Oestrus Ovis Ophthalmomyiasis in Cyprus

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Introduction

Human ophthalmomyiasis due to infestation with the larvae of the sheep nasal bot fly *Oestrus ovis* has been known for 70 years¹ and the parasite is widely distributed in the Mediterranean, Russia, India, South Africa, Canada and the USA. There has been no report of cases from Cyprus in spite of many cases occurring each year among the local community. Three cases of *Oestrus ovis* ophthalmomyiasis in Service personnel were treated at the RAF Hospital Akrotiri during the summer of 1982 and the details of these cases are reported here.

Fig. 1 First instar larva of *Oestrus ovis*.
(magnification x 130)

Patients and Treatment

From July to September three previously healthy young male patients, all residing at RAF Akrotiri, reported the sudden onset of intense superficial monocular irritation, developing shortly after fly entry in one, but not associated with this in the others. The treatment in two cases consisted of

manual removal under local anaesthesia using a sterile swab on a stick, and repeated saline irrigation in the third case. The diagnosis was made by microscopic examination of the removed parasites and identification from published literature². A photograph of one of the extracted larvae is shown (Fig. 1). All three patients received prophylactic topical antibiotics; two made a complete recovery but the third developed an acute conjunctivitis after 12 days. The details of the patients and their symptoms are recorded in Table I.

Discussion

As its name suggests, the sheep nasal bot *Oestrus ovis* does not rely on man as a principal host for the intermediate larval stages of its life cycle. The fly usually deposits the freshly hatched 1.3 mm long, first instar larva into the eyes or nostrils of sheep, goats and occasionally dogs or antelopes. The larva may migrate from this site of initial deposition into the sinuses, the throat, the trachea and rarely across the bronchial wall, which has fatal results. The infestation does not produce a high mortality among infected animals unless these are young or heavily infested. The maturing larva, which is 3.5-12 mm in length develops in the host animal. When fully developed it leaves the host and pupates within 1-5 days on the ground, the adult fly emerging some 28 days later³. Man is an unsuitable host for the larva and development does not progress beyond the first instar, death usually occurring within a few days. The larvae are usually deposited in the eye but also in the nose, throat and external ear and, unlike the larvae of the cattle bot fly, *Hypoderma* species, they do not penetrate to deeper structures. It is thought that man becomes infested in areas where the ratio of the human to the sheep population is fairly high, the gravid flies being unable to find a suitable animal host and deposit on man in desperation.

This situation may well exist in Akrotiri as ap

Table 1
Clinical Details

Patient	Age	Sex	Date	Place	Symptoms	Treatment	No. of larvae removed	Sequelae
1	28	M	26.6.82	Beach Road	Spontaneous onset of gritty sensation and of movement beneath upper lid	Manual removal. Chloramphenicol ointment.	8	NO
2	34	M	17.7.82	Shopping area	Intense irritation following eye entry	Manual removal. Chloramphenicol ointment.	8	Acute conjunctivitis after 12 days. (Coag neg <i>Staph</i> culture.)
3	35	M	27.9.82	Near beach	Irritation and pain followed in 36 hours by purulent discharge	Irrigation with saline. Sulfacetamide ointment.	2	NO

proximately 2,000 sheep and goats from the village have an unofficial grazing concession within the boundaries of the Station and 3,400 Servicemen and their dependants live in the same area.

In areas where human ophthalmomyiasis has been reported there is a seasonal incidence and in Iraq for example the peak incidence of cases occurs from March to June and September to November. Presumably pupae do not survive the hot and dry conditions of the intervening months. Continuation of the species to the following year is ensured by survival of the first instar larvae in the nasal cavity of the host during the winter months.

Although there have been no case reports of human *Oestrus ovis* ophthalmomyiasis from Cyprus, the condition is in fact quite common in the local population. One ophthalmic surgeon treats up to a hundred cases a year⁴ by removing the parasite with fine forceps under the magnification of slit lamp.

Manual removal of the parasite is difficult because of its small size and the adhesion provided by its mouth hooks, but in the apparent absence of a topical parasiticide harmless to the eye it remains the usual treatment and the method used in these three reported cases. Purulent conjunctivitis may occur after infestation or parasite removal and treatment with a topical antibiotic is advisable.

Ophthalmomyiasis is not a common condition but it should be considered in the differential diagnosis of a painful red eye occurring in an appropriate part of the world, particularly if the patient describes a sensation of sub-palpebral movement.

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