

# Ophthalmomyiasis: A Case Report

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## Abstract

*Ophthalmomyiasis is a relatively rare condition characterized by infestation of ocular and orbital tissues with fly larvae. It manifests as Ophthalmomyiasis externa and Ophthalmomyiasis interna. We describe a case of Ophthalmomyiasis externa in a 40 years old female who presented with ocular foreign body sensation, redness and lacrimation. On examination, around 20 larvae were seen on everting the upper lid. Microscopic examination revealed them as Oestrus ovis, the sheep nasal botfly. Human Ophthalmomyiasis externa caused by oestrus ovis is rare in India.*

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**Keywords:** ophthalmomyiasis, larvae, oestrus.

## Introduction

Myiasis is the infestation of humans and animals with maggots (larvae) of certain flies.<sup>1</sup> Skin is the most common organ of infestation, but maggots have been removed from eyes, ears, nose, intestine and urogenital tract.<sup>2</sup> Ophthalmomyiasis is of 3 types: It could be -External - Where larvae deposit on the ocular surface or - Internal - Where larvae penetrate the globe and can be seen in the vitreous cavity or subretinal space or - Orbital - It is the most damaging type in which the larvae make their way to the orbital structures and causes serious damage.<sup>3</sup>

The treatment consists of mechanical removal of the larvae under topical anaesthesia followed by topical drugs. The symptoms resolve immediately after the removal of larvae.<sup>4</sup>

## Case Report

A forty year old immunocompetent female patient presented to the Department of Ophthalmology, DDU, ZH with the complaints of pain, redness, foreign body sensation and excessive watering in her left eye for the last two days.

According to her, she was fine while sleeping at night but got the symptoms the moment she got up in the morning. She first took treatment at some private hospital but was not relieved. Then she reported in our OPD. On examination, her visual acuity was 6/6 in both the eyes. Eyelids of the left eye were mildly edematous. On slit lamp examination, tiny worm like organisms were seen crawling over the conjunctiva and cornea. They were 15-20 in number, about 1mm long and actively motile. More organisms were seen on everting the upper lid, on bulbar conjunctiva, as shown in Figure 1 and 2. Topical lidocaine was instilled and the larvae were removed using plain forceps. She was reviewed after one week and was relieved of her symptoms.

## Discussion

Ocular Myiasis refers to the infestation of humans by fly larvae (maggots). The name Myiasis is derived from ancient Greek myia (μυια) meaning "fly". Most common myiatic flies are botfly, blowfly and screwfly. It is classified into three on the basis of the site of infestation: Orbital, External and Internal Ophthalmomyiasis myiasis. External ocular Myiasis refers to the superficial infestation of the ocular tissues including conjunctiva and mimics allergic conjunctivitis. Larvae with



Figure 1: Larvae seen on everting upper lid

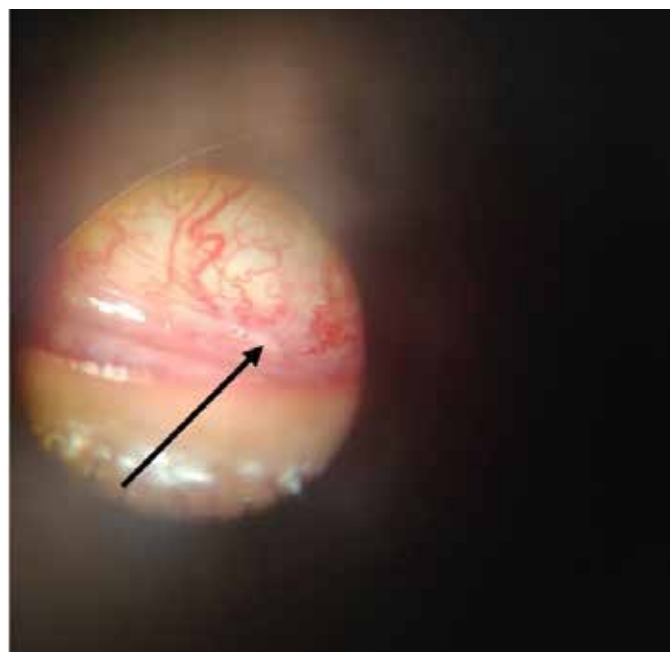


Figure 2: Larvae seen in inferior fornix

invading habits causes orbital and internal ophthalmic myiasis leading to destructive ophthalmic manifestations. Ocular myiasis is generally caused by 3 species- Oestridae, calliphoridae and sacrophagidae. These flies eject their eggs on dead tissues leaving them to hatch into larvae. Ocular myiasis may present as conjunctivitis and corneal ulceration.

Further penetration may lead to destructive myiasis. Larvae may penetrate the sclera and reach the vitreous and subretinal space causing Ophthalmomyiasis interna. It manifests as atrophic and pigmented RPE tracts in multiple criss-cross patterns along with fibro vascular proliferation leading to retinal detachment and blindness.<sup>5,6,7</sup>

Predisposing factors include diabetes mellitus, leprosy, open wounds and psychiatric illness.

A number of procedures have been described for the removal of maggots like use of turpentine oil, liquid paraffin, betadine, mechanical removal and surgical debridement of the tissue.<sup>8</sup> Systemic treatment with oral antibiotics is indicated to prevent secondary bacterial infection. Anti parasitic drugs like ivermectin may be used in the dosage of 200µg/kg.

### Conclusion

Though Ophthalmomyiasis is a relatively rare condition, it can lead to blindness if not diagnosed and treated well in time. High index of suspicion is needed for its diagnosis. Meticulous removal of all visible larvae is important to prevent penetration of the globe and thus to prevent blinding complications.

### References

1. Thakur K, Singh G, Chauhan S, Sood A. Vidi, vini, vinci: External ophthalmomyiasis infection that occurred, and was diagnosed and treated in a single day: A rare case report. *Oman J Ophthalmol*, 2009; 2:130-2.
2. Smillie I, Gubbi PK, Cocks. Nasal ophthalmomyiasis: a case report. *J Laryngol Otol*, 2010; 124(8):934-5.
3. Cameron JA, Shoukrey NM, Al Garni AA. Conjunctival ophthalmomyiasis caused by sheep nasal botfly (*Oestrus ovis*). *Am J Ophthalmol*, 1991; 112(3):331-4.

4. Pandey A, Madan M, Asthana AK, Das A, et al. External ophthalmomyiasis caused by *Oestrus ovis*: a rare case report from India. *Korean J Ophthalmol*, 2009; 47(1):57-9.
5. Sigauke E, Beebe WE, Gander RM, Cavouti D, et al. Case Report: Ophthalmomyiasis externa in Dallas County, Texas. *Am J Trop Med Hyg*, 2003; 68(1):46-7.
6. Khurana S, Biswas M, Bhatti H. Ophthalmomyiasis : Three cases from North India. *Indian J Med Microbiol*, 2010; 28(3):57-61.
7. Ashenurst M, Pictuche S. Management of Ophthalmomyiasis externa; a case report. *Can J Ophthalmol*, 2004; 39(3):285-7.
8. Sharma DK, Sharma G, Bhardwaj P. Ivermectin in the management of Ophthalmomyiasis in an elderly immunocompromised female. *DJO*, 2016; 26:275-6.

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