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EYE WORM INFESTATION (THELAZIOSIS) IN A BUFFALO HEIFER: A CASE REPORT

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ABSTRACT

2 years old Murrah heifer was presented with a history of conjunctivitis, excessive lacrimation and frequent blinking of right eye. The case was already treated by a local Veterinarian with ocular antibiotic drops which failed to resolve the condition. Clinical examination of the affected eye revealed numerous worms showing vigorous wriggling movements in the right eye. Under local anaesthesia, the worms were removed from the eye manually using forceps and sent to the laboratory for examination which were confirmed to be *Thelazia rhodesii.* Post-operative care comprising of topical antibiotics and systemic drugs led to uneventful recovery.

Keywords: *Bubalus bubalis*, buffaloes, Thelaziosis, eye worm

INTRODUCTION

Thelaziosis in domestic cattle due to nematodes of the genus Thelazia have been reported from different parts of the world. Cattle is primarily affected by *T. rhodesii* (Asia, Africa, Europe), *T. gulosa* (Asia, North America, Europe) and *T. skrjabini* (Europe, North America (Djungu *et al*., 2014). *Thelazia rhodesii*, a common spirurid nematode of cattle, sheep, goats and buffaloes is found to inhabit under the nictitating membrane, conjunctival surface and in the lacrimal and nasolacrimal ducts. The clinical signs arising due to this infection are variable in nature with either presence of severe ophthalmic lesions or even no lesions in affected eyes (Chartier and Eboma, 1988; Patton and Marbury, 1978). Clinical signs arising due to theleziosis include conjunctivitis, lacrimation, conjunctival congestion, corneal opacity, keratitis, corneal ulceration and conjunctival swelling due to lacrimal duct obstruction (Otranto and

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Traversa, 2005). Bacterial or viral infection of eyes mostly arise due to mechanical damage to conjunctiva by serrated cuticle of *Thelazia* spp. (Ladouceur and Kazacos, 1981). Irritation in the eyes leads to inflammatory changes with clinical consequences which ultimately affect the health as well as production status of the animal. Scanning of literature revealed that there are no reports of Thelaziosis from domesticated livestock from Chhattisgarh. The present communication reports about the successful management and parasitological diagnosis of *Thelazia rhodesii* infection in a buffalo heifer.

MATERIALS AND METHODS

A two years old Murrah heifer was presented with the history of conjunctivitis, reduced vision, excessive lacrimation and excessive blinking of right eyelids. The general health condition of the animal was apparently normal. Furthermore, the owner reported an unfruitful response of the animal to the previous treatment regimen. Clinicophysiological parameters were also found to be within normal range. The animal was physically restrained for clinical examination which revealed presence of numerous threads like white, cylindrical worms wriggling vigorously near the medial canthus of the right eye (Figure 1). On the basis of history and clinical signs, the case was tentatively diagnosed as eye worm infection and the owner was suggested for surgical removal of worms.

RESULT AND DISCUSSION

The animal was gently casted on the ground and the limbs were properly tied with a rope and properly secured. The affected eye was irrigated with 0.9% normal saline solution to remove dirt and ocular secretions. The affected eye was sprayed with 2% lignocaine hydrochloride solution (local anaesthetic) to achieve desensitization for painless intervention. The eye worms were removed gently using thumb forceps followed by thorough irrigation of eye with 1% boric acid solution. Postoperatively, subcutaneous administration of ivermectin 0.2 mg/kg body weight was given once. Local instillation of ciprofloxacin eye drops 5 drops QID was advised for 5 days, and the animal recovered uneventfully.

A total of 12 worms removed from the right eye were collected in a sample collection bottle and preserved in 10% buffered formalin solution and sent to the laboratory for parasitological identification. The worms were cleared in alcohol and glycerine (Kruse and Pritchard, 1982). The morphological identification showed the surface cuticle to bear prominent transverse striations cutting across the body surface in a serrated pattern (Figure 2). Female worms were 12 to 17 mm long and 300 to 450 µm wide and the vulva was in the oesophageal region (Figure 3). The male worms were 10 to 12 mm long and 400 to 450 µm wide with the tail blunt and curved ventrally. Pre and post cloacal papillae were present and the spicules were found to be dissimilar and unequal (Figure 4). These morphological findings confirmed that the animal suffered from an ocular infection caused by *T. rhodesii* (Soulsby, 1982).

Thelezia rhodesii is considered to be a predisposing factor for other secondary invading organisms by creating mechanical damage due to presence of serrated cuticles (Ladouceur and Kazacos, 1981). The worm damages the layers of eye due to vigorous movement which causes irritation

Figure 1. Thread like worms near the medial canthus of the right eye.

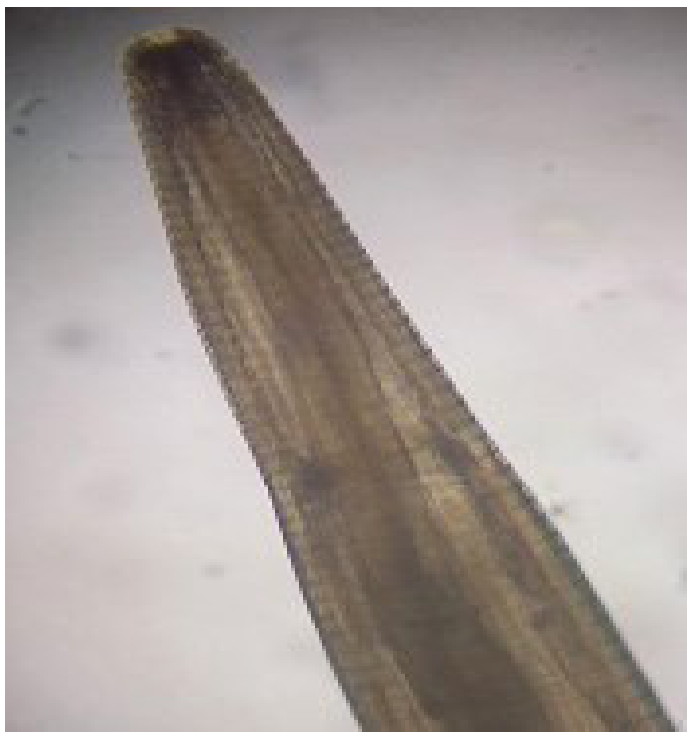

Figure 2. Anterior end of *Thelazia rhodesii* showing cuticle with transverse striations.

Figure 3. *Thelazia rhodesii* (female worm).

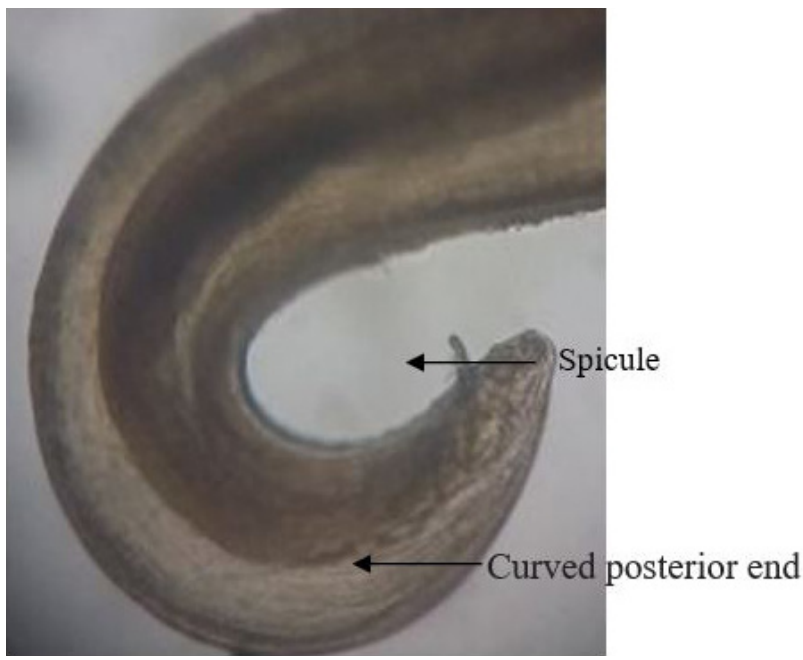

Figure 4. *Thelazia rhodesii* (male worm) with spicule.

leading to inflammation, epiphora and continuous blinking of affected eye. As per conversation with owner, the animal felt relieved after removal of worms and clinical signs in affected eye subsided by 4th post-operative day of surgery.

Many systemic anthelmintics have been found to be effective against eye worms in cattle and buffaloes. Use of piperazine salt solution topically along with oral levamisole has been reported to be effective against thelaziosis (Suresh *et al*., 1992). Kennedy and Phillips (1993) have reported that levamisole 5 mg/kg SC and ivermectin and doramectin, both at 0.2 mg/kg, SC or IM was very effective against thelaziosis. Pour-on formulations of ivermectin or doramectin, delivered to achieve a dosage of 0.5 mg/kg, were also proven to be highly effective (Deepthi and Yalavarth, 2012). Similarly, in our clinical situation Ivermectin proved to be effective against thelaziosis. It can be concluded that clinical cases of thelaziosis need immediate attention to prevent further or permanent damage to affected eye due to delayed diagnosis and treatment.

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