

Ophthalmomyiasis Externa - A Rare Case Report from Uttar Pradesh, India

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Abstract

Ophthalmomyiasis is the infestation of human eye with larvae of certain flies. Only a few cases of Ophthalmomyiasis externa have been reported from India. We report a human case of external ophthalmomyiasis caused by the larva of oestrus ovis (sheep botfly) for the first time, to the best of our knowledge, from Sonbhadra district of Uttar Pradesh. A 32 year old male patient presented with redness and watering in the right eye. A moving larva was found in his right inferior fornix and after its removal, the symptoms improved after a few hours.

Delhi J Ophthalmol 2019;29;59-60; Doi <http://dx.doi.org/10.7869/djo.421>

Keywords: Ophthalmomyiasis, Oestrus ovis, Sheep botfly, Conjunctivitis

Introduction

Myiasis is defined as the infestation of living and/or dead tissues by dipterous fly larvae (maggots) and is common throughout the tropics.³ Most of the cases involve the skin but eyes, nasal passages, paranasal sinuses and urogenital tract may also be affected. Ocular involvement is seen in <5% cases.⁴ Ophthalmomyiasis is commonly seen in farmers and shepherds in the rural areas.⁵ It is most commonly caused by larval form of *Oestrus ovis*.⁶ External ophthalmomyiasis involves the bulbar or palpebral conjunctiva while the maggots penetrate the globe in internal ophthalmomyiasis and very rarely invade the orbit to cause orbital ophthalmomyiasis. Very few cases of external ophthalmomyiasis by sheep botfly have been reported from India.² Here, we are reporting a case of ophthalmomyiasis externa in a 32 year old man who presented with the symptoms of conjunctivitis.

Case Report

A 32 year old male patient presented to the Outpatient department of ophthalmology with the complaint of redness, irritation and watering in the right eye for 5 days. He had been apparently well before, when he complained that something had entered into his right eye when he was taking a bath in the open near the fields in his village. A moving object in his right eye was noticed by his wife at home which she removed with a handkerchief. The patient complained of persistence of redness and watering since then. He gave the history of presence of cattle stock in his dwelling area. There was no significant medical history. Ophthalmological examination revealed visual acuity of 6/6 in both eyes. Ocular movements were full and free in all directions. On slit lamp examination, a 1 mm long moving organism was seen with a black head in the right inferior fornix which was moving freely over the bulbar and palpebral conjunctiva. The underlying conjunctiva was congested. Syringing was done in both eyes which was found to be patent. Direct and indirect ophthalmoscopy was unremarkable. Nasal endoscopy was found to be normal. The right eye was anaesthetised with 0.5% proparacaine eyedrops and the larva removed with cotton swabstick. It was mounted on a slide in normal saline and was sent to microbiology department where microscopy was done. It was identified as the larva of *oestrus ovis* (sheep

botfly) characterised by a pair of two dark brown oral hooks connected to large internal cephalopharyngeal skeleton and by numerous brown hooks on the anterior margin of each body segment (Figure 1). The patient was started on topical antibiotic drops. On follow up after 1 week, no more larva was seen and the patient got completely relieved of the symptoms.



Figure 1: Larva of *Oestrus ovis* showing spindle shaped skeleton and oral hooks.

Discussion

Ophthalmomyiasis is the deposition of larvae of flies in the human eyes. Various species of flies have been implicated in causing ophthalmomyiasis like *Oestrus ovis* (sheep botfly), housefly (*Musca domestica*), cattle botfly (*Hypoderma*) and latrine fly (*Fannia*).^{7,8} Ophthalmomyiasis in human beings caused by *Oestrus ovis* was described in 1947 for the first

time by James.⁹ Although much general information has accumulated about ocular myiasis, there are very few cases reported amongst Indian population.² The eggs of female sheep botfly are fertilised and hatched to the larva of 1 mm in the body of the female which are then deposited within a tiny mucous drop directly into the nostril of host animal. Man is the accidental host and is infested by the first stage larvae.¹⁰ External ophthalmomyiasis manifests as acute catarrhal conjunctivitis. Most of the cases of ophthalmomyiasis caused by *Oestrus ovis* are self limiting but rarely may cause complications like corneal ulcer and may penetrate the globe causing endophthalmitis, iridocyclitis and even blindness. The larvae of *Oestrus ovis* are difficult to be detected by the naked eye. They should be visualised on the slit lamp preferably by double eversion of lids though they tend to avoid the beams of light. Irrigation of the fornices with normal saline does not help in removing the larva because the organisms grab the conjunctiva firmly with a pair of oral hooks. After anaesthetising the conjunctiva, the larva should be removed with cotton swabstick or plain forceps. A follow up examination is recommended to look for the complication of ophthalmomyiasis externa or any additional larvae.

Conclusion

External ophthalmomyiasis should be kept in mind when the patient presents with the symptoms of conjunctivitis and a thorough slit lamp examination should be done to ensure the diagnosis is not overlooked.

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Cite This Article as: Aggarwal R, Aggarwal R, , Sarkar L, Gupta P, Sahu Y. Ophthalmomyiasis Externa - A Rare Case Report from Uttar Pradesh, India.

Acknowledgments: Nil

Conflict of interest: None declared

Source of Funding: None

Date of Submission: 19 August 2018

Date of Acceptance: 12 September 2018

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