



EXTERNAL OPHTHALMOMYIASIS CAUSED BY SHEEP BOTFLY (OESTRUS OVIS) LARVA: A CASE REPORT

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<p>Article Info Received 15/09/2015 Revised 27/09/2015 Accepted 15/10/2015</p> <p>Key words: Ophthalmomyiasis, Oestrus ovis larvae.</p>	<p>ABSTRACT Myiasis is the infestation by fly larvae in tissue and organ of animal and human subjects. Ophthalmic myiasis has been reported from various parts of the world. In this case report, we have presented ophthalmomyiasis caused by Oestrus ovis larvae in a male child of 15 years of age living in urban area of Central India. The patient was in contact with animals: sheep, goat and cow. Patient presented with severe unilateral conjunctivitis, infested with Sheep Botfly larvae. The larvae were observed and detected in the bulbar conjunctiva, and followed by their removal. The symptoms of eye inflammation were improved within 6 hours after removal. Early detection and removal of parasitic infestations in soft tissue of human subjects can eliminate many of the subsequent arising complications and provide immediate relief.</p>
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INTRODUCTION

Conjunctivitis is a common condition amongst urban and rural population and is treated by family physician and ophthalmologists. External ophthalmomyiasis caused by sheep botfly (oestrus ovis) larva mimic conjunctivitis and is missed as this is not known to treating doctors and causing ophthalmic complications.

Case Report

Myiasis is the infestation by fly larvae in tissues and organs of animals and human subjects. The most common site of infestation is in skin wounds. Amongst farmers, agriculturists and shepherds from different parts of the world [3,6,8]. We are presenting a case of ophthalmic Myiasis from an urban area of Jabalpur district of Madhya Pradesh in Central India. We investigated a patient who attended an eye hospital and was showing evidence of unilateral ophthalmic inflammation. The case was a 15 years old school going male child. In this case, the symptoms began within thirty minutes after the infestation while he was playing out-door during day time. There was no history of allergic reactions or conjunctivitis

in the past. After instillation of tetra-caine eye drop, twenty eight larvae were removed by adopting minimal suction force to prevent damage to the foreign body (larvae). Material was collected in normal saline. In this case, the eye involvement was unilateral and extra-ocular with motile larvae present in the bulbar conjunctiva. There was no evidence of corneal or intraocular involvement. Patient recovered after removal with Naphazoline hydrochloride, Chlorpheniramine maleate and ciprofloxacin eye drop four times a day.

Foreign bodies were mounted on a microscope slide, examined carefully, and photographed under a microscope (100X, 400X). The number of larvae measuring 2 – 4 mm in length showed actively forward progressive movement under the microscope. The larvae were identified as Oestrus ovis (Diptera oestridae), which was identified to be a larviparous dipteran on the basis of their spindle shape and having a pair of sharply curved mouth-hooks. The pattern of spindles on the dorsal surface consisted of a complete row of tentacles and 22 to 25 terminal hooks arranged in two scallops Figures 1 and 2. 3. The larvae were fast moving using mouth hooks for



invasion and fixed to the tissue. Following removal of all larvae, the symptoms completely resolved within 6 hours.

DISCUSSION

Ophthalmic Myiasis is due to deposition of fly larvae in the human eye. Various species of flies are able to provoke ophthalmomyiasis such as latrine fly (*Fannia*), house fly (*Musca domestica*), and cattle botfly (*Hypoderma*) including *Oestrus ovis*. *Oestrus ovis* is by far the most common cause of ophthalmic myiasis in man. Ophthalmic myiasis due to *Oestrus ovis* was described for the first time in 1947 by James. [3]. More scattered cases have been reported since then from Mediterranean region like Italy, Russia, Serbia (previous Yugoslavia), India, Africa, America, and Oman [5]. In India rarely cases of ophthalmomyiasis have been reported. Myiasis is much more common than has been reported in literature as this condition is often misdiagnosed.

Human myiasis occurs mostly in rural areas, where humans live in close contact with cattle. The sheep and goat are the main hosts for myiasis by *Oestrus ovis* and humans are infested, accidentally [3,6,8]. This eye involvement by *Oestrus ovis* is in the form of external ophthalmomyiasis, which is confined to conjunctiva, eyelid, and lachrymal ducts. Symptoms are due to severe eye irritation, redness, foreign body sensation, pain, lacrymation, and swelling of the lids are commonly observed [8]. It also points out to an allergic reaction in

addition to local irritation induced by the fly larva. Complications such as corneal ulcer, invasion into eye ball, decreased vision are usual.

The first symptom was of sensing the presence of a foreign body that appeared abruptly in the eye causing itching and burning. A thorough clinical and physical examination was carried out and medical history was recorded related to particularly to symptoms of development of unilateral catarrhal conjunctivitis. Attempts were made to detect any foreign body present under slit lamp as there was an evidence of unilateral inflammation. A moving multiple brownish foreign bodies were identified in bulbar conjunctiva of the left eye of the boy. Diagnosis of Myiasis was made by direct visualization of the larvae, using slit lamp and ophthalmoscope. complications, not encountered in our patients. Larvae from some other species such as *Hypoderma* (or cattle botfly) can penetrate the eye globe and cause endophthalmitis and iridocyclitis, and may even lead to blindness. The treatment consists of anesthetizing the larvae and the eye, followed by removal of the larvae. Antihistamine drops and/or topical antibiotics may also be used as needed. Myiasis should be considered as an occupational disease among farmers and shepherds. Awareness of the larval conjunctivitis in rural areas, especially during spring and summer, leads to the more prompt diagnosis, and providing specific therapy for the disease. Video 3. Showing motility of larvae.

Figure 1. Anterior end of larva of *Oestrus ovis*, 100X.

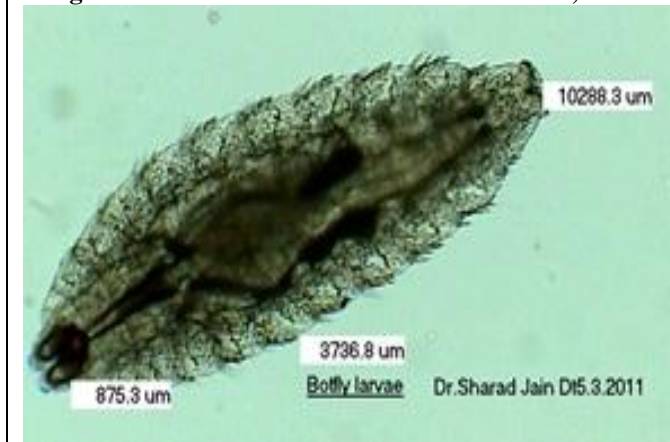


Figure 2. Larva of *Oestrus ovis*, 400X.



CONCLUSION

Conjunctivitis is a common condition in population and treated by any physician. Conjunctivitis may be caused by botfly larvae and needs special attention. Early detection and removal of parasitic infestations from conjunctiva can eliminate many of the subsequent arising complications and provide immediate relief to the affected patient.

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CONFLICT OF INTEREST:

The authors declare that they have no conflict of interest.

STATEMENT OF HUMAN AND ANIMAL RIGHTS

All procedures performed in human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.



REFERENCES

1. Amr ZS, Amr BA, Abo-Shehada MN. (1993). Ophthalmomyiasis externa caused by *Oestrus ovis* L in the Ajloun area of northern Jordan. *Ann Trop Med Parasitol*, 87, 259-62.
2. Minar J.(1976). A case of eye myiasis in man caused by first instar larvae of *Oestrus ovis* L (Diptera: Oestridae) in Iran. *Folia Parasitol (Praha)*, 23, 283-4.
3. Janbakhsh B, Pirouz MS, Tirgari S, Agha-MohammadiA. (1977). A case of ophthalmomyiasis in a man by *Oestrus ovis* Linnaeus in Tehran (Diptera, Oestridae). *Acta Medica Iranica*, 20, 19-26.
4. Grammer J, Erb C, Kamin G, Wild MR, Riedinger C, Kosmidis P, et al. (1995). Ophthalmomyiasis externa due to the sheep botfly *Oestrus ovis* in South-West Germany. *Dev J.Ophthalmol*, 4, 188-95.
5. Maretic Z, Nadenic LA, Ladavic J, Zekic R. (1973). Ophthalmomyiasis due to *Oestrus ovis*. *Acta Trop*, 33, 369-72.
6. Patel SJ. (1975). Extraocular myiasis due to the larva of *Oestrus ovis*. *East Afr Med J*, 52, 167-9.
7. Wolfelschneider P, Wiedemann D. (1996). External ophthalmic myiasis caused by *Oestrus ovis* (sheep and goat botfly). *Klin Monatsbl Augenheilkd*, 209, 256-8.
8. Stulting AA, Meyer H. (1981). External ophthalmomyiasis caused by *Oestrus ovis*. *South Afr Med J*, 60, 709-10.

