

A Case of External Ophthalmomyiasis in Rural Area

Akshay J. Bhandari, Surekha Bangal, Pratik Y. Gogri, Dipti Padghan

Department of Ophthalmology, Pravara Institute of Medical Sciences and Rural Medical College, Loni, Ahmednagar, Maharashtra, India

ABSTRACT

Ocular myiasis is uncommon in developed countries but this is common in underdeveloped area of world where standard of living and hygiene is comparatively low. This article presents a very rare case of external ophthalmomyiasis. A 10-year-old boy came with the complaints of pain, burning irritation, redness, foreign body sensation, tearing and itching in right eye. On slit lamp biomicroscopic examination larvae of the parasites were seen moving over the bulbar conjunctiva, which were removed with spatula and confirmed as the larvae of *Oestrus ovis* by the microbiological slide examination report. Ophthalmomyiasis is a rare diagnosis and high index of suspicion is needed for its diagnosis. Meticulous removal of all visible larvae is important to prevent penetration of globe by larvae and to prevent further blinding complications like endophthalmitis.

Keywords: Larvae of the parasites, *Oestrus ovis*, ophthalmomyiasis

INTRODUCTION

Myiasis is the infestation of living tissue by the larval forms of flies (maggots).^[1] In humans, invasion of the skin is most common, although larvae have been recovered from many organs including eyes, ears, intestines and urogenital tract.^[2] Ocular myiasis is uncommon in developed countries, but it is common in the underdeveloped area of the world where standard of living and hygiene is poor. In ocular infestation, a clinical picture may vary from allergic conjunctivitis to keratitis, corneal ulcer, uveitis, sub retinal hemorrhages, and endophthalmitis.^[3] Complications like endophthalmitis happen in immunosuppressed cases or when ocular surface is injured previously. Occurrence of maggots in the eye is rare nowadays due to awareness and relatively easy access to ophthalmic facility as compared to past. However occasionally,

an ophthalmologist does come across such type of situation.

CASE REPORT

A 10-year-old boy came to ophthalmology outpatient department with pain, burning irritation, redness, foreign body sensation, tearing and itching in right eye since 2 days. Patient was all right 5 days back, and then he noticed something entered in his right eye while playing under a tree with a goat.

General and systemic examination of the patient was normal. Visual acuity of the patient was 6/6 in both eyes. Left eye findings were within normal limits. On examination of right eye, there was mild lid edema with conjunctival congestion. On the slit lamp biomicroscopic examination, larvae of the parasites were seen moving over the bulbar conjunctiva superiorly [Figure 1]. On thorough examination, more larvae were seen moving over the bulbar conjunctiva inferiorly. Rest of the anterior segment examination of right eye was normal.

Under topical anesthesia, all larvae were removed with the help of forceps and taken over the slides and sent to Microbiology Department immediately [Figure 2]. Right eye was patched with homatropine eye drop

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Address for correspondence

Dr. Akshay J. Bhandari, Department of Ophthalmology, Pravara Institute of Medical Sciences and Rural Medical College, Loni, Ahmednagar - 413 736, Maharashtra, India. E-mail: kiwis143@gmail.com

and antibiotic eye ointment. Patient was admitted in the ward, and oral analgesics were started. Report of the wet mount sample confirmed the larvae of *Oestrus ovis* [Figure 3].

Patient was posted on the next day morning for examination of eyes for any residual presence of larvae or eggs under IV sedation with proper prior

consent. Superior and inferior fornices of both eyes were inspected, and eye wash was given. After the procedure patient was put on local antibiotic and steroid eye drops combination to which he responded dramatically. Patient was discharged on the next day. On follow-up examination, patient was asymptomatic.

DISCUSSION

Myiasis is invasion of living animal tissue by fly larvae (maggots). When larvae invade the eye, the condition is termed as ocular myiasis or ophthalmomyiasis. Larvae most commonly attack the lids or conjunctiva (external ophthalmomyiasis). In rare instances, they may penetrate into the eyeball itself (internal ophthalmomyiasis).^[4] Internal ophthalmomyiasis is very serious condition, and it often results in serious complications such as including retinal damage, endophthalmitis, and blindness.

In the majority of cases, ophthalmomyiasis is caused by larvae of sheep bot fly (*Oestrus ovis*), however infestation with other species such as the human bot fly (*Dermatobia hominis*) is also known.^[5] Ophthalmomyiasis can occur in most regions of the world, particularly in underdeveloped or rural areas where livestock are prevalent. It is most common in Middle East, Africa, and Central America. Though the risk of the orbital penetration and subsequent serious complications appears to be low, it is prudent to remove the larvae from the conjunctiva promptly. The larvae have sharp anterior hooklets by which they cling to surfaces. The larvae of the sheep nose bot fly are grey-white in color and measure about 1 mm long. They have 11 body segments, each with spines or hooks, which allow them to maintain their hold on the host tissue while moving about by means of peristaltic contractions. A pair of enlarged oral hooks on the anterior end (mouth) anchors the larva firmly while it feeds on eye secretions.

The best way to prevent it is to avoid locations where livestock are housed. In addition, using skin and clothing repellents 20–50% N, N-diethyl-meta-toluamide and permethrin as 0.5% spray, respectively, will reduce the ability of flies to get close enough to the face to deposit larvae.^[6] Head nets are also effective in preventing an attack by flies.

CONCLUSION

Ophthalmomyiasis is a rare diagnosis and high index of suspicion is needed for its diagnosis. Meticulous removal of all visible larvae is important to prevent penetration of the globe by larvae and to prevent further blinding complications like endophthalmitis.



Figure 1: Right of the patient showing larvae of the parasites

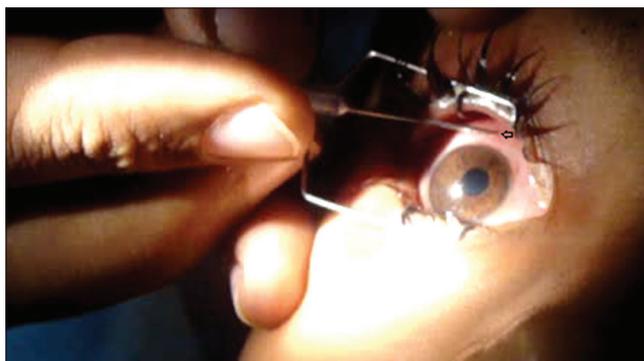


Figure 2: Removal of larvae



Figure 3: Larvae of *Oestrus ovis* seen under microscope

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