

External ophthalmomyiasis in urban area: report of three cases

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ABSTRACT:

Ophthalmomyiasis is an ocular myiasis due to man's parasitism by fly larvae, most frequently by *Oestrus ovis* which generally parasitizes sheep and goats nasal cavities. The infestation usually occurs by direct contact. The ocular involvement occurs in less than 5% of all human myiasis cases [2]. Ophthalmomyiasis is classified as external when larvae are present on the conjunctiva and it's categorized as internal when there is an intraocular penetration of the larvae. Some cases of external ophthalmomyiasis had been reported in various parts of the world mainly in rural areas and still remain rare in urban areas. The external ophthalmomyiasis prognosis is generally good after appropriate treatment, except in case of transformation to internal ophthalmomyiasis which is a serious eye condition that might be sight-threatening. The particularity of the three cases that we reported is that they all occurred to military men in urban area. The slit lamp examination in those three cases showed translucent, mobile and photophobic larvae found within the cornea and conjunctival cul-de-sac. Then we have proceeded to a mechanic extraction of the larvae and gave a topical antibiotic to prevent a super infection. We have observed a regression of physical signs and symptoms after 24 hours.

Keywords: *ophthalmomyiasis, ocular myiasis, parasitism*

INTRODUCTION:

Ophthalmomyiasis is an ocular myiasis due to an infestation of the eye by fly larvae, most commonly caused by *Oestrus ovis* that usually parasitizes sheep nasal cavities [1]. The infestation generally occurs by direct contact. The ocular involvement occurs in less than 5% of all human myiasis cases [2]. Ophthalmomyiasis is classified as external when larvae are on the conjunctiva and as internal when there is an intraocular penetration of larvae [3]. Some cases of external ophthalmomyiasis were reported in different countries mainly in rural areas. It still remains rare in urban areas. The external ophthalmomyiasis prognosis is generally good after appropriate treatment, except in case of transformation to internal ophthalmomyiasis which is a serious eye condition that might be sight threatening [5, 6]. The particularity of the cases that we reported is that they all occurred to military men in urban area.

Observations:

We herein report three cases of patients admitted in the eye emergency department of Moulay Ismail Military Hospital of Meknes:

First case:

A 42-year-old patient who had no medical history and did not use any topical or systemic medication was admitted in the emergency room for a red and painful right eye with itchiness, watering eye and ocular foreign body sensation. He had a little ocular traumatism caused by a fly three days before the onset of symptoms. The examination of the right eye showed a conjunctival hyperaemia and a slight chemosis with a conserved visual acuity. The slit lamp examination revealed five translucent and photophobic larvae within the cornea and conjunctival cul-de-sac. Fluorescein test was negative. [Figure 1]

The rest of the ophthalmological examination showed no other abnormality and eliminated an internal damage. Examination of the Adelphe eye was without any particularity.

Second case:

A 31 year old patient who had no medical history was admitted in the emergency room for a red and painful right eye with similar symptoms than the precedent case. He had a little ocular traumatism caused by a fly 24 hours before his admission. The slit lamp examination of the right eye revealed three translucent,

mobile and photophobic larvae also found within the cornea and conjunctival cul-de-sac and the Fluorescein test was negative too. [Figure 2] The rest of the ophthalmological examination showed no other abnormality and eliminated an internal damage and the examination of the Adelphe eye was normal.

Third case:

A 37-year-old patient who had no medical history was admitted in the emergency room for a red and painful left eye with comparable symptoms than the precedent cases, further to an ocular contact with a fly three day before. The slit lamp examination of the left eye also showed three translucent, mobile and photophobic larvae found within the cornea and conjunctival culdesac and the Fluorescein test was also negative. The rest of the ophthalmological examination and examination of the Adelphe eye were normal too. In these three cases, we have proceeded to a mechanic extraction of the larvae under local anesthesia associated with eye and lachrymal duct wash with normal saline solution, followed by a topical antibiotic (with macrolid), corticosteroids and rewetting drops. The larvae were sent to parasitological laboratory for identification. [Figure 3] The specimens were identified as *Oestrus ovis* larvae. We have observed a regression of physical signs and symptoms after 24hours

DISCUSSION:

External human ophthalmomyiasis is a cosmopolitan infection but seems more frequent in mediterranean countries and in the Middle East. It usually occurs in rural areas where the populations are living in contact with ungulates, sheep and goats [4] in contrast with our patients who are military personnel living far from breeding areas. *Oestrus ovis* usually called sheep nasal botfly is a fly which larvae development requires an intermediate hosts (cheeps and goats) [7]. The man's infestation occurs accidentally by a larval deposition by a female fly in the eye during the seasons from the spring to the autumn [4].

Our three patients were admitted to hospital during the months of October and November (autumn). All the clinical signs of the ophthalmomyiasis are summed up by the signs of an acute conjunctivitis The interrogation found a history of direct eye contact with a fly. It was the case of our three patients. Diagnosis is usually easy with the slit lamp. The treatment is based on a mechanic removal of the larvae associated with local antibioprophyllaxis to prevent a super infection. In case of no management of the infestation, there is a risk of internal ophthalmomyiasis with a possibility of panuveitis and retinal detachment occurrence [5]. Hence, external ophthalmomyiasis caused by *Oestrus ovis* is an etiology of acute conjunctivitis that should not to be ignored in all regions of the world for the purpose of treating it in early stage of external ophthalmomyiasis.

CONCLUSION:

The external ophthalmomyiasis is a common condition among shepherds. Its frequency outside pastoral areas is relatively rare. The treatment consists of the removal of the larvae associated with a saline solution and local antibioprophyllaxis. The prevention is important especially in developing countries, based on the education of the at-risk population for a quick and early treatment of this zoonosis.

Figures :

Figure 1(a,b) : Macroscopic appearance of *Oestrus ovis* larvae in the right eye of the first patient (a,b)



Figure 2: Appearance of *Oestrus ovis* larvae in the free edge of the second patient's eye



Figure 3: Appearance of *Oestrus ovis* larvae under a microscope



I certify That:

The authors have obtained all appropriate patient

consent forms.

The article has not been presented in a meeting.

The authors did not receive any financial support from any public or private sources.

The authors have no financial or proprietary interest in a product, method, or material described here.

Conflict of Interest:

I certify that:

-There is no conflict of interest in the work we submit

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