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Ophthalmomyiasis in Clinical Practice: A Report of Three Rare Cases

Dr. Tarek Aljasser[1], Dr. Hazil. Z[2], Pr. L. Serghini[3], Pr. E. Abdallah[4]

[1,2,3,4]Department ophtalmologie B, Specialty Hospital, Ibn Sina University Hospital of Rabat, Morocco

Abstract

Background: Ophthalmomyiasis is a rare parasitic eye infection caused by fly larvae, most commonly Oestrus ovis. It primarily affects individuals in rural settings but can also occur in urban environments .

Objective: To describe the clinical presentation, diagnosis, management, and outcomes of three cases of external ophthalmomyiasis caused by Oestrus ovis in an urban setting.

Methods: We report three cases of male patients aged 16 to 45 years who presented with acute eye discomfort, redness, tearing, and a foreign body sensation. Slit-lamp examination revealed motile larvae on the conjunctiva in all cases.

Results: Mechanical removal of the larvae under local anesthesia followed by ocular lavage and topical antibiotic and anti-inflammatory treatment led to full recovery within 48 hours, with no recurrence observed.

Conclusion: External ophthalmomyiasis can occur even in urban environments and must be promptly recognized and managed to prevent complications. Early diagnosis and straightforward treatment ensure a favorable prognosis.

Keywords: Ophthalmomyiasis, Oestrus ovis, external eye infection, conjunctival larvae, parasitic eye disease,urban parasitosis. 383

INTRODUCTION:

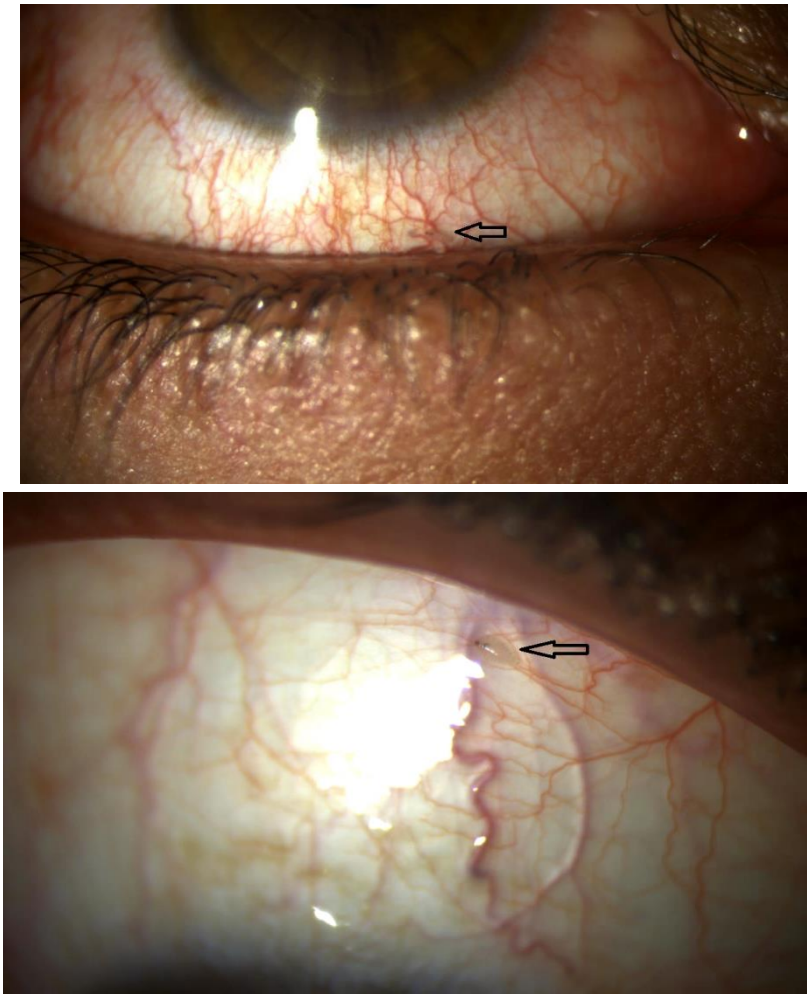
Myiasis is a parasitic infection caused by fly larvae infesting human and animal tissues, commonly affecting the skin, and less frequently, the eyes, nose, or urogenital tract. Ophthalmomyiasis, the ocular form, occurs in two types: external, affecting the conjunctiva and cornea, and internal, involving intraocular structures. Although rare and typically found in rural areas, ophthalmomyiasis accounts for about 5% of all myiasis cases. Oestrus ovis is a common cause of external ophthalmomyiasis. We report three cases of external ophthalmomyiasis caused by Oestrus ovis, diagnosed and treated at Ibn Sina Hospital in Rabat, Morocco, between 2021 and 2024, highlighting the clinical presentation, management, and outcomes in an urban setting.

Case Reports:

Case 1

A 16-year-old male from an urban area presented with the acute onset of redness, tearing, foreign body sensation, and pain in the right eye, developing over one day. Slit-lamp examination, multiple motile larvae were observed on the conjunctiva, associated with conjunctival hyperemia and a clear cornea. Fundus examination was normal, and no imaging was performed. A diagnosis of external ophthalmomyiasis was

established. Mechanical removal of the larvae was performed under local anesthesia, followed by ocular lavage and topical treatment with antibiotic and anti-inflammatory eye drops. The evolution was favorable, with complete resolution of symptoms within 48 hours. Identification of the larvae was consistent with Oestrus ovis.



Case 2

A 23-year-old male presented with redness, tearing, foreign body sensation, photophobia, and blepharospasm in the right eye, beginning 48 hours after reporting contact with a fly impact.

Slit-lamp examination revealed multiple motile larvae on the conjunctiva and cornea. The cornea was clear, and fluorescein staining was negative. Fundus examination was normal. The larvae were mechanically removed under local anesthesia, followed by ocular lavage and topical antibiotic and anti-inflammatory treatment. Symptoms resolved within 48 hours, and follow-up revealed no recurrence.

The larvae were identified as Oestrus ovis.

Case 3

A 45-year-old male from an urban area presented with sudden right eye redness, tearing, and a foreign body sensation. Slit-lamp examination revealed motile larvae on the conjunctiva. The cornea was clear, the fluorescein test was negative, and fundus examination was normal. The larvae were removed under local anesthesia, and the eye was irrigated with physiological saline. The patient received topical antibiotics and anti-inflammatories treatment.

Full resolution of symptoms occurred within 48 hours, with no recurrence. The larvae were identified as Oestrus ovis.

DISCUSSION

Ophthalmomyiasis is a parasitic ocular condition predominantly caused by Oestrus ovis, a dipteran fly that typically parasitizes sheep and goats [1,3,5]. Human infestation occurs accidentally when the fly deposits its larvae into the conjunctival sac during flight. While more common in rural settings and among agricultural workers, urban cases have increasingly been reported [4,6]. All three of our patients resided in urban areas and denied direct contact with livestock, supporting the notion that urban transmission is plausible, especially in warm seasons.

Clinically, external ophthalmomyiasis presents with acute symptoms such as tearing, conjunctival hyperemia, foreign body sensation, and photophobia—consistent with our cases. Slit-lamp examination is key to diagnosis, enabling direct visualization of the motile larvae [7]. In our series, fluorescein staining was negative, indicating no corneal epithelial involvement, which differentiates external from more severe internal forms [5,8].

The treatment of choice remains mechanical removal of the larvae under topical anesthesia, followed by thorough ocular irrigation and topical antibiotic and anti-inflammatory therapy [3,6,9]. All patients in our report showed favorable outcomes within 48 hours, with no complications or recurrences observed. Although rare, ophthalmomyiasis must be promptly recognized to avoid potential complications such as secondary bacterial infection or, in rare cases, intraocular migration leading to internal ophthalmomyiasis, which can be vision-threatening [5,10]. Increased awareness among ophthalmologists and emergency physicians, particularly in endemic or subtropical areas, is essential.

CONCLUSION

Ophthalmomyiasis, although rare should be considered in the differential diagnosis of acute conjunctivitis, particularly in cases with sudden onset and a history of contact with flies. Our three reported cases, all caused by Oestrus ovis, highlight the possibility of occurrence even in urban areas and among individuals with no direct contact with livestock. Early diagnosis using slit-lamp examination and prompt mechanical removal of larvae followed by appropriate topical treatment, can ensure rapid symptom resolution and prevent complications. Raising awareness among healthcare professionals about this parasitic condition remains essential, especially in endemic regions during high-risk seasons

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