

External Ophthalmomyiasis

Sanjana Hegde¹, Rutuja Kandle², Gargi Achwal³

¹3rd Year Junior Resident, M. S Ophthalmology

Email: [hegde.sanjana\[at\]gmail.com](mailto:hegde.sanjana[at]gmail.com)

Phone: 9741984242

²Email: [rutujakandle\[at\]gmail.com](mailto:rutujakandle[at]gmail.com)

Phone: 883 - 014172

³Email: [gargi.achwal\[at\]gmail.com](mailto:gargi.achwal[at]gmail.com)

Phone: 7972468716

Abstract: *Study Design:* Hospital based interventional study. *Objectives:* Ophthalmomyiasis refers to larval infestation of the eye. Ophthalmomyiasis externa refers to infestation of external ocular structures, including conjunctiva and cornea. Early diagnosis and management of such cases can help in prevention of intra - ocular penetration of larvae. *Materials and Methods:* We have seen a case of 70 year old female who presented at ophthalmology opd with complaints of swelling and pain around left eye, on examination maggots were present at the site of swelling, identified morphologically as *Oestrus ovis* (sheep botfly) The patient was started on topical and systemic antibiotics after removal of maggots was done manually with forceps. Patient was followed up regularly on OPD basis and showed improvement within 2 days. Prompt diagnosis and treatment of the patients condition helped in curtailing the extension of larvae and destruction of eye.

Keywords: External Ophthalmomyiasis, oestrus ovis

1. Introduction

Infestation of human eye by maggots is a well known fact and has been reported by many authors around the world (Martinez - Rojano et. al., 2023) The first case of ophthalmomyiasis was reported in 1900 (keyt). This disease is often under reported and adds to morbidity (Singh and Tripathy 2022). Obligate myiasis is mainly caused by fly larvae (*Calliphora*, *Lucilla*, *Sarcophaga*, *Gasterophilus*, *Hypoderma*, *Musca*, *Callitroga*, *Cuterebra* *Dermatobia*, *Chrysomya*, *Wohlfahrtia*, *Oedemagena*, and *Cochliomyia*) which cannot obtain their nutrients from mother flies (Khurana et. al. '2010). In this paper we present a case of external ophthalmomyiasis from Karad, Maharashtra, India.

2. Literature Survey

In an earlier paper external ophthalmomyiasis was reported in Davangere and they stated till then only 10 case reports have been published across India (Rao et. al., 2018), a more recent publication cites 62 reported cases in India between 2000 - 2022 accounting to 19 percent of the cases reported across the world, it also states *Oestrus ovis* larvae was responsible for 72.12% of all reported cases across the world. (Martinez - Rojano et. al., 2023)

3. Approach

A 70 year female presented to ophthalmology opd with complaint of swelling and pain around left eye. Patient gave a history of small swelling around left eye 9 months back after which it gradually increased in size and ruptured. On examination visual acuity was of finger counting more than 3 metres. There was severe lid swelling and conjunctival chemosis. Ulceration was noted in Infraorbital margin. The ulcerated area involved was in the infraorbital region around 5x3x3cm. No bleeding or pus observed. Maggots were

observed in the area (Figure 1). Patient was treated primarily in ophthalmology opd where around 40 maggots were removed with liquid paraffin. The identification of the specimens revealed larvae white in color about 1mm length. Macroscopically the cephalic segment had two large flat black buccal hooks and the posterior segment consists of two tubercles containing curved spine which is the same as described as stage 1 larvae of *Oestrus ovis*. (Basmaciyan et. al., 2018 and references there in), Indirect ophthalmoscopy showed no evidence of intraocular organisms. Examination of right eye was normal. Patient was referred to oral and maxillofacial surgery where no active management was given. MRI brain+orbit showed no abnormalities. Patient was referred to dermatology for scaly plaques over the body for which patient was diagnosed with erythroderma secondary to psoriasis and appropriate treatment was started for the same. When the patient came for follow up 5 days (figure 2) and 14 days (figure 3) later she was relieved of symptoms and no active maggots were noted.

4. Discussion

This report of external ophthalmomyiasis provides an important case study from the tropical region where such incidences are rarely reported and the earlier reports from southern part of India were from Karnataka (Baliga et. al., Shankar et. al, Kemmanu et. al., Rao et. al., 2018) There was no specific treatment protocol followed in this case however the patient recovered within 5 days through prompt removal, it appears early diagnosis helps in prevention of internal involvement.

5. Conclusion

Patient was treated primarily in ophthalmology opd where around 40 maggots were removed with liquid paraffin, patient recovered within 5 days through prompt removal.

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6. Future Scope

Investigating the behaviour, habitat and life cycle of flies responsible for transmitting the larvae could help provide insight on how to prevent such episodes and develop proactive measures.

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Figure 1: 70 year old female patient on the day of presentation to out patient department in karad, Maharashtra, India with swelling around left eye since 9 months.



Figure 2: Day 5 follow up of patient after manual removal of maggots with forceps and treatment with antibiotic coverage,



Figure 3: Day 14 follow up of patient

Author Profile



Dr Sanjana Hegde is pursuing M. S Ophthalmology in Krishna Vishwa Vidyapeeth, Karad, Maharashtra. Completed M. B. B. S from Jawaharlal Nehru Medical College, KLE deemed to be university, Belgaum.



Dr. Rutuja Kandle, M. B. B. S from V. M. G. M. C, Solapur, DNB ophthalmology from M. M Joshi institute, Hubli in 2023. Currently working as senior resident in Krishna Vishwa Vidyapeeth, Karad.



Dr Gargi Achwal is pursuing M. S Ophthalmology in Krishna Vishwa Vidyapeeth, Karad, Maharashtra. Done MBBS from Pravara institute of medical sciences, Loni, Maharashtra.