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Clinical management of ocular thelaziasis in a Jersey crossbred cow

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Abstract
Thelaziasis, caused by *Thelazia* spp., is an important ocular parasitic disease in cattle, often leading to conjunctivitis, epiphora, corneal opacity, and visual impairment. The present clinical investigation was carried out on a 5-year-old Jersey crossbred cow that was presented to the Veterinary Clinical Complex, Veterinary College, Salem, with a history of conjunctivitis, excessive lacrimation, corneal opacity, and frequent blinking of the left eye. The case had previously been treated by a local veterinarian with ocular antibiotic drops, which failed to resolve the condition. Clinical examination of the affected eye revealed the presence of numerous worms exhibiting vigorous wriggling movements. Under local anesthesia, the worms were manually removed using forceps, sent to the parasitology laboratory for examination, and identified as *Thelazia rhodesii*. Post-operative care, consisting of topical antibiotics and systemic medications, led to an uneventful recovery. This study highlights the clinical features, diagnostic approach, and effective therapeutic management of bovine ocular thelaziasis, emphasizing the need for timely intervention to prevent corneal damage and vision loss in affected cattle.

Keywords: *Thelazia rhodesii*, eye worm, intraocular eye worm, ocular thelaziosis

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) [7]. *Thelazia rhodesii*, a common spirurid nematode of cattle, sheep, goats and buffaloes is found to inhabit under nictitating membrane, conjunctival surface and lacrimal and nasolacrimal ducts, leading to symptoms *viz*., conjunctivitis, epiphora, photophobia, and in severe cases, corneal opacity and ulceration (Soulsby, 1982) [1].

Thelazia spp. is transmitted through non-biting house fly, *Musca autumnalis*, which act as an intermediate host. Infective third-stage larvae are deposited into the host's eye during feeding, where they mature into adult worms. The disease is more prevalent in areas with high fly populations, especially in warm and humid climates. Ocular thelaziosis not only causes discomfort and reduced productivity in cattle but also poses a potential risk of transmission to other livestock species and occasionally to humans (Otranto & Traversa, 2005) [8]. Early diagnosis and management are crucial to prevent complications and limits its transmission. Secondary bacterial or viral infection of eyes mostly arise due to mechanical damage of conjunctiva by serrated cuticle of *Thelazia* spp. (Ladouceur and Kazacos, 1981) [5].

Despite its impact, *Thelazia rhodesii* infections often remain under diagnosed in many endemic regions due to limited awareness and access to veterinary services. Understanding the biology, transmission dynamics, and clinical presentation, control measures of *T. rhodesii* is essential for effective management and prevention of thelaziosis in cattle herds. The present communication reports about the laboratory diagnosis and successful management of *Thelazia rhodesii* infection in a Jersey crossbred cow.

Materials and Methods

A five-year-old Jersey crossbred cow was presented at Veterinary Clinical Complex, Veterinary College, Salem with a history of conjunctivitis, corneal opacity, reduced vision, excessive lacrimation, and frequent blinking of left eyelid. The general health condition of cattle was appeared to be normal. Physiological parameters were also found to be within the normal range. The animal was physically restrained for clinical examination of eye, which revealed the presence of numerous thread-like, white, cylindrical worms wriggling vigorously near the medial canthus of the left eye (Figure 1). Based on the history and clinical signs, the case was tentatively diagnosed as an eye worm infection, and the owner was advised to proceed with surgical removal of the worms.

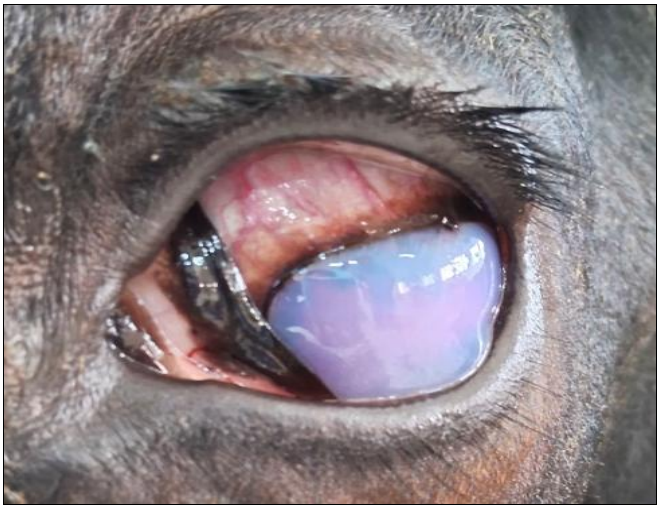

Fig 1: Thread like worms near the medial canthus of the left eye

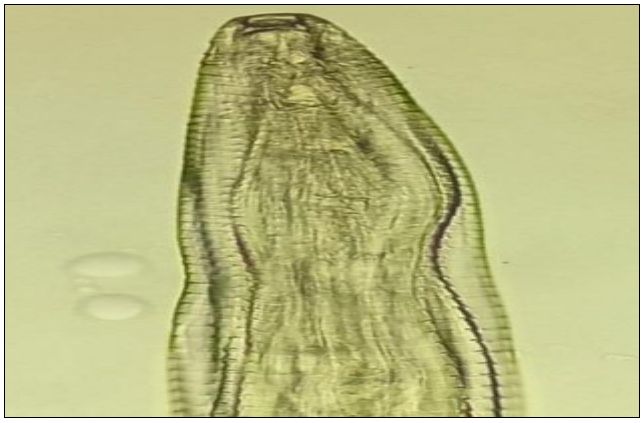

Fig 2: Anterior end of *Thelazia rhodesii* showing cuticle with transverse striations

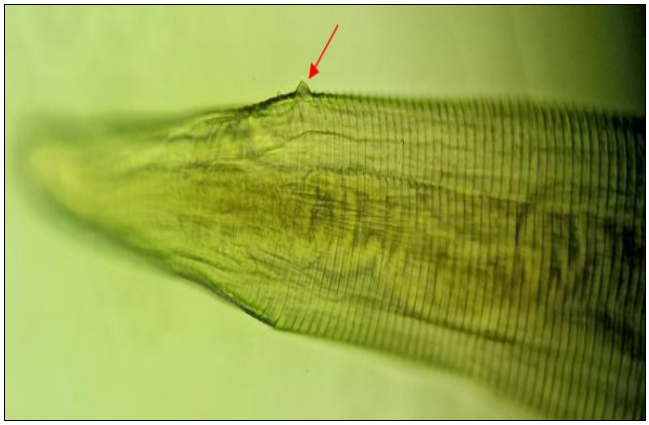

Fig 3: Female worm - vulva located in the oesophageal region

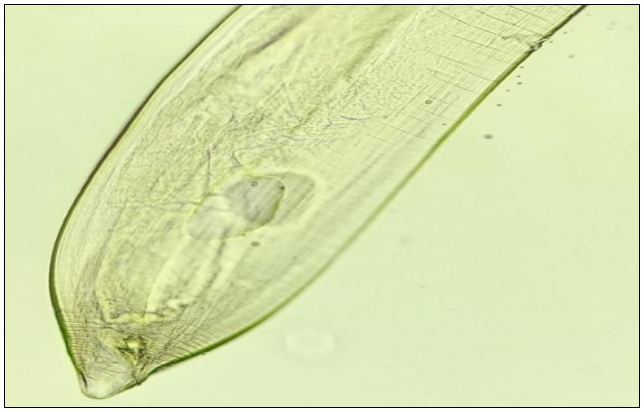

Fig 4: *Thelazia rhodesii* (Female) – Tail end

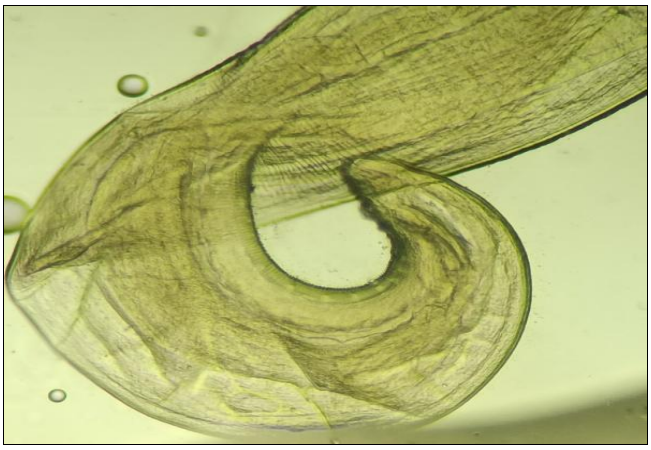

Fig 5: *Thelazia rhodesii* (male) – ventrally curved tail

Results

The animal was gently restrained and secured by casting it on the ground, with all four limbs tied tightly using a nylon fiber rope. The affected eye was irrigated with 0.9% normal saline solution to remove dirt and ocular secretions. Topical anaesthesia was achieved using 0.5% proparacaine hydrochloride solution to desensitize the eye for painless intervention. Eye worms were gently removed with thumb forceps, followed by thorough irrigation with a 1% boric acid solution.

Postoperative care included a single subcutaneous administration of ivermectin @ 0.2 mg/kg body weight. Additionally, the animal was treated with intramuscular injections of enrofloxacin (10 mL) and flunixin meglumine (6 mL). Topical ciprofloxacin eye drops (5 drops, four times daily [QID]) was prescribed for 5 days. The animal recovered without complications.

A total of six worms were extracted from left eye and were preserved in 10% buffered formalin and sent for parasitological identification. The specimens were cleared using ascending concentrations of alcohol (70%, 90%, and absolute) and subsequently treated with lacto phenol, as described by Kruse and Pritchard (1982) [2]. Morphological examination revealed transverse striations on the cuticle in a serrated pattern (Figure 2). Female worms measured 12–15 mm in length and 393.23 µm in width, with the vulva located in the oesophageal region (Figure 3) and having a blunt tail end (Figure 4). Male worms measured 10–12 mm in length and 127.69 µm in width, featuring a blunt, ventrally curved tail. Pre and post cloacal papillae were present, and the spicules were dissimilar and unequal (Figure 5). These features were consistent with *Thelazia rhodesii*, confirming the diagnosis (Soulsby, 1982) [1].

Discussion

The present case aligns with previous reports, where adult cows with ocular thelaziasis were successfully treated (Deepthi & Yalavarthi, 2012; Ahmed & Boro, 2019) [3, 4]. *T. rhodesii* is known to predispose the affected animals to secondary bacterial infections due to mechanical damage caused by its serrated cuticle (Ladouceur & Kazacos, 1981) [5]. Clinical manifestations may include conjunctivitis, corneal ulceration, perforation, and fibrosis (Deepthi & Yalavarthi, 2012) [3]. In this case, the owner reported a significant improvement on the 4th day of post operation following removal of worms and initiation of supportive therapy. Treatment consisted of standard procedures, including the application of topical anaesthesia and surgical removal of parasites (Deepthi & Yalavarthi, 2012) [3]. Consistent with literature, affected eyes were irrigated with normal saline, followed by instillation of Ciplox D eye drops for every 8 hours for 5 days. Concurrent ivermectin treatment at 0.2 mg/kg body weight has been shown to be effective in treating thelaziosis (Kennedy & Phillips, 1993; Deepthi & Yalavarthi, 2012; Ahmed & Boro, 2019) [3, 4, 6], and is effective in this case as well. Thelaziasis is of zoonotic concern and requires immediate attention upon diagnosis. Prompt treatment is essential to prevent permanent ocular damage and potential transmission to humans. Regular deworming is recommended as a preventive strategy. Based on this case, it can be concluded that early diagnosis and appropriate medical and surgical intervention are immensely needed for successful recovery of bovine ocular thelaziosis.

Conclusion

The present case highlights the successful clinical management of bovine ocular thelaziosis caused by *Thelazia rhodesii*. Prompt diagnosis, careful surgical removal of worms, and appropriate postoperative medical therapy including topical antibiotics and systemic ivermectin, led to a complete and uneventful recovery. Morphological identification confirmed the presence of *T. rhodesii*, which is known to cause significant ocular damage and predispose the eye to secondary bacterial infections. Due to its zoonotic potential and the possibility of permanent ocular damage if left untreated, early detection and treatment are critical. Regular deworming and implementation of preventive measures are recommended to reduce the incidence of thelaziosis and its associated complications in livestock.

References

1. Soulsby EJL. Textbook of Helminths, Arthropods and Protozoa of domesticated animals. Seventh edition. Baillière Tindall, 1982, 289–291.
2. Kruse GOW, Pritchard MH. The Collection and Preservation of Animal Parasites. University of Nebraska Press, 1982.
3. Deepthi B, Yalavarth Y. Eye worm infection in cattle – A case report. Veterinary World,2012:5(4):236–237.
4. Ahmed N, Boro PK. Clinical management of thelaziasis in bovines. Indian Journal of Veterinary Science,2019:91(3):82–84.
5. Ladouceur KP, Kazacos KR. *Thelazia* spp. infection in animals. Journal of Parasitology,1981:67(5):731–734.
6. Kennedy MJ, Phillips D. Efficacy of ivermectin in the treatment of bovine ocular thelaziasis. Canadian Veterinary Journal,1993:34:321–323.
7. Djungu DF, Retnani EB, Ridwan Y. *Thelazia* rhodesii infection on cattle in Kupang district. Tropical Biomedicine,2014:31(4):844–852.
8. Otranto D, Traversa D. *Thelazia* eyeworm an original endo- and ecto parasitic nematode. Trends in Parasitology,2005:21(1):1–4.