

Ocular Lesions in the Equine Caused by Larvae of *Gedoeslia hassleri*

Introduction

First-stage larvae of this fly species are commonly deposited in the conjunctival sac of hartebeest and wildebeest. Domestic animals are aberrant hosts. Larvae have never been found in their nasal cavities and it is assumed that the larvae are either unable to follow the normal route leading to the sinuses or that there is some preventative reaction in the host. Three main forms of the disease including the ophthalmic form which is a specific oculo-vascular myiasis called bulging eye disease or "utipeuloo". This ranges from a mild inflammation to a very severe exophthalmia with protrusion of the eyeball. The encephalitic form results in a variety of nervous symptoms depending on the damage caused by migrating larvae. The cardiac form can result in death due to heart failure.

These outbreaks of ophthalmomyiasis are of emerging significance as the distribution of wildebeest and blesbok has increased dramatically in the areas where the horses are stabled. Owners of smallholdings increasingly keep wildlife, which seem to adapt well to a semi-urban environment. This may well result in seasonal early summer outbreaks of gedoeslia myiasis in domesticated animals. The route of entry for the larvae is ocular, and they use their mouth hooks and body spines as well as pulsatile body movements. Their ultimate goal is to reach the subdural space and then the nasal cavity. A number of alternative routes have been documented and these may result in severe pathology.

Treatment

Affected eyes are treated with a cypermethrin spray that has proved to be effective in killing the larvae on the cornea and conjunctiva. This treatment does not cause any further damage to the cornea and is a safe and effective means of managing the problem.



Fig 4: First-stage *Gedoeslia* larva with prominent curved hook mouth parts

Topical broad-spectrum antibiotic drops are also required for treating the fluorescein-positive lesions, which are often very painful. Topical atropine is indicated as well as short course of oral or systemic anti-inflammatory.



Fig 1: Miniature donkey's left eye showing severe lacrimation, blepharospasm and periorbicular swelling

Life cycle

Affected horses present with acute-onset intense ocular pain or blepharospasm, lacrimation, severe chemosis and periorbital oedema. These animals are often head-shy because of the intense pain. These symptoms often occur as an outbreak with numerous animals affected simultaneously and are generally in close proximity to wildlife such as blesbok and wildebeest. Numerous small white flecks (larvae) may be visible on the cornea with an intense superficial fluorescein stain uptake.



Fig 2 (top) and Fig 3 (bottom): Superficial corneal ulcerations in a horse staining positive with fluorescein stain

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Equine Ophthalmomyiasis

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