Sheep tick in the eyelid

B K McLEOD

From the West of England Eye Infirmary, Exeter.

SUMMARY The uncomplicated removal of a tick, *Ixodes ricinus*, from the lid is described. Methods of removal of ticks, their natural history, and potential complications are discussed.

An 11-month-old girl presented to the Casualty Department of the hospital after being irritable during the previous night; she was found to have a swelling of the left lower lid the next morning. She lived on a farm with her parents and had been previously healthy, with normal development.

Examination revealed erythema of the left lower lid, at the centre of which was a dark raised lesion. The preauricular lymph nodes were not enlarged and the globe itself was normal, with no conjunctival injection. Closer examination of the lesion showed it to be the body of a tick, which was pulsating, and the head parts were buried in the skin of the lid (Fig. 1). The patient was wrapped in a blanket, the eye was anaesthetised with Ophthaine (proxymetacaine Hill with chlorbutol, benzalkonium chloride, and glycerol), and a chalazion clamp was placed over the body of the tick. A drop of isopropyl alcohol was applied to the body of the tick and the clamp slowly tightened. The tick was gradually extruded and no

obvious mouth parts were seen embedded in the skin (Fig. 2).

The patient made an uneventful recovery, the erythema subsided, and the skin lesion healed quickly.

The tick was later identified as a sheep tick of the species *Ixodes ricinus* (Fig. 3).

Discussion

A few cases of ticks in the eyelid have been reported^{1,2} and one case of a tick attached to the conjunctiva, which was removed with further problems.³

Ticks are blood-sucking arthropods of the family Ixodidae. The genus *Ixodes* has at least 16 species, of which *Ixodes ricinus* is the commonest in this country.⁴ Found especially in Scotland, Wales, and the West Country, it is a moderately large brown-black tick, its colour varying with its degree of engorgement with blood. Like other ticks it is made up of a body, a capitulum, and palpi or mouth parts. *Ixodes ricinus* is a three-host tick, and all stages of development may exist on the same host. The adult tick waits for a passing host on the tips of grasses, and, on its obtaining a host, the penetrant mouth parts easily pierce the skin assisted by salivary secretions which act as an anchor. Blood is required to aid reproductive and metabolic functions, and

Fig. 1 Patient with tick embedded in left lower eyelid.

Fig. 2 Tick removed intact. (Millimetre scale).

Fig. 3 Tick mounted on a 21G needle.

females feed on the host for seven to 13 days, then drop to the ground and lay several thousand eggs. Larvae feed for three to five days before moulting to the nymph form, which in turn imbibes host tissue and eventually becomes an adult. The most common hosts in this country are cows, sheep, and dogs.⁵ This patient had been in close proximity with the dogs on her parents' farm, which had been known to carry ticks in the past, and they were thought to be the most likely source of infection in this case.

An inflammatory reaction usually follows the attachment of the tick to its host. Saliva introduced by the palpi generates chemotactic factors which result in the influx of neutrophils. Host tissue destruction is aided by the neutrophil derived elastase and collagenase.⁶

Tick bites may facilitate the entry of a secondary infection, with formation of an abscess. Even in the absence of infection a bite can itself produce symptoms of malaise,⁷ and delayed reaction has been

reported which results in a granuloma progressing from days to months even though removal was considered complete.⁸ Incomplete removal results in the mouth parts left in the skin forming a tick nodule that may be confused with an epidermal cyst or naevus.⁹

Ixodes ricinus is the vector of the causal organisms responsible for livestock diseases such as louping ill, tick-borne fever, Redwater fever, and piroplasmosis but has not been implicated in the spread of disease in this country.⁴ In North America the dog tick is a known vector of *Francisella tularensis*, the causative organism of tularemia and *Rickettsia rickettsii*, the organism causing Rocky Mountain spotted fever, is also tick-borne.

Many techniques have been described for the removal intact of embedded ticks, including the use of sprays and the application of ether and iodine. Deodorised kerosene and camphorated phenol caused the voluntary detachment of 25% of treated Lone Star ticks.¹⁰ When the tick is embedded close to the eyelid margin, these techniques are not applicable and mechanical removal is recommended. A drop of isopropyl alcohol carefully applied stopped the tick pulsating and helped loosen its grip in this case.

References

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