Palpebral Myiasis

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Myiasis is most prevalent in Mexico, central and south America, tropical Africa, and the southwestern United States. Although dermal myiasis is rare in most of the United States, it is a disorder that may be seen in international travelers. In the United States, external myiasis is usually caused by the cattle botfly. We report here a case of ophthalmomyiasis involving the left upper eyelid of a child. We examined a six-year-old boy who presented to the Massachusetts Eye and Ear Infirmary (MEEI) in September 1998. He complained of persistent swelling of his left upper eyelid for the previous ten days. The edema and erythema were unresponsive to warm compresses and oral antibiotics. Ocular examination revealed a mild preseptal cellulitis of the left upper eyelid with a small draining fistula. On slit-lamp examination, we found one larva protruding intermittently from the fistula site. The larva was extracted with forceps, wrapped in a moist towel and sent in a jar to the parasitology laboratory. The specimen was identified as a Cuterebra larva by a parasitologist at the Harvard School of Public Health. One week later, the patient’s eyelid edema and erythema had completely resolved.

Key words: palpebral myiasis, Cuterebra larva

INTRODUCTION

Myiasis is the infestation of live human and vertebrate animals with dipterous larvae. Although dermal myiasis is rare in the United States, it is a disorder that may be seen in international travelers.1 In the United States, external myiasis is usually caused by the horse or cattle botfly. We report a case of ophthalmomyiasis involving the left upper eyelid of a child.

CASE REPORT

A six-year-old boy was referred to the MEEI in September, 1998, with an enlarging, focal area of edemas and erythemas of the left upper eyelid (Fig. 1). The focal edema had been present for nearly two weeks. The boy lived in Massachusetts and was otherwise in good health. He had no other cutaneous lesions.

The patient complained of persistent swelling of his left upper eyelid for the previous ten days. The edema and erythema were unresponsive to warm compresses and oral antibiotics. Ocular examination revealed a mild preseptal cellulitis of the left upper eyelid with a small draining fistula (Fig. 2). On slit-lamp examination, one larva was found intermittently protruding from the fistula site (Fig. 3).
At the point of maximal protrusion of the head of this organism through the skin, the organism was grasped with forceps and removed intact and viable (Fig. 4). The organism was placed on a moistened saline sponge and was transported to the parasitology laboratory in a sterile specimen container.

The specimen was identified as a *Cuterebra* larva by a parasitologist at the Harvard School of Public Health. One week later, the patient’s eyelid edema and erythema had completely resolved (Fig. 5).

**DISCUSSION**

The infestation of living vertebrate animal tissues by fly larvae (maggots) is known as myiasis. Ophthalmomyiasis refers specifically to infestations that involve the eye and ocular adnexa. External myiasis occurs when the eyelids and conjunctivae are infested.\(^1\)\(^2\) External ocular infestation is more common than the internal form and has been associ-
ated most frequently with larvae of the *Oestrus ovis*, *Dermatobia hominis*, *Hypoderma bovis*, and *Calliphoridae*. Myiasis of the eyelid has also been reported due to *Cuterebra* and *Dermatobia hominis*. Some of these varieties puncture the skin and extrude the ova beneath the surface, whereas others deposit their eggs on open wounds or ulcers. Myiatic maggots produce furuncle-like lesions that periodically drain serosanguineous fluid. Secondary bacterial infections can occur.

The *Cuterebra* botfly (rabbit or rodent fly) is native to North America and causes a furuncle-like lesion or cellulitis. The eyelid margin is an unusual site for dermal myiasis. One case of dermal myiasis of the upper eyelid caused by *Cuterebra*, and located above the tarsus, has been reported.

Ulcerated skin lesions with necrotizing tissue are the preferred sites for myiasis. However, entry may be gained through insect bites in normal skin. The occurrence may be obvious, with visible larvae, or may resemble a furuncle or cellulitis, which does not respond to antibiotic therapy. Humans are not the preferred hosts of most dipterous (two-wings) insects. Human myiasis is considered an accidental infection rather than a facultative or obligatory one. Common hosts include horses, cattle, sheep, deer, rodents, and rabbits.

The natural history of infestation of normal animal hosts by *Cuterebra* larvae is not yet known. The adult females may lay as many as 1000 eggs in vegetation. The eggs hatch during a sudden increase in temperature, such as that caused by a warm-blooded animal. The first-stage larva usually enters the host through mucous membranes, or through a cut in the skin, but may be transferred by an insect bite as typically occurs with *Dermatobia hominis*. Within one week, the infective first stage larva migrates to a dermal site, where development to the parasitic second stage occurs. The larva breathes and usually excretes a scant yellow discharge through a characteristic hole in the host’s skin, as seen in our patient. Complete development to the prepupal third stage takes three to five weeks. The mature larva backs out of the skin, pupates in the soil, and emerges as an adult the next summer. In native hosts, where the dermal site is specific, the empty cyst closes spontaneously and healing is rapid. However, in abnormal hosts such as human beings, the dermal site tends to be variable, the life cycle is often delayed or incomplete, and secondary infection is common.

There are two popular methods used to remove cutaneous larvae. The first, which was the method used in our patient, is simple surgical extraction after injection of a local anesthetic. Another technique consists of suffocating the larva by applying an occlusive layer of petroleum jelly over its respiratory orifice. The larva will then prematurely extrude itself from the skin, presumably to prevent smothering.

**REFERENCES**