

## Amblyomma Testudinarium Tick Infestation Masquerading As a Lid Mass in Children: A Rare Case Series

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**Abstract:** Authors report a series of 3 patients with an age range between 4 months to 14 years presented to opd, as a rapidly progressing lid mass with a short history of 3 days duration. Close examination revealed an insect attached to the lid margin. Microscopic examination of the specimen confirmed as a tick, of genus *Amblyomma Testudinarium*. Tick infestation of ocular tissues is rare, although a few cases of tick infestation of the eyelid have been reported. No amblyomma cases have been reported previously, hence we report a case series of *Amblyomma Testudinarium* of the eyelids in paediatric age group, from the southern part of India. To the best of our knowledge, one of our patients is the youngest reported from India and across the world. This article highlights keen examination, diagnostic challenge and the parasitic infestation in infants.

**Keyword:** *Amblyomma Testudinarium*, Tick infestation, eyelids.

### INTRODUCTION

Ticks are acarine ectoparasites of the genus *Ixodes* that are adapted to blood sucking. They obtain nutrition from other animals [1]. There are 2 classes of Tick which are responsible for the diseases in humans: Hard Ticks (family Ixodidae) and soft ticks (family Argasidae). Soft ticks take smaller, quicker blood meals at short intervals & transmit pathogens more quickly (within a minute of biting) than the hard ticks (hours or days).

However, hard Ticks are more common and more likely to transmit diseases [2]. They are the excellent vectors of several pathogens including bacteria, viruses, spirochetes, rickettsiae, protozoa & nematodes. Commonest tick borne diseases are Lyme borreliosis, Rocky mountain spotted fever, Crimean - Congo hemorrhagic fever, Kyasanur forest disease, tickborne encephalitis, Q fever, tularemia [1,3-7]. The first human case of tick bite was reported in 1982, since then approximately 40 cases have been reported in the literature.

### CASE REPORT

#### Case 1

An 11 year old male patient presented to our hospital with a swelling of lower eyelid margin in left eye, which progressively increased over 3 days, along with itching and mild pain. There was a history of exposure to dogs. On slit lamp examination, a small brown lesion on the lower eyelid margin near the medial canthus was seen. On careful slit lamp examination an insect body was confirmed, projecting his legs out of the body which were hidden behind the swollen body.

#### Case 2

In a 4 month old male child, mother gave a similar history of eye lid mass which was increasing in size since 3 days. In both the above cases the ticks fell off spontaneously within the hospital premises. It was found that blood was oozing from the attachment site, which was cleaned with normal saline and povidone iodine solution.

#### Case 3

A 14 year old girl, who presented with a similar history of lower lid growth which increased in size in 2 days with a history of trip to marshy island. The tick was removed with a blunt forceps. Visual acuity was 20/20 in both eyes. Anterior segment and fundus examination was normal in all the three cases. Prophylactically, Oral doxycycline 100mg bd for a week was given to the older patients and, topical chloramphenicol with steroid ointment was given in the night for one week.

Samples were sent later to the microbiology department, which confirmed the genus *Amblyomma Testudinarium* of the family Ixodus. None of our

patients during subsequent follow up neither showed any features suggestive of systemic tick borne diseases, nor did they present with any ocular inflammation, indicating the non-infective nature and hence were not subjected to any systemic investigations. Complete

removal should be done to prevent late complications like granuloma or inflammatory and infectious skin abscess. It is important to start antibiotic prophylaxis after the tick removal.



Fig-1a: Small brown lesion near the medial canthus in left eye

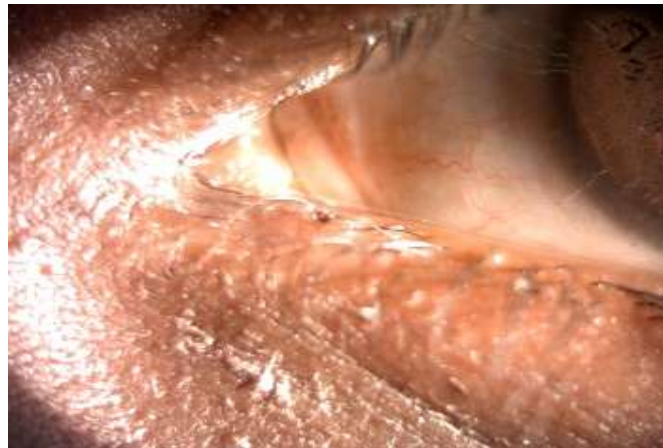


Fig-1b: After removal of the tick from the lid margin



Fig-2: Ventral aspect of the tick showing anus, y shaped groove, and 4 pair of legs

#### DISCUSSION

Ticks are the blood sucking ectoparasites of the family Ixodidae. The genus *Amblyomma* is one of the largest ticks among the hard ticks. *A. testudinarium*

is known to be a tropical tick and found mainly in the Indian Peninsula, South East Asia, including Myanmar, Thailand, Malaysia, Indonesia, the Philippines, Taiwan, and Japan. The frequent location involved by *A.*

*testudinarium* is known to be the axillary, anogenital, or inguinal region, which are rich in apocrine glands[8,9]. In case of *A. testudinarium*, the size of adult females varies from 5 to 20 mm depending on the stages of engorgement. Close examination under a microscope showed the capitulum of the anterior portion of the body, the scutum of the dorsal portion, and the spiracular plate, genital aperture, anus, and 4 pairs of legs on ventral portion. Ticks are removed as soon as possible, because the risk of disease transmission increases significantly after 24 hours of attachment.

Tick infestation of ocular tissues is rare and under reported. The transmission depends on the duration of the tick's presence in the host body and whether the tick is infected or not. Mechanical procedures and chemical agents have been recommended for the removal of ticks. Experimental evidence suggests that chemicals are ineffective in detaching the tick. Application of petroleum jelly, fingernail polish, 70% isopropyl alcohol or a hot match has failed to induce detachment of ticks [2]. Ticks should be removed as close to the skin as possible and pulled out firmly from the skin. Squeezing the tick during removal should be avoided, because this action may inject toxins into the skin and possible transmission of disease causing organisms [10, 11]. Holak *et al.* reported that Lyme borreliosis was found in one out of five patients after tick infestation of eyelid region [6]. Other manifestations include multiple cranial nerve palsies involving oculomotor, trochlear and the abducens nerves [12].

The commonest ocular manifestations are contact dermatitis, conjunctivitis, keratitis, uveitis and vasculitis. Ticks can be embedded in the Meibomian gland orifices & manifest as a mass at the lid margin [5]. Although significant ophthalmic complications typically appear in the later stages of the disease. Furthermore, blurred vision can develop secondary to papilloedema, retrobulbar neuritis, and optic atrophy. Optic nerve disease may be unilateral or bilateral. Thus, early recognition and treatment of the infection decreases the risk of significant vision loss.

## CONCLUSION

Tick infestation of eyelid is a rare occurrence. It should be completely removed as soon as possible. Mechanical removal with forceps may be a quick, easy, safe and effective treatment for ticks located on the eyelids. Patients should be informed about the possible signs and symptoms of the tick related diseases and close follow up is advised to rule out any untoward systemic manifestations. Tick infestation of the lid should be kept in mind with lid masses of atypical colour, texture and presentation and needless to mention about the detailed examination under appropriate magnification

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