CASE REPORT

OCULAR MYIASIS

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SUMMARY:

The authors describe a case of 47 years old patient who came to the department of ophthalmology with eye discomfort, ear bleeding and itching of both legs. The diagnosis of ophthalmomyiasis was made after an eye examination. Manual extraction of maggots from upper and lower fornix of the left eye was performed and symptomatic therapy was given. The patient was sent to otolaryngology and dermatology departments and MRI. The maggots were also found in both external auditory meatus and between the toes. MRI excluded affection of the deeper structures of the head. Improvement of the local condition was observed since the first follow-up visit.

Key words: ophthalmomyiasis externa, conjunctiva, dermatomyiasis, ear myiasis, Calliphoridae

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INTRODUCTION

Ophthalmomyiasis is a condition in which the larvae of flies penetrate into the ocular orbit and surrounding tissues. Different myiases (skin, wound etc.) are generally divided into facultative and obligatory, and according to the clinical symptoms it is further possible to differentiate between benign and malignant myiases.

In the case of ocular myiasis, ophthalmomyiasis externa [2] and interna are distinguished according to localisation of the larvae. This case report focuses on a case of facultative benign opththalmomyiasis externa, evidently connected with ventricular (ear canal) myiasis and dermatomyiasis. This type of myiasis in temperate zones is caused in particular by larvae of flies which ordinarily contribute to the decomposition of dead animals, in our case this concerned an unspecified type from the Calliphoridae family [6].

Upon affliction of the external structures of the eye and the ocular adnexas, patients usually describe itching and pain in the eye, excessive lachrymation, a feeling of a foreign body, perception of the movement of larvae beneath the eyelid and deterioration of vision [5][3]. In exceptional cases patients report with fever and swollen glands. Ophthalmomyiasis is generally associated with affliction of other areas, which may frequently be far apart. In the case of affliction of the nasal cavity, manifestations of the pathology may be epistaxis, altered sense of smell and feeling of a foreign body. It is important to differentiate ophthalmomyiasis from ordinary conjunctivitis [1].

CASE REPORT

A 47 year old man reported to the Department of Ophthalmology at the University Hospital in Ostrava as an acute case. He stated that he had pierced his left eye with a branch, and that his eye was now itching and watering. He also complained of bleeding from both ears persisting for several days. From the subjective and objective anamnesis (records in hospital information system) we determined that the man was homeless, had been repeatedly hospitalised due to neurological complications of alcoholic encephalopathy and dermatological afflictions caused predominantly by insufficient hygiene habits. He does not use medicaments long-term and stated that he has no allergies.

At the initial examination the patient‘s natural visual acuity in the afflicted left eye is 6/60, correction does not improve vision, intraocular pressure cannot be measured. In the right eye vision is 6/9 sl., intraocular pressure 15 mmHg.

The right eye is calm and without any evident pathology. The area surrounding the left eyelid has surface scratches, the eyelids are slightly reddened with mild edema of a semi-rigid consistency, the edges of the eyelids are reddened, the fornices are suffused with numerous live larvae (fig.1), it is not possible to perform eversion, the tarsal and bulbar conjunctiva is keratinised, hyperaemic, we observed mixed injection of the conjunctiva, by the plica semilunaris there is suspect communication with the periorbital area, the cornea is with abrasion of the epithelium throughout its full extent, transparent, anterior chamber of medium depth, clear, without signs of inflammation, iris calm, pupil loose, rounded, lens minimally opaque (fig. 2). We examined the posterior segment biomicroscopically in artificial mydriasis, there is a physiological finding on the ocular fundus.

We manually extracted 16 larvae (fig. 3), but new larvae constantly appeared. After rinsing with 1:16 povidone-iodine solution a large number of larvae again appeared, which we extracted manually (fig. 4). We sent the samples to the Public Health Institute in Ostrava for a parasitological examination. After consultation with an infectologist and the Public Health Institute in Ostrava, for the meantime only we applied the local antibiotic therapy Ophthalmo-Framykoin ung.

We then sent the patient to an ORL clinic, where a finding of larvae in both external auditory meatus was confirmed, with per-

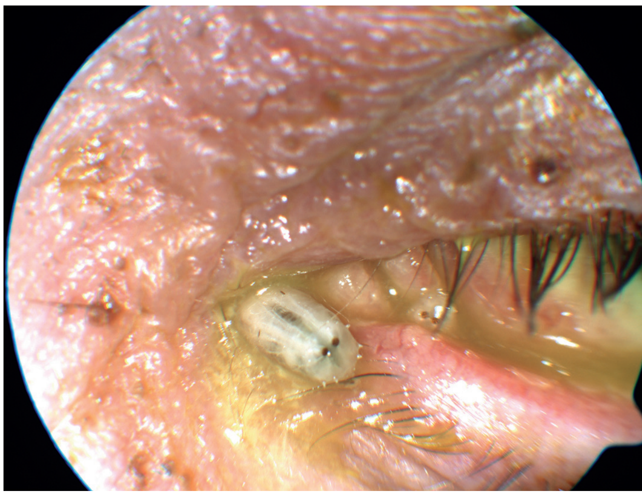

fig. 1: presence of larvae in lower fornix

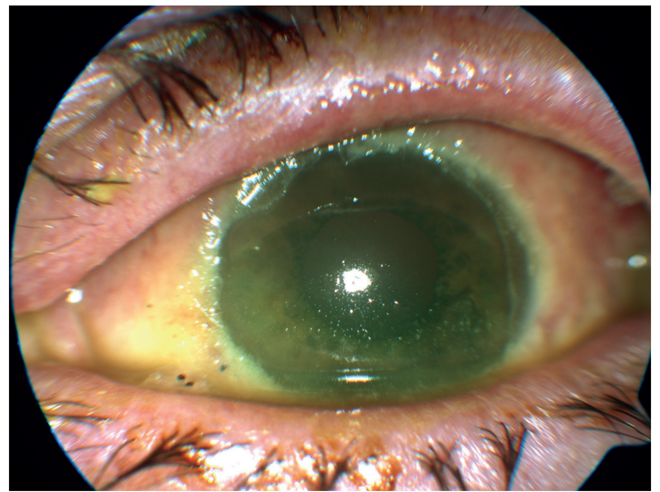

fig. 2: damage to structures of anterior segment upon external ophthalmomyiasis

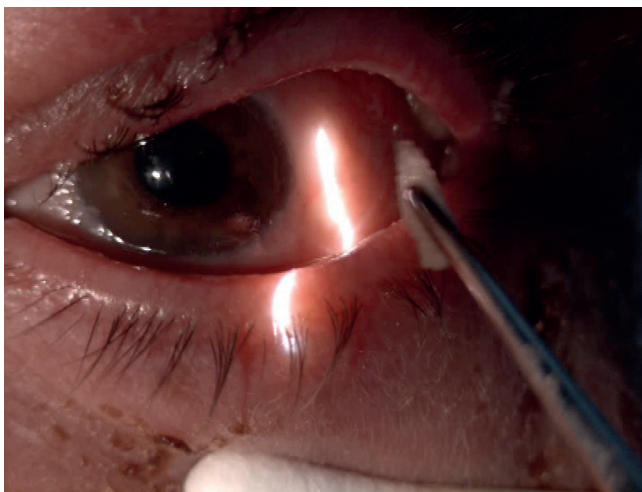

fig. 3: manual extraction of larvae under local anaesthesia

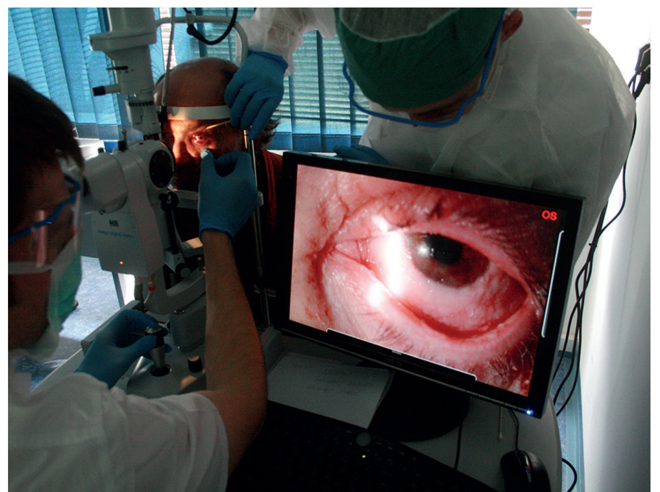

fig. 4: examination on slit lamp after repeated manual extraction of larvae

foration of the eardrum in the right ear. There followed a dermatological examination, in which further larvae were found between the toes. On the next day the patient reported for a follow-up examination at which we observed signs of improvement. There was a physiological finding in the right eye. The surrounding area of the left eye and the eyelids were calm, the edges of the eyelids were slightly reddened. In the left eye we further observed the following: fornices without presence of larvae, defect of conjunctiva by the caruncule, bulbar conjunctiva with hyperaemia, keratinised, cornea with abrasion of the epithelium in all quadrants and with incipient islands of epithelisation from the limbus. The intraocular finding was without pathology.

Magnetic resonance imaging was planned, which excluded the affliction of the soft tissue of the orbit and the inside of the cranium. We did not succeed in illuminating the precise localisation of communication between the external auditory canals and the external part of the orbit, or the primary deposit of the infection. The patient was recommended a further follow-up examination, but did not report to our health centre again.

The parasitological examination detected a two-winged insect from the Calliphoridae family as the source of the infection.

DISCUSSION

Cases of human infection described in the literature concluded in natural healing, in some cases even without pharmacological therapy [9]. The basic therapy is extraction of larvae from the ocular adnexes under local anaesthesia. Any open wound should be cleansed and covered in order to prevent further infection. The patient is treated with local antibiotics. This procedure was demonstrated to be sufficient also for the patient we observed. In exceptional cases complications such as keratitis [8] or preseptal orbital cellulitis [4] have been described. In selected cases it is necessary to consider further general medication [10]. A certain limitation of our study may be the short observation period and the potential onset of later complications. However, these complications are usually present at the first medical treatment [7]. With regard to the organisation of healthcare in the region it is also possible to expect that in the case of onset of later complications the

fig. 5: microscopic view of source of external ophthlmomyiasis – larva from Calliphoridae family

patient would again be treated at our health centre. However, the patient has not subsequently reported either to our health centre or any other healthcare facility in the region.

CONCLUSION

The case report we describe graphically illustrates the case of a patient with ophthalmomyiasis, aural myiasis and dermatomyiasis. In advanced countries this is a rare finding, which is typical amongst persons originating from a deteriorated social environment – e.g. homeless persons. The source of infestation was a two-winged insect from the Calliphoridae family (fig. 5). The diagnosis of myiasis is usually based on direct identification of larvae on a slit lamp, subsequently specified by a parasitological examination. The causal therapy is removal of the larvae, in the case of injury to the infected tissues, dressing and covering of the wound with prevention of secondary infection is also advisable. This alone usually brings a rapid restoration of the condition and the patient's return to health.

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