

Surgical Management of Ocular Thelaziasis in a Cattle

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Abstract

A cow was presented with excessive lacrimation, watery eyes, conjunctivitis, cloudiness, ulcerative keratitis and corneal opacity in left eye. On detailed clinical examination, eye worm (*Thelazia sp.*) was seen wriggling in eye with vigorous movement. Eyeworm was removed surgically under auriculo-palpebral, retro bulbar nerve blocks and topical anesthesia. Animal made an uneventful recovery without any complication after twelve post-operative days.

Keywords: Cattle; eye worm; thelaziasis

Introduction

The genus *Thelazia* (*Spirurida*, *Thelaziidae*) includes a cosmopolitan group of eye worm *Spirurids* responsible for ocular infections in domestic and wild animals and transmitted by different species of muscids. Eye worm (*Thelazia spp*) are common parasites of cattle and horses in many countries. The disease is most commonly encountered during summer and autumn season when vectors are more prevalent (Gopinathan *et al.*, 2013). These worms live in conjunctival sac (eyelid) of eye in many livestock species. The worms are up to 2 cm long, thin and white. One or both eyes may be affected. Upto 90 parasites can have been found in one eye (Soulsby, 1982). The best treatment is surgical removal of parasite (Tuntivanich *et al.*, 2011) that can be performed under general anesthesia or regional nerve blocks with or without sedation. The present paper deals with eye worm infestation in cattle and its recovery.

History and Observations

Five years old female crossbred pregnant cattle was presented with history of lacrimation, corneal cloudiness and opacity for past ten days. The animal was dull, depressed and anorectic with severe conjunctivitis and conjunctival edema in left eye. All physiological parameters were within normal range. On detailed clinical examination, a eye worm (*Thelazia sp.*) was seen wriggling in eye with severe corneal opacity (Fig.1).

Treatment and Discussion

The animal was restrained for surgical removal of eye worm. Auriculo-palpebral, retrobulbar nerve block and Proparacaine 0.25 percent topical instillation was performed to desensitize the eyelids and eyeball by injecting 3 ml of 2% Lignocaine hydrochloride. A 5ml syringe half filled with normal saline fitted with 18G hypodermic needle was introduced at 3'o clock position through the limbus (Fig. 2). By gentle aspiration, live worm was sucked out and chamber was flushed with balanced ophthalmic irrigating solution to remove debris and temporary tarshorrhaphy was performed (Fig. 3). The worm was identified as *Thelazia sp.* Post-operatively parenteral antibiotics and non-steroidal anti-inflammatory drugs were used. Ivermectin was injected sub-cutaneously @ 0.2 mg/ kg b. wt. Chloramphenicol applicaps were used t.i.d. for five days. Animal recovered uneventfully without any complication on twelveth post-operative day.

Feeding habits of face flies, *Musca larvipara* and *Musca convexifrons* include a preference for ocular secretions, which is ideal for transmission. The first larvae of *T. rhodesii* enter the gut of the fly and penetrate the ovarian follicles, where they develop, becoming second larvae which grow and moult to become third larvae, the infective larvae. The third larvae leave the ovarian follicles and migrate to mouth parts of fly, from which they are transferred to cattle (Klesov, 1950). Development of sexually mature worms takes about 1-4 weeks in cattle. Adult parasites are found behind the nictitating membrane, on surface of conjunctiva and in lacrimal and naso lacrimal ducts. The worm has a rough cuticle (skin)

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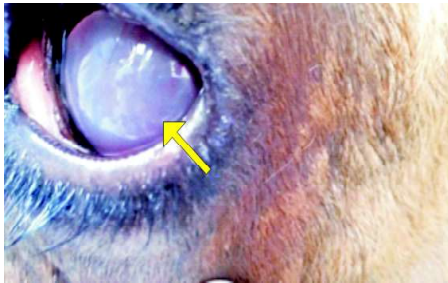


Fig.1: Eye worm with severe corneal opacity



Fig. 2: 18G hypodermic needle introduced at 3' o clock position through the limbus



Fig. 3: Temporary tarsorrhaphy after worm removal

that causes irritation and inflammation to cornea. Invasion of lacrimal gland and excretory ducts may cause inflammation and necrotic exudation. Mild to severe conjunctivitis and blepharitis are common. Cornea may get inflamed, ulcerated, perforated and if unattended, may get fibrosed at a later stage, particularly with *T. rhodesii* infection in cattle. Certain systemic anthelmintics were found effective against eye worms. In cattle, Levamisole at 5 mg/ kg, SC and Ivermectin and Doramectin (Kennedy and Phillips, 1993), both at 0.2 mg/ kg, SC or IM, have shown activity against *Thelazia sp.* Pour-on formulations of Ivermectin or Doramectin, delivered to achieve a dosage of 0.5 mg/ kg, were also proven highly effective.

Summary

Eye worm is a common surgical condition of bovine eye affecting cattle. The condition can be easily diagnosed on basis of clinical symptoms like lacrimation, photophobia, blepharospasm, corneal opacity and visible worm in anterior chamber of eye. Surgical treatment under regional/ general anesthesia is an effective treatment of the condition.

Though, medicinal therapy with Ivermectin is advocated, however relying on medicinal treatment for too long should be avoided. Ophthalmic ointments decreasing inflammation and chances of infection and/ or enhancing the healing can be used to reduce the chances of post-surgical complication.

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