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Case Report

Conjunctival Ocular Myasis with Recurrent Pseudomembrane Formation - A Case Report

Rahul Mistry[1]* and Nisha V Ahuja[2]

[1]*Fellow (Cataract and IOL), Sankara Eye Hospital, Mogar, Anand, Gujarat, India*

[2]*Consultant (Cornea and Cataract Services), Sankara Eye Hospital, Mogar, Anand, Gujarat, India*

***Corresponding Author:** Rahul Mistry, Fellow (Cataract and IOL), Sankara Eye Hospital, Mogar, Anand, Gujarat, India.

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Abstract

Aim: Ocular myiasis presentation depends upon fly type, involved structures and penetration level.

Case Report: 16-year girl coming to opd presenting with redness, watering and foreign body sensation on both eyes on examination migrating larvae were found on conjunctiva and tarsal plate. The larvae were removed which were found to be a larva of early stage of the house fly of the order *Diptera* and genus *Musca* followed by removal of membrane from tarsal plate within one-week follow-up. On subsequent follow-up patient was showing good result.

Result: Deeper involvement can be halt by proper hygiene and early management.

Discussion: Ocular myiasis sometimes leads to intracranial extension that can be life threatening.

Keywords: *Conjunctival Ocular Myasis; Pseudomembrane Formation; Fly Type*

Introduction

Ocular myasis is known by ocular structures involvement of larvae of mostly dipterous flies. Keyt in 1900 first reported human ocular myasis and later Elliot reported it in 1910. Areas with poor life style and hygiene including warm climates are mostly affected. They are countries with tropical and sub-tropical regions. Ocular involvement in human myiasis is very rare i.e. less than 5%. The parasites most commonly affecting the eye and orbit are the larva of *Oestrus ovis* (sheep botfly), *Hypoderma bovis* (hornet fly), and, rarely, by *Chrysomya bezziana* [1]. *C. bezziana*, known as an Old-World screwworm, are obligate parasites and comes under Diptera order [2], family Calliphyridae and suborder Cyclorrhpha. It has spreaded in most of African and Gulf countries including Indian subcontinent and in Southeast Asia from China through Indonesian and Malay Peninsula and Papua New Guinea to Philippine islands [3].

Case Report

A 16-year-old girl presented with foreign body sensation and discharge in both eyes for 3 days. On ocular examination, her visual acuity was 6/6. Lids were edematous, conjunctival congestion, and clear cornea. Few Larvae were seen in upper and lower palpebral conjunctiva with pseudomembrane formation over tarsal plate which were removed with forceps after instillation of topical anesthetic (Figure 1). On Entomological assessment, early stage larva of the house fly belonging to Diptera order and genus Musca was found (Figure 2). It had two similar suckers (black color) on the head, with a tapering body and dissimilar limbs. Patient was followed up on 2nd day. There was sub-

conjunctival hemorrhage with pseudo membrane formation over tarsal and few maggots were there (Figure 3). The pseudo membrane was again removed including maggots. She was prescribed topical Fluorometholone and lubricants 3 times/day for a week after which her symptoms got relieved on second follow-up (Figure 4).

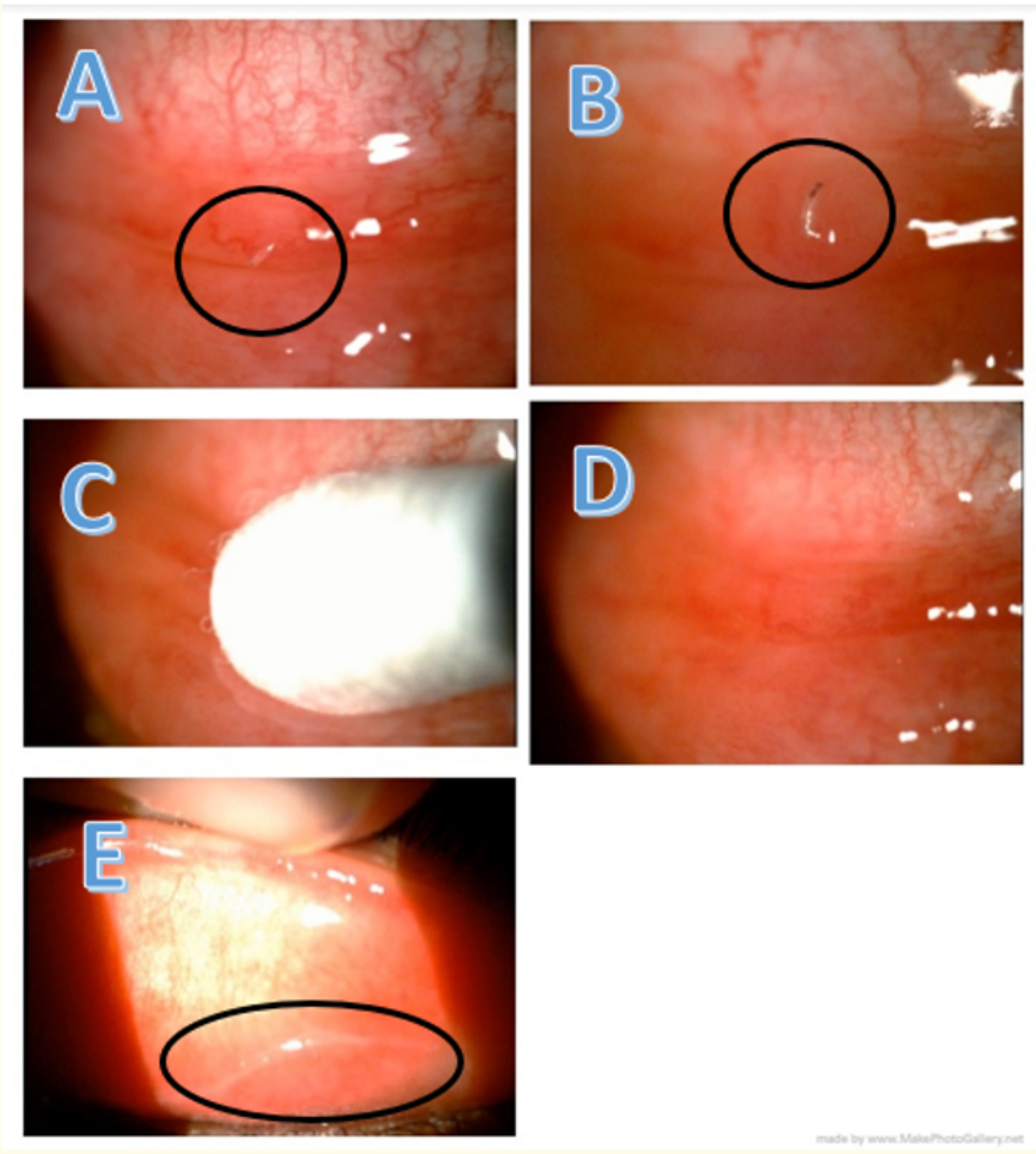

Figure 1: *(At First visit) A. Larva in lower palpebral conjunctiva. B. Migrating larva. C and D Removal of larva and after removal. E. Pseudomembrane over upper tarsal conjunctiva.*

Figure 2: *Showing macroscopic and microscopic picture of larva.*

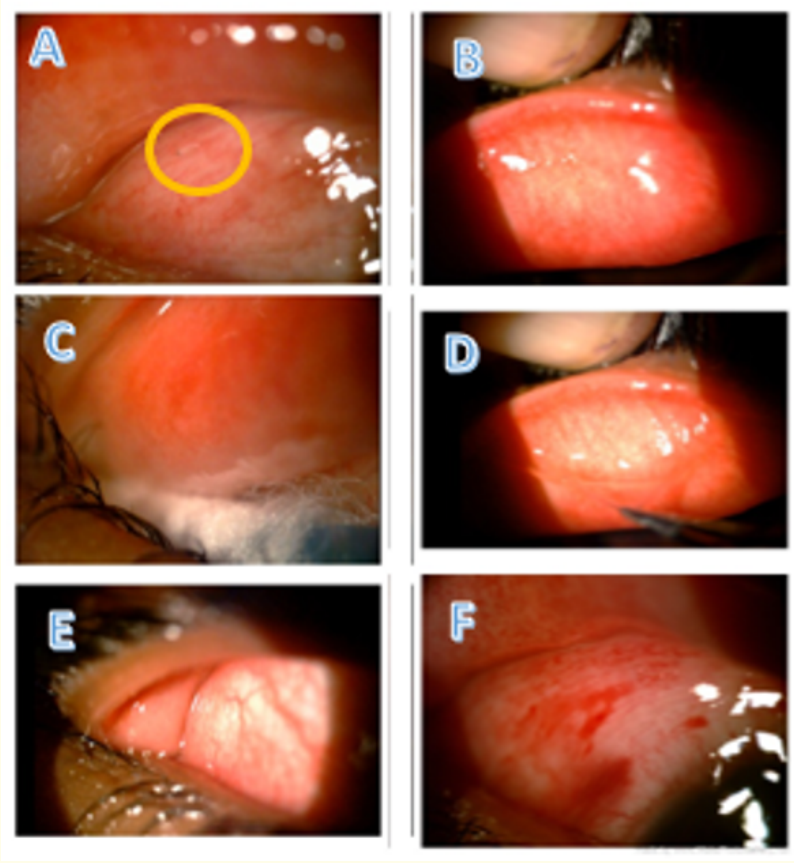

Figure 3: *(At first follow-up) A. Larva in upper palpebral conjunctiva. B. Pseudomembrane over upper tarsal conjunctiva. C and D. Larva removal and pseudomembrane removal. E. After larva removal. F. Sub conjunctival hemorrhage.*

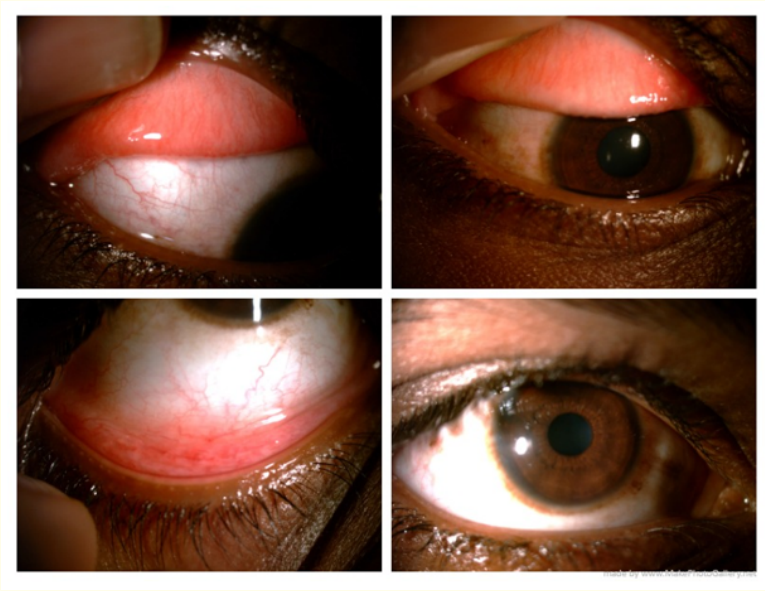

Figure 4: *Second Follow-up.*

Discussion

Ocular myiasis leads to involvement of the eye including ocular adnexa by larvae of the Diptera order with < 5% of human myiasis cases [1]. Based on level of larva penetration, it is divided into orbital, external or internal [4,5]. Depending upon location of the larvae, there is variation in clinical manifestation. In our case, there were superficial infestation of ocular tissue including conjunctiva and hence it was external ocular myasis. Mostly it mimics like allergic or viral conjunctivitis. Patients usually complains of burning, itching, redness, and watering including pain, with a sudden onset, it also accompanied by foreign body sensations moving in the eye.

If timely management is delayed, larvae penetrates deeper structures through sclera and reach vitreous and subretinal space, leading to internal ocular myasis. This is diagnosed by retinal pigment epithelial tracts as pigmented and atrophic in multiple crisscross patterns, with fibrovascular proliferation, hemorrhage and exudative retinal detachment leading to blindness. Maggots can also infiltrate the lacrimal sac further migrating through the lacrimal canal and finally to nasal cavity. Nene., *et al*. on their case report Ocular myiasis caused by Chrysomya bezziana said possibility of extension to cranial cavity, due to the close proximity to the base of the skull.

In developed and developing nations, ocular involvement of larva/maggots are rare, because of awareness and easy availability of ophthalmic facility. Healthy individuals are least likely to get infected from myiasis [6]. Chronic threatening conditions like leprosy, diabetes mellitus, open wounds, fungating carcinomas and hemiplegia are predisposing factor to myasis. Persons who have psychiatric illness, mental disability and on immunosuppressive agents may also get involved with myiasis. But in our case, no such association was found.

Except mechanical removal of larvae, no other treatment has been specified. However, topical anesthetic drops application can paralyze the maggots, thus their removal becomes easy. Several methods for removal of the maggots have been documented. The basic goal is to suffocating the larvae and forcing them out or paralyze them first followed with mechanical debridement [7]. In intra-ocular involvement systemic treatment is given, broad-spectrum antibiotics, such as amoxicillin with clavulanic acid, metronidazole, and cefazolin are

preferred. They prevent secondary bacterial infections [8]. Antiparasitic drugs like ivermectin are given in cases of advanced orbital myiasis, of dose 200 µg/kg [9]. Ivermectin inhibits the nerve impulses through the release of gamma aminobutyric acid (GABA), that resulting in palsy and death of larvae [10,11].

Based upon the stage of presentation, severity and associated predisposing factors, the prognosis of myasis management depends.

Conclusion

Though Ocular myiasis is an uncommon condition but can becomes significant in effected and compromised patients. It can be seen in normal patients with poor ocular hygiene. General cleanliness of surroundings and maintaining good personal hygiene are top priority. Also, provision of basic sanitation, and health education is mandatory for preventing myiasis.

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