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A Rare Case of Ophthalmomyiasis Externa in Kims Hospital, Amalapuram

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A B S T R A C T

Ophthalmomyiasis externa results from the infestation of the conjunctiva by the larval form of dipterous flies. This is particularly a rare condition and only a few cases of Ophthalmomyiasis externa caused by the larva of Oestrus ovis had been reported previously in India. In this study, we discuss a case of Ophthalmomyiasis externa caused by the larva of Oestrus ovis in a 26 year old male. After careful ophthalmological examination and prompt diagnosis, the patient responded well to treatment.

Introduction

Ophthalmomyiasis or ocular myiasis refers to infestation that involves the eye and ocular adnexa by the larva from of dipterous flies (Cameron *et al.*, 1991). It is known to occur in parts of Asia and North Africa (White, 1996). The most common site of infestation is the skin wound. Less common sites are eyes, nose, paranasalsinuses, throat and urogenital tract. Less than 5% of human myiasis cases involve the eye (Pandey *et al.*, 2009). Ophthalmomyiasis is of 3 types based on the position of eye involved. The first type is ophthalmomyiass externa caused by the larval infestation of the eyelid or conjunctiva. If this condition is not recognized and managed properly, it leads to a fatal second condition called Ophthalmomyiasis interna, where the larva penetrates the ocular globe and can be seen in the sub-retinal space and in vitreous cavity. Third condition, the least common of the 3 types is called Orbital Ophthalmomyiasis, where the larva invades the orbit and sometimes leads to rapid destruction of the globe (Cameron *et al.*, 1991; Risco *et al.*, 1995; Siguke *et al.*, 2003).

Ophthalmomyiasis externa is mainly caused by Oestrus ovis (sheep bot fly). Globally this disease has been mostly reported from rural areas and in patients with history of contact

with sheep or goats (Dunbar *et al.*, 2008). Here we present a case of Ophthalmomyiasis externa in a 26 year old male.

Case Report

A 26 years old male came to the Outpatient Department of Ophthalmology with history of mild redness, irritation, watering and foreign body sensation in right eye since morning. That morning, the patient, while walking in paddy fields, along with his friends behind a huge crowd of sheep grazing in the fields, had a sudden sensation of foreign body in his right eye. After that, he suffered from irritation, mild redness of the conjunctiva and watering in the right eye. The left eye was normal with no complaints. His past medical history was normal and he was using spectacles for refractive error. On examination, his visual acuity was 6/9 (RE) and 6/6 (LE) with glasses (compound myopic amastigmatism).

The palpebral conjunctiva was mildly congested with lacrimation in R.E. On slit lamp examination, tiny translucent worms 1-2 mm in size with dark heads were seen crawling over the palpebral conjunctiva in right eye. Pupillary reaction was normal. Left eye examination was normal. Using 0.5 % proparacaine drops as topical anaesthesia, under sterile conditions, 8 tiny translucent worms were removed manually with the help of a sterile forceps and sent to Microbiology laboratory in a sterile saline for examination.

After the removal of larvae, the patient was treated with topical antibiotics with steroid combination and lubricants and was discharged after being advised to come for follow up examination.

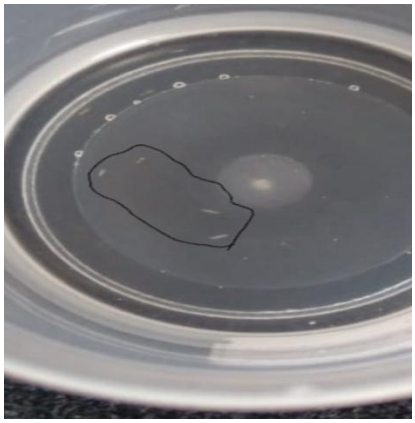
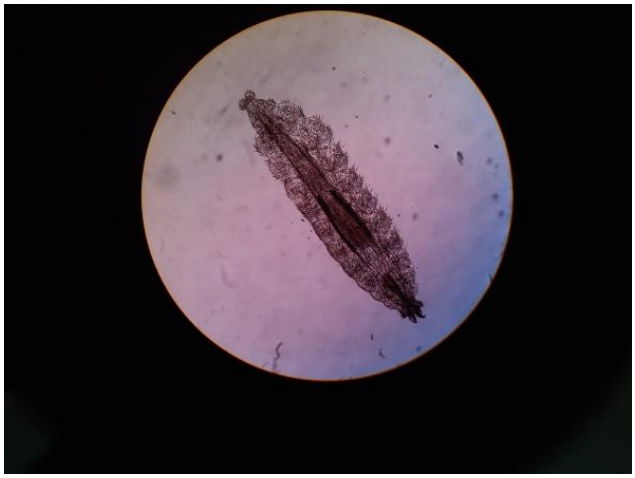
In Microbiology laboratory, on microscopic examination, the larva was identified as the larvae of *Oertrus ovis* (sheep botfly). It has spindle shaped skeleton with multiple segments and intersegmental spine bands. A pair of sharp, dark brown oral hooks were attached to the internal cephalopharyngeal skeleton and tufts of numerous brown hooks were on the on the margins of each body segment.

Results and Discussion

Human Ophthalmomyiasis was first reported by Keyt in 1900 and later by Eliot in 1910 from India.[8] In 1981, Chandra DB & Agarwal TN- published a similar case report in India.[9] Similary, a case report of Ophthalmomyiasis externa was reported from South India by Mathai *et al.*, in 1994.[10] Our finding was also in accordance with the above author findings and a second opinion by CMC Vellore confirmed our findings. Various species of flies were also able to induce opthalmomyiasis. These include Oestrus ovis [sheep botfly], latrine fly [Fannia], house fly [Muscadomestica], cattle bot fly [Hypoderm] and Dermatobia hominis. However, the most common cause in humans was Oestrus ovis.[6,11] The female Oestrus ovis is a large, dark grey coloured fly with dark spots on the dorsum of the thorax and abdomen. The larva of Oestrus ovis are obligate parasites of eyes, ear, nose and skin of sheep and goats. The larva are translucent, 1-2 mm in size, which makes it difficult to detect them by naked eye. Although, they avoid beam of light, they can be visualized with the help of a slit lamp. These larvae can be identified by dark mouth claws and active vermiform movements against the conjunctiva. [12,13] They can penetrate the intact skin and conjunctival mucous membrane.

Predisposing conditions include local factors like eye infections or ocular wounds which have been surgically induced or traumatic in nature, advanced age, debilitation and poor general health. [6,11,14] Our patient is a healthy young male who had no predisposing surgical wound or eye infections (Fig. 1).

Fig.1

Typically the botfly lays its eggs on decaying organic matter and also in open mucopurulent sores like conjunctival sac. Within 24 hours, these eggs hatch and produce larvae. A pair of enlarged oral hooks helps the larva to anchor. This may be the portal of entry in our patient as he was in very close proximity to live stock.

Due to rarity of ophthalmomyiasis and over laping symptoms with more commonly occurring ophthalmic conditions, thorough ophthalmic examination is required to avoid misdiagnosis and delay in treatment. Recognizing the condition promptly by proper history talking and examination followed by an immediate treatment not only reduces the duration of discomfort, but also reduces the potential chances of developing into ophthlmomyiasis interna.

References

1. Cameron JA, Shoukrey NM, AI Garni AA, Conjuctival Ophthalmomyiasis which was caused by Sheep nasal bot fly (*Oestrus ovis*). Ann J Opthalmol. 1991; 112: 331 – 34.
2. White GB. Manson's Tropical Diseases. 20th ed. New Delhi: Harcourt; 1996. Myiasis; pp. 1526-32.
3. Pandey A, Madan M. Asthana AK, Das A, Kumar S, Jain K. External ophthalmomyiasis caused by *Oestrus ovis*: a rare case report from India. Korean J Parasitol. 2009; 47:57-9.

4. Risco MR, AI Dosari F, Millar L. Sheep nasal botfly (*Oestrus ovis*) larvae infestation of the Conjunctiva. Arch Ophthlmol. 1995; 113: 529-30.
5. Siguke E, Beebe WE, Gander RM, Cavaroti D, Southern PM, A case report: Ophthalmomyiasis Externa in Dallas County, Texas. The Am J Trop med Hyg. 2003; 68: 46-47.
6. Dunbar J, Cooper B, Hodgetts T, Yskandar H, van Thiel P, *et al.*, An outbreak of human external ophthalmomyiasis due to *Oestrus ivis* in Southern Afghanistan. Clin Infect Dis. 2008; 46: e124-e126.
7. Keyt FT (1900) quoted by: Sivaramasubramanyam P, Sadanand AV. Ophthalmomyiasis. BritJ Ophthal.1968; 52: 64.
8. Elliot RH (1910) quoted by: Sivaramasubramanyam P, Sadanand AV. Ophthalmomyiasis. Brit J Ophthal. 1968; 52: 64.
9. Chandra DB, Agrawal TN. Ocular myiasis caused by *Oestrus ovis*. (A case report) Indian Journal Ophthalmology. 1981; 9: 199-200.
10. Mathai E, George JA, Lalitha MK, Raju R. Ophthalmomyiasis externa caused by Oestrus ovis— Case report from South india. Indian J Pathology & Microbiology. 1994; 37: 205 – 7.
11. Masoodi M, Hosseini K. External ophthalmomyaisis caused by sheep botfly (*Oestrus ovis*) larva: A report of 8 cases. Arch Iranian Med. 2004; 7: 136-139.
12. Huynth N, Dolan Betal. Management of screw worm Ophthalmomyiasisexterna. Br J Opthalmol. 2005; 89: 1377 -78.
13. Stulting AA, Meyer H. External Ophthalmomyiasis which was caused by oestrus ovis. S Afr Med J. 1981; 31: 709 - 10.
14. Khataminia G, Aghajanzadeh R, Vazirianzadeh B, Rahdar M, Oribitalmyiasis. J Ophthalmic Vis Res. 2011; 6: 199-203.

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