

CASE REPORT

UNUSUAL PRESENTATION OF THELAZIA CALLIPAEDA IN THE ANTERIOR CHAMBER OF A HUMAN EYE

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ABSTRACT

Introduction: We presented a 53 years old female with redness and pain of right eye for the past 3 months. Slit-lamp biomicroscopy revealed circumciliary congestion with a mobile, curved, white, rod-shaped parasite in the anterior chamber (AC) on the inferior surface of iris. For definitive diagnosis and management, we removed the parasite from the AC through limbal incision. Microbiological examination identified “*Thelazia callipaeda*”. *Thelazia callipaeda* is usually detected in the conjunctival sac and lacrimal sac. However, in this case from Lumbini Eye Institute and research centre, Western Nepal, the parasite was found in the anterior chamber of a human eye which is an unusual location.

Keywords: Anterior chamber, *Thelazia*, *Thelazia callipaeda*, Zoonoses.

INTRODUCTION

Thelaziasis is a zoonotic disease caused by nematods. Railliet and Henry first described the arthropod-borne zoonosis, *Thelazia callipaeda* in 1910.¹ It is mainly confined to South Asian countries and is also known as the “Oriental eye worm”.² *T. callipaeda* is prevalent in India, Thailand, China, Korea, Japan, Russia, Northern Europe and Southern Italy. Non-biting flies of Dorsophilidae family act as a vector for its transmission. These tear-seeking flies, *Phortica okadai* and *Phortica variegata*³ are the intermediate host and transmit disease as well. These parasites develop in intermediate host till the third stage larva is formed. This third stage larva is infective

for human beings. Flies plant these parasites in the eyes during their tear-meal. The parasite is usually found in the conjunctival sac, lacrimal sac or as a lump at lacrimal sac.¹ Here, we report a peculiar case of *T. callipaeda* detected in the anterior chamber of a human eye.

CASE REPORT

A 53 years old female, farmer and cattle breeder by occupation from Maharajgunj, Uttar Pradesh, India presented with chief complaint of redness of the right eye associated with eyeache for 3 months. On clinical examination, her uncorrected visual acuity in both eyes was 6/6 with normal intraocular pressure (IOP). Slit-lamp

biomicroscopy of right eye showed mild circumciliary congestion, cells in anterior chamber with a mobile curved white rod-shaped organism at the 6 O' clock position on the surface of iris [Figure 1]. Fundus examination was within normal limits. Left eye examination revealed no detectable abnormality. Complete blood count including red blood cell count, white blood cell count, and differential leukocyte count were within normal limits.

Under local anesthesia, side port incisions were made at 3 and 9 O'clock position. Viscoelastic assisted parasite removal was done. The white thread like live worm was about 7-10 mm long and sent for parasitological identification at microbiology department.

Morphologically, the parasite was creamy white in color and 7 mm in size, elongated cylindrical in shape. Microscopically, it had a buccal capsule without sucker, complete alimentary canal, unsegmented body cavity and smooth cuticle [Figure 2]. Based on these morphological features, the parasite was identified as *T. callipaeda*. The patient is under constant follow-up and the final visual acuity was 6/6 with quiet anterior chamber.

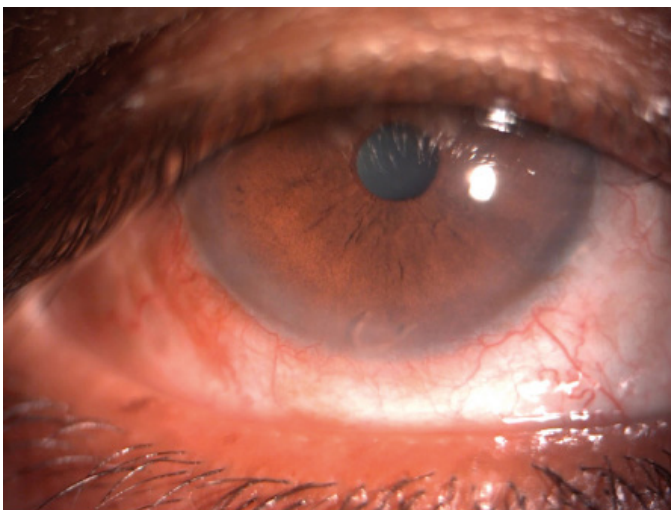


Fig. 1: Anterior segment photograph showing parasite in anterior chamber.

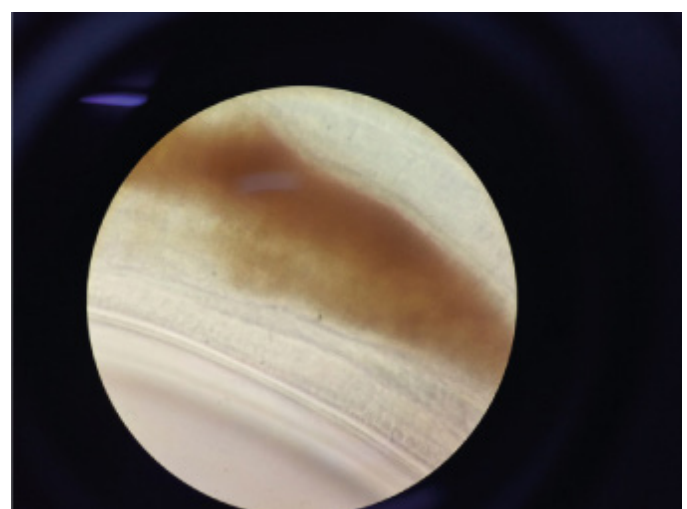
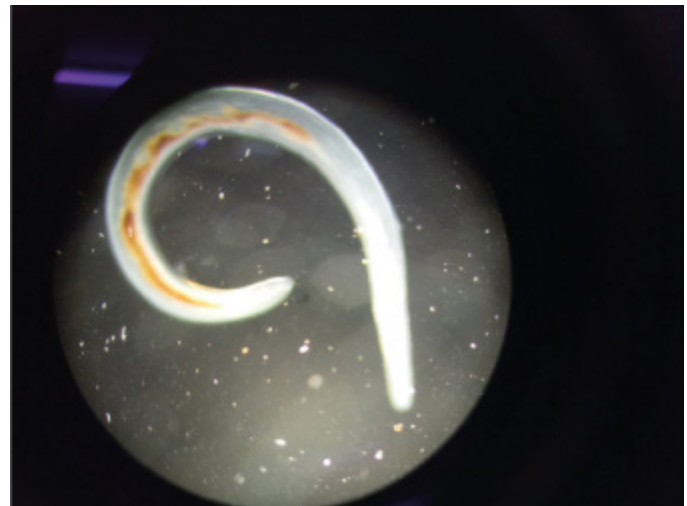
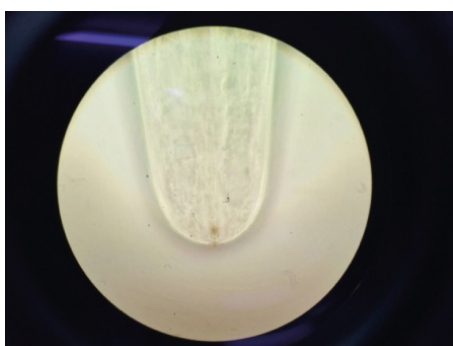


Figure 2: (a) Microscopic view of the parasite showing buccal opening (b) cuticular striation of an adult parasite and (c) middle body segment filled with eggs.

DISCUSSION

More than 250 cases of *T. callipaeda* have been reported in the literature, out of which maximum number of cases were from China, Japan, India, Russia, Thailand, and Korea.³ The patient was a farmer and a cattle breeder which is a predisposing factor for thelaziasis. The source of infection can be an infected animal (cows, buffaloes and dogs—definitive host) or human (accidental/unintended host) where the lacrimal secretion containing the first-stage larvae is harbored. The flies that are the intermediate host, feed on the contaminated lacrimal secretions ingesting these larvae thus developing into infective third-stage larvae which is infective to humans. These flies transmit these infective larvae to another vulnerable host as they feed on their lacrimal secretions that then develop into adult worms. Humans, which

when infected usually presents with signs and symptoms such as foreign body sensation, epiphora, follicular hypertrophy to severe keratitis, photophobia corneal opacities, ectropion, and secondary bacterial infections.^{4,5}

In the previously reported cases parasites were located in the conjunctival sac, lacrimal sac or as a mass at lacrimal sac region.¹

CONCLUSION

This case report is unique due to the location of parasite in the anterior chamber which might have gained access by burrowing through the coat of the eye.

ETHICAL CLEARANCE

This article has been reviewed and approved by the ethical committee of Lumbini eye institute and research centre. It adheres to the tenets of the declaration of Helsinki. Written informed consent has been provided by the patient and confidentiality of the patient identity is maintained as much as possible.

CONSENT FOR PUBLICATION

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

ACKNOWLEDGMENT

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REFERENCES

1. Das JK, Das D, Deshmukh S, Gupta K, Tomar SS, Borah E. Live encysted *Thelazia callipaeda* presenting as a lump adjacent to the right lacrimal sac in a 42-year-old female: A rare case report. *Indian J Ophthalmol* 2018; 66:12203. [DOI]
2. Leiper RT. Thelaziasis in man: A summary of recent reports on "circumocular filariasis" in Chinese literature, with a note on the zoological position of the parasite. *Br J Ophthalmol*. 1917; 1:546-9. [DOI]
3. Koyama Y, Ohira A, Kono T, Yoneyama T, Shiwaku K. Five cases of thelaziasis. *Br J Ophthalmol*. 2000; 84:441. [DOI]
4. Hong ST, Park YK, Lee SK, Yoo JH, Kim AS, Chung YH, et

al. Two human cases of *Thelazia callipaeda* infection in Korea. *Korean J Parasitol* 1995; 33:139-44. [DOI]

5. Shen J, Gasser RB, Chu D, Wang Z, Yuan X, Cantacessi C, et al. Human thelaziasis – A neglected parasitic disease of the eye. *J Parasitology* 2006; 92:872-6. [DOI]