

External Ophthalmomyiasis Seen in a Patient From İstanbul, Turkey

İstanbul'da Bir Hastada Gözlenen Oftalmomiyazis Eksterna Vakası

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ABSTRACT

Ophthalmomyiasis externa, results from infestation of the conjunctiva by the larval form of *Oestrus ovis*. It is usually seen in rural areas. We report a case with ophthalmomyiasis externa in a young man living in an urban area (İstanbul, Turkey) who had no known history of traveling to the rural area. Even in patients living in urban areas ophthalmomyiasis externa should be taken into consideration in differential diagnosis of red eye. (*Türkiye Parazitol Derg* 2014; 38: 205-7)

Key Words: Ophthalmomyiasis externa, *Oestrus ovis*, urban area

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ÖZET

Eksternal oftalmomiyazis, *Oestrus ovis* larvalarının konjonktivadaki enfestasyonları sonucu ortaya çıkar. Genellikle kırsal kesimde görülür. Bu vaka sunumunda kentsel yerleşim yerinde (İstanbul, Türkiye) oftalmomiyazis eksterna ile başvuran ve bilinen kırsal bölgeye yoluluk hikayesi olmayan genç bir erkek hastayı sunuyoruz. Kentsel yerleşim birimlerinde yaşıyor olsa dahi kırmızı gözle başvuran hastalarda eksternal oftalmomiyazis ayırıcı tanıda düşünülmelidir. (*Türkiye Parazitol Derg* 2014; 38: 205-7)

Anahtar Sözcükler: Eksternal oftalmomiyazis, *Oestrus ovis*, kentsel bölge

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INTRODUCTION

Myiasis is a parasitic disease caused by the larvae of numerous dipteran fly species, including the sheep botfly *Oestrus ovis*. This species is an obligate parasite in the nasal cavities and frontal sinuses of sheep but may also cause infestation in humans. The primary site of infestation is usually the nose, ears, eyes, and skin but can also include the pharynx

and genitourinary tract (1). Involvement of the eye is termed ophthalmomyiasis. Ophthalmomyiasis may be classified according to its location as external, internal, or orbital (2). It is common in sheep-farming areas, especially in the Mediterranean countries, Southern Africa, and Central America. Although *Oestrus ovis* is common, only a few cases have been reported in Turkey (3).

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Ophthalmomyiasis usually occurs in rural areas, where people live in close contact with farm animals; however, a few cases are also reported from urban areas.

We report this case in order to inform ophthalmologists to take into consideration ophthalmomyiasis externa in the differential diagnosis of red eye in any part of Turkey.

CASE REPORT

A 17-year-old male, a student from Istanbul, with no past ophthalmic history, presented to Göztepe Research and Training Hospital with continuous pain, irritation, lacrimation, and moving foreign body sensation in his left eye. He reported that a few days before, a fly had landed on his left eye conjunctiva, and he moved it away by washing the area. He also mentioned that he started wearing contact lenses for the first time a week ago. He described the attributed foreign body sensation as an adaptation to the contact lenses, and therefore, he did not visit a doctor. In the following days, his symptoms started aggravating and were localized only to his left eye; so, he attended our clinic 3 days after his contact with the fly.

The patient had removed his contact lenses prior to examination. The left eyelids were edematous, and there was injection in the left conjunctiva. He had a visual acuity of 20/20 in both eyes. Biomicroscopic examination of the right eye was normal. Examination of left eye revealed several highly motile organisms about 1 mm long moving on the surface of the conjunctiva (Figure 1). These organisms displayed negative phototaxis moving away from the slit-lamp beam to the fornix. In order to remove them, they were immobilized using 0.5% propacain drops. Using forceps under slit-lamp examination, approximately 30 specimens of these organisms were removed and placed into a tube for further investigation. The remaining organisms were removed with a moistened cotton bud, and the eye was irrigated with 200 cc saline solution, and the patient recovered quickly from his symptoms. He was prescribed tobramycin eyedrops four times a day and warned not to wear contact lenses during treatment.

The microscopic examination of the organisms showed that they were oval-shaped with segmented bodies and had a pair of large dark oral hooks connected to their cephalopharyngeal skeletons (4). According to these, the organisms were identified as the first instars of *Oestrus ovis* larvae (Figure 2).

During follow-up examination 1 and 7 days later, no anterior or posterior segment pathology could be observed.

DISCUSSION

Being an incidental host, humans are rarely infested with myiasis. Most reported cases of myiasis in patients belong to people from tropical countries and from low socioeconomic classes.

Ocular myiasis is generally presented with its external form. Symptoms are that of foreign body discomfort. Punctate keratitis may be present as a result of the larvae moving across the cornea, and small conjunctival hemorrhages may be present as a result of clinging with the larvae's mouth claws (5). Complications due to ophthalmomyiasis may vary from acute conjunctivitis to loss of complete vision.



Figure 1. Larva of *Oestrus ovis* is observed under upper eyelid



Figure 2. First instars of *Oestrus ovis* larva about 1 mm long. Dark oral hooks are seen in the mouth region, which are used for locomotion.

Although cases with ocular myiasis are reported from rural areas, it is interesting that recently, two cases and our case are reported from urban areas (6, 7). This may be because diagnosed cases are not reported in the literature.

Manal et al. reviewed 21 cases with ophthalmomyiasis and observed red eye in all cases and reported that 57% of cases were from rural areas (8).

Ocular parasitic infestations should be kept in mind in patients not only from rural but also from urban areas presenting with viral or allergic conjunctivitis or following a history of something entering the eye. Ophthalmologists should be aware that on routine examination, small and translucent larvae run away from the slit-lamp beam, showing negative phototaxis, thus leading to misdiagnosis of the condition.

CONCLUSION

Concluding from the cases mentioned above and discussions, ocular parasitic infestations should be kept in mind in patients not only from rural but also from urban areas presenting with

viral or allergic conjunctivitis or following a history of something entering the eye. Ophthalmologists should be aware that on routine examination, small and translucent larvae run away from the slit-lamp beam, showing negative phototaxis, thus leading to misdiagnosis of the condition.

Informed Consent: Written informed consent was obtained from patients who participated in this case.

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REFERENCES

1. Gregory A, Schatz S, Laubach H. Ophthalmomyiasis caused by the sheep bot fly *Oestrus ovis* in northern Iraq. *Optom Vis Sci* 2004; 81: 586-90. [\[CrossRef\]](#)
2. Bosniak SL, Schiller JD. Ophthalmomyiasis in an eyelid reconstruction. *Am J Ophthalmol* 1990; 109: 101-2. [\[CrossRef\]](#)
3. Dinçer Ş: İnsan ve hayvanlarda miyazis. In Özcel MA, Daldal N.ed. *Parazitolojide Artropod Hastalıkları ve Vektörler*. Türkiye Parazitoloji Yayınları, No 13, İzmir, 1997; 13: 169-204.
4. Unat EK, Yücel A, Atlas K, Samastı M, Unat'ın Tıp Parazitolojisi. 5. baskı. İstanbul: Cerrahpaşa Tıp Fak. Yayını 1995. No:15, s. 149-57.
5. Cameron JA, Shoukrey NM, al-Garni AA. Conjunctival ophthalmomyiasis caused by sheep nasal botfly (*Oestrus ovis*). *Am J Ophthalmol* 1991; 112: 331-4. [\[CrossRef\]](#)
6. Arslan F, Mete B, Oztürk R, Samastı M. External ophthalmomyiasis caused by *Oestrus ovis* in İstanbul. *Trop Doct* 2010; 40: 186-7. [\[CrossRef\]](#)
7. Kuk S, Yıldırım S, Özden M, Erensoy A, Saki CE. Ophthalmomyiasis is not only a problem for rural regions of Eastern Anatolia of Turkey. *Med Sci Monit* 2009; 15: 166-8.
8. Abdellatif MZ, Elmazar HM, Essa AB. *Oestrus ovis* as a cause of red eye in Aljabal Algharbi, Libya. *Middle East Afr J Ophthalmol* 2011; 18: 305-8. [\[CrossRef\]](#)