



EXTERNAL OPHTHALMOMYIASIS – ACUTE PRESENTATION

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ABSTRACT

Ophthalmomyiasis is an infestation of the eye with the larva or maggots of certain flies . Most documented cases result from *Oestrus ovis* (sheep bot fly) belonging to Oestridae .In this case report we describe an acute presentation of external ophthalmomyiasis which is an infestation of conjunctiva .The identification of fly is important as some fly species are capable of penetrating deeper tissues of eyes.

KEY WORDS: ectoparasite, ophthalmomyiasis, drosophilidae melanogaster



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INTRODUCTION

An adult male presented to the outpatient department with redness, foreign body sensation and irritation in the right eye of one day duration. The first differential diagnosis will be either foreign body or acute conjunctivitis. But this patient was found to have a larva of a fly. This case is reported for its rare presentation and also to educate about the need to thoroughly examine the eye and look for ectoparasitic infestation in patients who present with the above mentioned symptoms. Literature search was made regarding external ophthalmomyiasis by fruit fly. Since the presentation is very rare adequate literature references could not be obtained.

CASE REPORT

A 23 year old male electrician by occupation presented to the ophthalmology department in August 2014 with a history of foreign body sensation, irritation in the right eye since the previous noon. He developed these symptoms after exposure to dust which fell into his eye while walking on the road close to a sugarcane juice vendor's shop. The patient came to our OPD the following day since he was having difficulty in opening his eyes. There was no history of recent travel or exposure to farm animals. On ophthalmological examination of the right eye, palpebral conjunctiva was congested, pupils were equal and reacting to

light, extraocular movements were full. His visual acuity was 6/6 in each eye. On slit lamp examination, tiny, whitish, semitransparent maggots were seen moving (ie) one in lower palpebral conjunctiva and another in the upper palpebral conjunctiva of the right eye. Since the maggots are photophobic, they moved away from the slit lamp light beam. The cornea and anterior chamber were normal. The left eye was clinically normal. Fundus examination was normal. Nasolacrimal syringing was done and complete ENT examination was performed to rule out any residual larva. After instilling topical proparacaine drops, the larvae were removed using forceps and sent to the lab in normal saline. The larvae were mounted on a glass slide and photographed under the microscope. The larvae were seen as white 1.5 to 2 mm × 0.5 mm in size. Two larvae were removed on the same day of presentation and other two larvae were removed the next day. The patient was treated with topical gatifloxacin eye drops.

RESULTS

This case report discusses external ophthalmomyiasis caused by *Drosophila melanogaster*, a species of fly in the *Drosophilidae* family. It is commonly known as common fruit fly or vinegar fly. It is a pest in homes, restaurants and places where food and fruits are served. (Fig.)

Figure 1
wet mount showing larva of drosophila



DISCUSSION

Myiasis is the infestation of the tissues or organs of animals or man by larvae of fly. The common sites are skin wounds. Eyes, nose, sinuses, throat and urogenital tract are less common sites. Ocular involvement occurs in about 25 % of all the cases of human myiasis. Based on site, ophthalmomyiasis is classified as external, internal and orbital. Ophthalmomyiasis externa – larva is present on the conjunctiva or cornea. Ophthalmomyiasis interna – when the larva penetrates the ocular globe and can be visualized in aqueous humor, subretinal space and vitreous cavity. Orbital ophthalmomyiasis – least common condition due to invasion of the orbit, sometimes may lead to destruction of globe.

Myiasis is rather underdiagnosed and reported from rural parts of India. Ocular myiasis is common in tropical than temperate regions. The clinical presentation may vary from foreign body sensation, irritation, redness and photophobia. This may be mistaken for foreign body or acute conjunctivitis. Wild fruit flies are yellow brown with brick red eyes and transverse black rings across the abdomen. They exhibit sexual dimorphism. Females are about 2.5 mm long and slightly smaller with darker backs. The lifespan of *Drosophila melanogaster* is about 30 days at 29°C. The developmental period varies with temperature. Shortest development time is 7 days. Females lay some 400 eggs into rotting fruit or decaying mushrooms. The eggs are about ½ mm in length, yellow in colour about the size of a rice

grain. Eggs hatch after 12- 15 hours .The resulting larvae grow 24 to 48 hours after hatching. They feed on the micro organisms that decompose the fruit in order to store energy and nutrients for the upcoming pupal stage. After feeding, larvae find cooler dryer locations within which they pupate .The larvae eventually use the last stage larval skin to form a pupal case or shell . They undergo four day

long metamorphosis after which adults emerge. The fruit fly larvae has a segmented body with white cephalopharyngeal skeleton. The point which differentiates the identification of the larvae is that oestrus ovis has 2 black hooks and brown filaments on the body. Identification of the fly is very important as prompt removal of the larva avoids dangerous complications such as internal ophthalmomyiasis.

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