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Ophthalmomyiasis Externa in Western Maharashtra, India - A Case Report

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ABSTRACT

Ophthalmomyiasis externa is an infestation of the ocular surface with larvae of most common sheep nasal boat fly (Oestrus ovis). It is relatively rare condition.In this case report we describe a 30yr. old female presented with severe irritation,foreign body sensation, redness in right eye of one day duration.Slit lamp examination revealed presence of tiny,translucent larvae crawling in the palpebral conjunctiva, four in number. These larvae were removed under topical anaesthesia with the help of forceps and indentified as first stage larvae of Oestrus ovis causing ophthalmomyiasis externa.Patient was treated with combination of topical steroids and antibiotic therapy.

KEYWORDS : Oestrus ovis larvae, Ophthalmomyiasis externa, infestation .

Introduction:

Myiasis is an infestation of tissue and organ of animals or man by fly larvae (dipterous larvae).[1,2] Common site of infestation is skin wound. Less common sites are eyes, nose and paranasal sinuses, throat and urogenital tract. Ophthalmomyiasis is an infestation of the eye with insect larvae and is commonly seen in parts of Asia and North Africa. Incidence is < 5% of total human myiasis.[3] Oestrus ovis (sheep nasal botfly) is one of the most common causes of human myiasis. Ophthalmomyiasis is classified as ophthalmomyiasis externa, if larvae are present on conjunctiva and ophthalmomyiasis interna when there is intraocular penetration of larvae.

Clinical picture is that of allergic conjunctivitis. Here we report a case of ophthalmomyiasis externa due to Oestrus ovis.

Case report:

A 30 year old vegetable vendor presented to ophthalmology OPD with chief complaints of severe irritation, redness, foreign body sensation and watering from right eye since one day. There was history of some foreign body entering the right eye a day before. Past history was not significant.

On examination visual acuity in the right eye was 6/6. There was severe lid oedema with conjunctival congestion.



Figure 1 : Clinical appearance of the right eye of the patient

On slit lamp examination there was presence of four tiny, translucent, moving maggots with dark head and 1-2 mm in size in the lower fornix and on palpebral conjunctiva of upper lid associated. with pseudomembrane. Pupillary reaction was normal and direct and indirect ophthalmoscopy showed no evidence of intra ocular organism. Movements of the larvae on exposure to slit lamp beam were video recorded on slit lamp.

Ophthalmomyiasis. 20140120-N-005.wmv

Video 1 : Movement of the Oestrus ovis larvae on palpebral conjunctiva

After instillation of proparacaine (0.5%), their mobility was not altered. They were hooked to conjunctiva and were difficult to remove using cotton bud.



Figure 2 : Oestrus ovis larvae hooked to the conjunctiva.

Left eye examination was within normal limits.

After photographic documentation, the maggots were removed with the help of forceps. Pseudomembrane was also peeled off from upper and lower palpebral conjunctiva. Conjunctival sac was washed with normal saline.

The maggots were identified as fly larvae by means of slit lamp pictures. These maggots were milky white, translucent and about two mm. in length. It showed two dark oral hooks with white spindle shaped cephalopharyngeal skeleton. [4]

More definitive Identification was not possible as the larvae died immediately after removal from the eye and could not be preserved properly.

The patient was treated with combination of topical steroids and antibiotics. On follow up after three days the patient was asymptomatic and repeat slit lamp examination showed no evidence of worms or inflammation.

Discussion:

Ophthalmomyiasis is an infestation of the eye with insect larvae.[1] External ophthalmomyiasis refers to superficial infestation of ocular

tissue including conjunctiva with insect larvae while opthalmomyiasis interna is intraocular penetration of larvae.[5]

External ophthalmomyiasis is often a benign It should be self-limiting. disease[4], It should be Myiasis in man is generally rare and Oestrus ovis is the most common cause of human myiasis.[6] Ophthalmomyiasis is even rare and largest series was reported from Libiya[7] and also from southern Afganisthan.[8] Oestrus ovis is a sheep nasal bot fly (class: Insecta, order: Diptera and family: oesteridae). The fly is ubiquitous, but most common in sheep herding areas.[4] Normal hosts of larvae include sheep and goats, man is an accidental host. Poor health of sheep and farmers, close contact between animals and man and low standard of hygiene, with abundance of flies around the locality may be contributing factors to likelihood of human infestation.[9, 10] The gravid adult female fly swarms around the head of animals and ejects the first-instar larvae, which have previously hatched from the eggs in the fly vagina in a stream of milky fluid on the nostrils of the host. Direct contact between the fly and the host is not necessary for infestation. The larvae It should be mature. in the mucus membrane of nasal cavities. Ultimately they are sneezed out onto the soil where they pupate to become an imago.

The Oesterus ovis larva has no bite organs and is unable to produce proteolytic enzymes, therefore it is confined mostly to the outer layers of eye .[11] Small conjunctival hemorrhages are seen where the larva clings with its mouth claws. In man larvae cannot live beyond first stage and are believed to die within ten days of infestation if not removed[5].In the eye it causes great irritation, redness, lacrimation, pain and inflammation.

Most of the cases of Ophthalmomyiasis externa are seen during cooler months of the year in sheep rearing enzootic areas.[6] The case reported here was also affected in the winter season from sheep rearing area.Ophthalmomyiasis interna is caused by larvae with burrowing habits,they can give rise to destructive form of ophthalmomyiasis.[4]

During emergency situations it is not always easy to estimate the probable danger of the rare disease and knowledge of microbiological preservation and culturing techniques is not evident. In this case the larvae died quickly and dried out once they were removed from the eye. We could not find specialist immediately to preserve the species in a good way. We therefore did the identification of the larvae as Oestrus ovis based on slit lamp biomicroscopic examination.

Removal of the larvae with forceps is the only therapy described. We believe, this is the first documented case of Ophthalmomyiasis Externa in Western Maharashtra, India.

REFERENCES

1. 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. | 2. K.Thakur,G.Singh,S.Chauhan,A.Sood.Vidi,vini,vinci:external ophthalmomyiasis infection that occurred and was diagnosed and treated in a single day.:a rare case report.Oman J Ophthalmol,2(3)(2009),pp.130-132. | 3. White GB. Myiasis. Manson`s Tropical Diseases. 20 th ed. India, New Delhi: Harcourt; 1996. p. 1526-32. | 4. Lane R.P.,Crosskey R.W.-Medical insects and arachnids.London:Chapman andHall.Textbook:1993;429-469. | 5. Ziemianski MC, Lee KY, Sabates FN. Ophthalmomyiasis interna. Arch Ophthalmol. 1980;98:1588–1589. | 6. Reingold W.J.,Robin J.B.,Leipa D.,Kondra L.,Schanzlin D.J.,Smith R.E.- Oestrus ovis ophthalmomyiasis externa.Am J Ophthalmol1984;97:7-10. | | 7. M.Z.Abdellatif,H.M.Elmazar,A.B.Essa,Oestrus ovis as a cause of red eye in Aljabal Algharbi,Libya.Middle East Afr J Ophthalmol,18(4)(2011),pp.305-308. | | 8. J.Dunbar,B.Cooper,T.Hodgetts,H. Yskandar et al. An outbreak of human external ophthalmomyiasis due to Oestrus ovis in southern Afghanistan.Clin Infect Dis. 46(11)(2008),pp.e124-e126. | | 9. Beaver PC, Jung RC, Cupp EW. Filth flies and myiasis-producing flies. Clinical parasitology. 9 th ed. Philadelphia, USA: Lea and Febiger; 1984. p. 680-95. | | 10. 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;37:205-7. | | 11. De Vries L. A. M., Van Bijsterveld O. P. – Ophthalmooestriasis conjunctivae.Ophthalmologica 1986; 192: 193 -197. |