Case Report:
A Subconjunctival Moving Worm

WALEED A. DHABAAN, M.D.
The Department of Ophthalmology, King Khalid College of Medicine, Saudi Arabia

Abstract

Case Report: A 56-year old Saudi female presented to the Emergency Room of King Khalid Eye Specialist Hospital with severe irritation and foreign body sensation in her right eye. Slit lamp examination showed a worm moving underneath the temporal conjunctiva of the right eye. Next day, the worm migrated and became invisible. One more day later, the worm was felt under skin in the lower eye lid area from which it was extracted.

Conclusions: The appearance of a subconjunctival worm is an ophthalmic emergency since the opportunity for its removal can be transient and any delay may give the worm the chance to migrate and escape into undetectable areas.

Key Words: Subconjunctival worm – Migrating worms – Loa loa – Albendazole.

Introduction

SEVERAL parasites localize in human eyes as an effect of a specific neurotropism (e.g., Toxoplasma gondii), larval migration (e.g., ascarids, Dirofilaria spp., Trichinella spp.) and, in a few cases, as a primary localization being released directly into the eyes (e.g., Thelazia callipaeda eye worm and some oestrid fly larvae causing myiasis) [1]. In addition, the adult Loa loa worm may traverse the eye where it may remain visible as a thin transparent worm for hours before continuing its migration elsewhere. Intense itching, urticaria, and elevated eosinophil counts may be seen during the course of the illness [2].

Filarial nematodes can cause conjunctivitis as well as dermatologic manifestations. Such parasites migrate subcutaneously to reach the eye area after the bite of the infected vector. Usually the worm can be seen under the bulbar conjunctiva or felt wriggling under the periorcular skin [3].

We present the first reported case of a Loa loa worm found in the subconjunctival space of an adult Saudi female.

Case Report

In July 2014, a 56-year old Saudi female, who lives at the southwestern region of Saudi Arabia, came to the Emergency Room (ER) of King Khalid Eye Specialist Hospital, after midnight (at 3:30am) with severe foreign body sensation and irritation in her right eye.

She claimed being regularly bitten by some insects but she denied using any opthalmic drugs recently, allergy to any substance, raising or handling any domestic animals or having any chronic medical illness. She also denied traveling outside Saudi Arabia.

On general examination, the patient looked healthy. There were no subcutaneous nodules or swellings on any part of her body. There was no hepatosplenomegaly or lymphadenopathy.

Her visual acuity was 20/20 in both eyes. Intraocular pressure was 13mmHg in right eye and 16mmHg in the left eye. By biomicroscopic examination of the right eye, a moving worm was noticed in the temporal subconjunctival space Fig. (1). Her eyelid, cornea, anterior chamber, lens, vitreous and retina were normal. The left eye was normal.

The patient was immediately admitted to the Ophthalmology Department. However, on preoperative examination (4 hours after admission) at the operating room, it has been realized that the worm completely disappeared and the symptoms subsided. So, the patient was scheduled for an appointment for MRI brain and orbit (after 3 days) in order to locate the worm.
However, on the next day, the patient came again to the ER with right eyelid swelling and tenderness. On examination, there was right lower lid swelling with a moving mass indicating that the worm migrated into the subcutaneous area under the lower lid. So, the patient was immediately transferred to the operating room for surgical removal of the worm before missing it for the second time.

In the operating room, once the local anesthetic was injected, the head of the worm protruded through the skin opening created by the needle. So, the worm was grasped by forceps and could be easily and completely removed. Care was taken to extract the worm live and intact. The worm was then sent to the microbiology lab for identification. The worm was identified as Loa loa microfilaria.

The internal medicine on-call physician was consulted to examine the patient for ruling out the presence of other helminthes and manage any systemic involvement. He prescribed to her albendazole tablets (400mg bid) for three weeks. The patient was referred to the Internal Medicine Department at A Tertiary Care Hospital in the Southwestern Area of Saudi Arabia (Aseer Central Hospital) for further assessment and management of the helminthiasis condition. She was asked to return to our department after one week for follow-up of her eye condition.

Moreover, this case was officially reported to the Directorate of Health to investigate how did our patient contracted the microfilaria since she denied traveling outside Saudi Arabia and the disease vector (Chrysops fly) is not known to exist in Saudi Arabia. However, it is well known that there were many illegal African immigrants, especially from Ethiopia and Eritrea, who used to cross the Red Sea to the Kingdom of Saudi Arabia and settle at the southwestern parts of the Kingdom, where the patient lived.

Nimir, et al. [9] noted that ocular parasitosis in human is more prevalent in geographical areas where environmental factors and poor sanitary conditions favor the parasitism.

Slit lamp examination of our patient’s eye, showed the adult Loa loa worm moving in the right temporal subconjunctival space. However, very few hours gave enough time for the worm to move and to disappear completely from sight on preoperative examination. Nevertheless, next day, the migrating worm reached the subcutaneous area of the right lower lid. So, we had to transfer the patient immediately to the operating room and to extract the worm before losing it for the second time. So, the worm could be extracted live and intact.

Rautaraya, et al. [10] emphasized that, once the parasite is identified, it should be removed immediately live and intact, because waiting for some time will give chance for the worm which is always

Discussion

Loa loa is known as the African eye worm [4]. The adult worms live freely in the subcutaneous space of humans and occasionally may migrate into the subconjunctival space [5], producing several symptoms, e.g., ocular pain, pruritus, tearing and foreign body sensation [6]. The adult worm has been described also in the anterior chamber of the eye and in the subcutaneous of the eyelids [7].

Our patient came from the southwestern part of the Kingdom of Saudi Arabia. She denied travel to any country outside the Kingdom. She had no history of raising domestic animals, but she admitted being regularly bitten by some insects.

Loa loa nematode is transmitted by the bite of an infected Chrysops fly. Both the agent and vector are originally found only in equatorial Africa [4]. The disease affects people in that region but is rarely found in other continents, generally in African immigrants or travelers. The disease may remain asymptomatic for several years [8].

The details of our first discovered case of loiasis were reported to the Directorate of Health to investigate how did our patient contracted the microfilaria since she denied traveling outside Saudi Arabia and the disease vector (Chrysops fly) is not known to exist in Saudi Arabia. However, it is well known that there were many illegal African immigrants, especially from Ethiopia and Eritrea, who used to cross the Red Sea to the Kingdom of Saudi Arabia and settle at the south western parts of the Kingdom, where the patient lived.

Nimir, et al. [9] noted that ocular parasitosis in human is more prevalent in geographical areas where environmental factors and poor sanitary conditions favor the parasitism.

Slit lamp examination of our patient’s eye, showed the adult Loa loa worm moving in the right temporal subconjunctival space. However, very few hours gave enough time for the worm to move and to disappear completely from sight on preoperative examination. Nevertheless, next day, the migrating worm reached the subcutaneous area of the right lower lid. So, we had to transfer the patient immediately to the operating room and to extract the worm before losing it for the second time. So, the worm could be extracted live and intact.

Rautaraya, et al. [10] emphasized that, once the parasite is identified, it should be removed immediately live and intact, because waiting for some time will give chance for the worm which is always
Waleed A. Dhabaan

capable of migrating to various parts of the eye and would possibly cause further structural damage and severe intraocular reaction. Moreover, a severed parasite may cause serious intraocular inflammation, and an intact parasite is necessary for proper identification of species and any systemic treatment if needed for it.

After microbiological identification of the worm, the patient received albendazole tablets (400mg bid).

Tabi, et al. [11] stated that albendazole, a well-tolerated benzimidazole used primarily in the treatment of intestinal nematodes and some cestodes, has also been shown to be partly efficacious in loiasis when used for three weeks at doses of 200mg twice a day. Indeed, this dose reduced microfilaremia significantly with few side effects.

In conclusion, this the first reported case of loiasis in Saudi Arabia. The appearance of a subconjunctival worm is an ophthalmic emergency since the opportunity for its removal can be transient and any delay may give the worm the chance to migrate and escape into undetectable areas.

References