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Case Report

Ophthalmomyiasis Externa Presenting As Red Eye.

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Abstract

Ophthalmomyiasis is the infestation of the eye with fly larva. It is commonly found in unhygienic areas and poor socioeconomic conditions. Internal Ophthalmomyiasis can be vision threatening leading to blindness, therefore early diagnosis and prompt treatment is required. We present a case of a 21year old male patient who presented with pain, redness and foreign body of left eye. Larva was observed on slit lamp examination. On extracting them and examining, it was found to be Oestrus Ovis. The patient was treated with lubricating drops, mild topical steroid, topical antibiotics and topical betadine drops. The patient responded well to the treatment.
Keywords : ophthalmomyiasis, oestrus ovis, sheep nasal botfly

Introduction

Myiasis is the infection of human or animal tissue with a fly larva.[1] Infection of the eye is known as Ophthalmomyiasis, which can be internal (intraocular invasion), external (affecting the lids and adnexa, conjunctiva and ocular surface) or orbital.[2,3] The most common sites of infection are wounds or ulcers on the skin.[4] The other sites which are prone for infection include nose, para nasal sinuses, intestine and genital tract.[4]

Numerous factors contribute to the spread of infection like poor hygiene, areas with numerous flies, old age, severe ill health, unsanitary conditions and the presence of exposed, ulcerative and devitalised tissue.[1,5,7] It is also known to occur more commonly in spring and summer seasons.[8]

Ophthalmomyiasis constitutes about 5% of myasis. Studies show that External Ophthalmomyiasis can often be treated with minimal complications but if penetration occurs into the eye, then internal Ophthalmomyiasis, where the larva invades the subretinal space and the vitreous,[7] can lead to vision threatening complications often leading to blindness.[9]

Ophthalmomyiasis has been reported in various countries all over the world namely Oman, Russia, Africa, Serbia, Iran, Afghanistan and Libiya.[10] It has also been reported from various parts of India like North India, Andhra Pradesh, Tamil Nadu.[5] and some parts of Karnataka like Davangere.[6] Keyt reported ophthalmomyiasis in 1900 and Eliot reported the first case in India in 1910.[11]

It is most commonly found in rural areas, in patients with contact with sheep or goats.[12]

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Case Report

A 21-year old male farmer presented to the Ophthalmology Department with complaints of redness and foreign body sensation in left eye for 1 day. He gave a history of fall of water into the left eye while working in the field after which he developed the symptoms. On slit lamp examination, he had lid edema and conjunctival congestion. A rapidly moving insect larvae was observed in the inferior part of the conjunctiva, the inferior fornix and corneal surface, which avoided the light of the slit lamp. Few superficial punctate keratitis was noted in the inferior half of the cornea. The anterior chamber, lens, vitreous and fundus was clear. The extraocular movements were

found to be normal. The patient's vision was 6/6 in both eyes. On examination, the right eye was normal. After applying topical paracaine drops, about 5 organisms were removed with the help of sterile cotton swab sticks and fine plain forceps. The organisms were placed in normal saline and sent to the microbiology laboratory for further investigations.

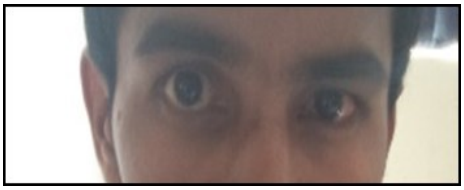

Figure 1: Patient with mild lid oedema and congestion of Left Eye

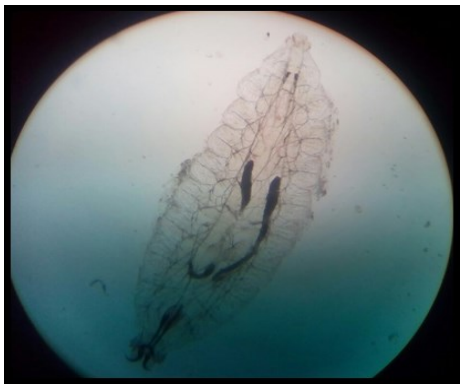

Figure 2: Microscopic picture of Oestrus Ovis larva

Microscopic examination by the Microbiologist showed organisms which had a pair of sharp dark brown oral hooks connected to the large internal cephalopharyngeal skeleton [Figure 2]. Tufts of numerous brown hooks on the anterior margin of each body segment were seen. The posterior spiracles were found in the eighth segment. It was diagnosed as a larva of Oestrus Ovis (the sheep nasal botfly). The patient was prescribed carboxymethyl cellulose 1% eye drops, betadine 5% eye drops 4times a day, 2 hourly, flurometholone 0.1% eye drops, six times a day and moxifloxacin eye drops, 0.5%, for six times a day. The patient was advised to come for a review after two days. When he presented to the OPD for review, he was comfortable and asymptomatic. The congestion had reduced, and the cornea was clear. He was advised to stop all medications.

Discussion

Oestrus Ovis, also known as sheep nasal botfly, is an obligate.[7] parasite that usually infects sheep, cattle, goats and horses.[13] The female fly lays eggs on the mucous membrane of the conjunctiva, mouth and lips of its hosts.[4] The larvae undergo maturation in three stages of instars, and after several months, the 3rd instar passes onto the ground and pupates.[14] Man acts as a fortuitous host when the fly deposits the eggs into the eye or nose while flying.[14] Other species of flies like Muscadomestica (housefly), Fannia (latrine fly), Hypoderm (cattle botfly) and Dermatobia Hominis are also known to cause Ophthalmomyiasis.[7]

The female fly is grey in colour which has dark spots on the dorsum of the thorax and abdomen. [7]The larva is translucent and not be easily visible to the unaided eye, and might be detected only with a slit lamp examination, when they start crawling away from light.[7] They have dark claw like hooks with which they attach onto the skin and mucous membrane of the conjunctiva.[7]

These parasites do not secrete proteolytic enzymes due to which they cannot penetrate through intact cornea and sclera.[15] However, studies have shown that they are known to cause keratitis and keratouveitis.[16,17] Since the parasites are photophobic and prefer to stay away from light, a thorough examination of the fornices and lashes which maybe encrusted with discharge is necessary to detect the larva.[8]

Just irrigation of the eye to remove the larva is not enough because of the presence of numerous hooks on the larva with which it attaches onto the human tissue. Thus, its removal with a sterile cotton swab or plain forceps is necessary.[4]

In conclusion, this report is intended to bring into light the importance of thorough examination in case of conjunctivitis, as external ophthalmomyiasis may present with features of conjunctivitis like redness, pain , watering and discharge.[8] which might easily be misdiagnosed. In addition to this, the larva is translucent and maybe easily missed which might lead to vision threatening complications like acute iridocyclitis or endophthalmitis secondary to ophthalmomyiasis interna.[4]

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