconjunctival Space, Ocular Parasite

1. Introduction

Dirofilariasis is helminthic infection caused by parasites *Dirofilariasis* genus, Onchocercidae family, class of Nematodes [1]. It is a parasitic disease of domestic and wild animals where the natural definitive hosts are dogs and rarely cats [2]. Zootic infections in humans can be caused by accidental transition of microfiliars by *Culex* and *Aedes* mosquitoes, known as intermediate hosts [3]. There are many species: *Dirofilaria repens*, *Dirofilaria immitis*, *Dirofilaria tenuis*. The adult worm of *Dirofilaria repens* is the most often present, where the infective third stage larvae enter the human tissue through the mosquito bite invading a different tissue, developing and manifesting itself as subcutaneous nodules, lung diseases or ocular manifestation [1].

Subconjunctival dirofilariasis is present worldwide: Asia, Africa and Europe [4]. In this study, we present the case of 68-year-old patient complaining of dis-

comfort and foreign body sensation and diagnostic difficulty.

2. Case Report

We report a case of subconjunctival adult *Diofilaria* worm that was removed live and intact. A 68-year-old men that lives in Kosova, presented to ophthalmology clinic with complaint of redness, foreign body sensation and lacrimation of the left eye for 1 week. The left eye revealed mild eyelid edema, little chemosis and large congestion of conjunctiva. On slit lamp examination, under nasal bulbar conjunctiva was seen whitish cord like structure with movements (**Figure 1**). His best corrected visual acuity was 0.7 in both the eyes. Intraocular tensions were 15 mmHg. He had nuclear sclerosis of grade 2 in both the eyes and rest of the eye examination was normal. Dilated fundus examination was with normal limits. Systemic examination of the patient did not reveal any evidence of lymphangitis or any subcutaneous swellings or nodules.

Clinical diagnosis of a subconjunctival worm was made and its surgical removal was planned. After taking a small conjunctival incision over the swelling under subconjunctival infiltration anesthesia, the worm was gently pulled out with plain forceps taking care not to break it (**Figure 2**). It appeared as a thread-like, milky white worm with a straight body and was sent to microbiology department for species identification in 10% formal saline (v/v). The conjunctival incision was thoroughly washed with balanced salt solution; gentamicin and dexamethasone were injected subconjunctivally. Blood examination revealed



Figure 1. *Diofilariasis* in nasal subconjunctival space.



Figure 2. Surgical removal of worm.

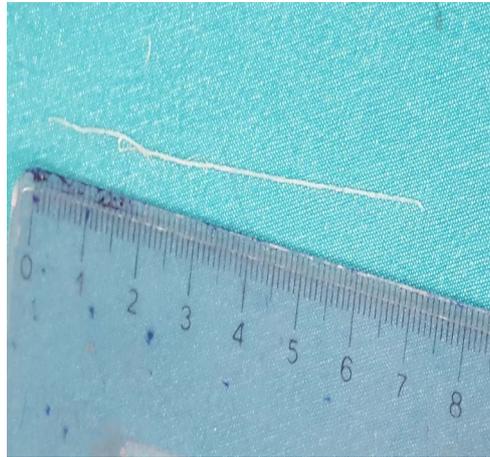


Figure 3. Appearance of the worm.

normal hemogram. The peripheral blood smears did not reveal any microfilariae and stool examination was normal.

The worm was approximately 7 cm long with a maximum thickness of 0.2 cm (**Figure 3**). Although toward the end, the terminations was very thin. The patient was treated with antibiotic/steroid eye drops for 2 weeks.

3. Discussions

Human dirofilariasis is present worldwide, but there is a high incidence of increasing in Europe, especially in Italy as an endemic area, Hungary, central Europe and Balkan [5] [6] [7] [8]. It is a parasitic disease where the microfilariae are transmitted by insects' mosquito's. There are several genus's, but infections in human are seen by *D. immitis* from dog and *D. repens* from fox and jackals, although it takes a huge experience to know the difference between them [4]. It can be asymptomatic or, as a human parasitosis. It can manifest as a lung disease, subcutaneous infiltrates or as an ocular filariasis [8]. Ocular filariasis can involve periorbital, subconjunctival, orbital or intraorbital tissue.

The subconjunctival dirofilariasis is present as whitish color elongated filariae. The male body has a length of 5 - 8 cm and female can be 10 - 17 cm [9].

The problem with the ocular form of infection is most of the cases undiagnosed only when it shows systemic involvement. Therefore, lot of the cases have been undiagnosed and unreported [9] because the parasites are not isolated, which occurs mostly in patients living in not knows endemic areas [10]. Another diagnostic problem is that there is no specific diagnostic blood test, and there is negative filarial serology and not elevated eosinophilia [2].

Our case report presented as a live larvae in subconjunctival space which was evidenced and surgically removed. Our blood analysis revealed no specific changes and more important no elevated eosinophilia, fact seen also in other reported cases Our patient like other patients with no travel history to any endemic region [10] which made us think about possible presence of this zoonosis in our area.

4. Conclusions

Ocular dirofilariasis, although there is an incidence of increasing parasitosis in some regions, is seen quite rare and only occasionally reported.

As a not yet known endemic region, we would like to emphasize the importance of this zoonosis with its ocular manifestation, knowing previously the diagnostic difficulties. From this perspective, we conclude that the incidence of ocular dirofilariasis may be much higher than that is reported in our region.

Conflict of Interest

Authors declare no conflict of interest.

Author's Contributions

Anita Syla Lokaj: Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published.

Blerta Rama: Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published.

Agim Xhafa: Performed the surgery.

Mire Shoshi: Final approval of the version to be published.

Guarantor: The corresponding author is the guarantor of submission.

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