CASE REPORT

# OPHTHALMOMYIASIS EXTERNA DUE TO OESTRUS OVIS IN KOLAR

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**ABSTRACT**

**Ophthalmomyiasis externa due to the larvae of sheep botfly (*Oestrus ovis*) is being reported from Kolar region of Karnataka. The larvae could be identified by the characteristic features on light microscopy. The patients were treated with mechanical removal of larvae followed by eye washes and instillation of antibiotic and steroid eye drops. (J Acad Clin Microbiol 2004; 6(2): 71-73)**

**Key words: Ophthalmomyiasis externa, Sheep botfly, *Oestrus ovis.***

## INTRODUCTION

Ophthalmomyiasis, infestation of the eye with insect larvae, is known to occur in parts of Asia and North Africa.[1] It is most often caused by the first stage of larvae of Sheep botfly (*Oestrus ovis*). There are a few reports of this condition from India.[2-6] Here we report two cases of Ophthalmomyiasis externa due to *Oestrus ovis (O.ovis) from* Kolar region of Karnataka.

### Case 1.

A 30-year old farmer from a village near Kolar came to Sri Narsimha Raja hospital (SNR), Kolar on 30 January 2003 with complaints of foreign body sensation and watering in his right eye. He had these symptoms since a month, after being hit by a fly in the eye when he was working on the rooftop of his house.

On examination of his right eye, the lids and adnexa were normal. The conjunctiva showed mild chemosis and congestion. Under the torchlight, small whitish larvae could be seen moving in both upper and lower fornices and across the cornea, actively avoiding light. The left eye was normal. The visual acuity was 6/6 in both the eyes. There was no lymphadenopathy. On applying 4% Xylocaine eye drops, the larvae were still motile and three of them were removed with a 26-gauge needle. They were clinging to the conjunctiva and were slippery to pick up; it was difficult to remove them. These larvae were examined microscopically.

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The affected eye was thoroughly washed with betadine solution and normal saline. The patient was advised to keep the eye clean by washing in boiled and cooled water. He was also advised to apply Ciprofloxacin eye drops and Ciprofloxacin eye ointment. The patient reported the next day with persisting foreign body sensation in the same eye; however, no larvae were found. Betadine eyewash was given. The patient was asked to continue Ciprofloxacin eye ointment for five days. The patient did not report again.

**Case 2.**

A 25-year-old housewife from Kolar Gold Fields (KGF) presented herself on 29 November 2003 at SNR hospital, Kolar, with complaints of intense pain, watering, redness in her right eye. All these symptoms had started since three hours when dust is supposed to have fallen into her eye while she was pillion riding on a scooter. Meanwhile, she had shown her eyes to an ophthalmologist elsewhere who had advised antibiotic and steroid eye drops in addition to systemic steroids. Not finding any relief she had come to us.

On examination of the right eye, eyelids were swollen, the bulbar and palpebral conjunctiva were markedly congested; mucus strands could be seen in the fornices. Under torch light examination, small whitish larvae, about 2mm long and 1 mm broad, were found crawling in both the fornices. The left eye was normal.

Xylocaine eye drops (4%) were instilled. Attempts to remove the larvae by cotton swabs were not successful as they were sticking to the conjunctiva. However, 15 larvae could be extracted from the conjunctiva using forceps. Thorough wash with normal saline was given and Ciprofloxacin and Dexamethasone eye drops were instilled. Over the next 45 minutes, the pain and watering in the eyes subsided, chemosis and lid oedema reduced leaving behind conjunctival congestion. The patient was advised to apply Ciprofloxacin and Dexamethasone eye drops. Diclofenac (analgesic) tablets were given to alleviate pain.

The patient reported the next day with persisting conjuntival congestion when, three more larvae were extracted. She was asked

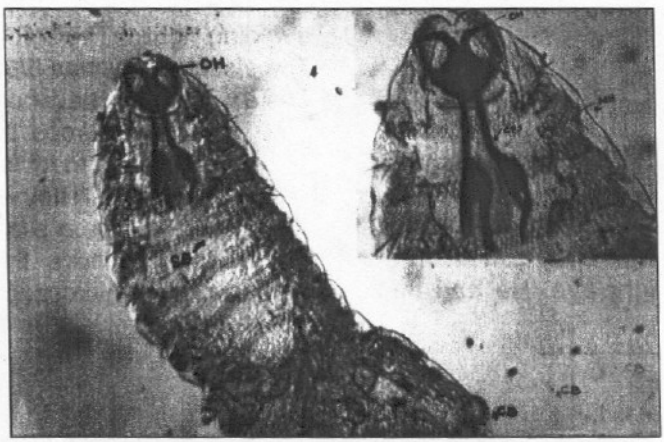


Figure 1. *O.ovis* larvae (x 45) showing segments with intersegmental spine bands (SB), Oral hooks (OH) and caudal bulges (CB). Insert: Rostral end (x100) Oral hooks (OH) are seen attached to the internal cephalopharyngeal skeleton (CPS)

to continue with the earlier treatment. The patient did not report again.

**Microscopic examination of the larvae:**

The larvae extracted from the inflamed conjunctiva of the above patients were examined microscopically. They showed eleven segments with intersegmental spine bands (Figure 1). Tufts of brown hooks were seen at the margins of the segments. The rostral end of the larvae showed two prominent dark, horn like oral hooks. These hooks were attached to the internal cephalopharyngeal skeleton. Two bulges could be discerned at the caudal segment. The bulges on the caudal segments also had hooks. By these characteristics the larvae were identified as the first stage larvae of *O.ovis.*[4,7,8]

## DISCUSSION

Here we report two cases of ophthalmomyiasis externa. The larvae extracted from the inflamed conjunctiva of these patients could be easily identified as the first stage of *O.ovis*, by the characteristic morphological features.[4,7,8]

Usually the gravid female of the sheep botfly (*O.ovis*) drops the hatched larvae in a stream of milky fluid into the sheep or goat's nose. These tiny larvae develop into an inch long larvae in the nares or the para nasal sinuses of the sheep. They drop to the ground, when the sheep sneezes, pupate and develop into adult flies. Occasionally the gravid female may drop the larvae into the human eye when man develops ophthalmomyiasis externa[9]. Thus man is an aberrant host. However, the tiny larvae do not develop any further in the human eye.[8] Most of the cases of ophthalmomyiasis externa are seen during the cooler months of the year in sheep rearing enzootic areas.[9] The cases reported here from Kolar area, known for sheep rearing, have also occurred in the cooler months of January and November.

In India, cases of ophthalmomyiasis externa due to *O.ovis* similar to cases described by us have been reported from Delhi[2], Allahabad[3], Vellore[4], Gobichettipalayam[5] and Hubli.[6] The condition was self-limiting and the disease was confined to the conjunctiva. However, a case of destructive orbital myiasis due to *O.ovis* is also reported from India.[10] This devastating complication should alert one to consider *O.ovis* ophthalmomyiasis seriously. The condition does not sem to be widely known and the diagnosis may often be missed. Awareness of the condition is sure to bring more cases to light, especially from sheep rearing areas of the country.

## REFERENCES


1. White GB. Myiasis. Manson's Tropical Diseases, 20th Edn. 1996; 1526-1532.

2. Gupta VP, Baneja UK. Ophthalmomyiasis externa caused by the Sheep nasal botfly, *Oestrus ovis*. Indian J Opthal 1998; 36: 41-42.

3. Chandra DB, Agrawal TN. Ocular myiasis caused by *Oestrus ovis*. Indian J Opthal 1981; 9: 199-200.

4. Mathai E, George JA, Lalitha MK, Raju R. Ophthalmomyiasis externa caused by *Oestrus ovis* - a case report from South India. Indian J Pathol Microbiol 1994; 38: 205-207.

5. Narayanan S, Jayaprakash K. Incidence of Ocular myiasis due to infection with the larvae of *Oestrus ovis* (Oestridae diptera). Indian J Opthal 1991; 39: 176-178.

6. Kulkarni MG, Ratnakar KS, Ramachandraiah U, Subramanyam K. Ophthalmic pseudomyiasis due to Oestradiae. J Mysore Med Ass 1974: 176-78.

7. Nacapunchai D, Lamon C, Sukprasert N. A first record from Thailand of human external Ophthalmomyiasis due to *Oestrus ovis*. South East Asian J Trop Med Public Health 1998; 29: 133-136.

8. Beaver PC, Jung RC, Cupp EW. Filth flies and Myiasis-producing flies. Clinical parasitology, 9th Edn 1984; 680-695.

9. Reingold WJ, Robin JB, Leipa D, Kondra L, Schanzlin DJ, Smith RE. *Oestrus ovis* ophthalmomyiasis externa. Am J Ophthal 1984; 97:7-10.

10. Baliga MJ, Davis P, Rai P, Rajashekar V. Orbital myiasis: a case report. Int J Oral Maxillofac Surg 2001; 30: 83-84.

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