

Eye problems in tick-borne diseases other than Lyme

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“Knowledge of systemic and ophthalmic manifestations combined with an understanding of the epidemiology of disease vectors is crucial for the diagnosis of tick-borne diseases,” she explains. While manifestations may be present with LD and Rocky Mountain spotted fever, ocular involvement is rare in other tick-borne diseases such as babesiosis, tick-borne relapsing fever, Powassan encephalitis, ehrlichiosis, anaplasmosis, and Colorado tick fever, Sathiamoorthi points out.

However, the true prevalence of ocular involvement due to tick-borne illnesses is unknown. Limitations with testing can make it difficult to identify patients. “It is crucial to know who is appropriate to test in order to avoid false positive results.” If an individual has been symptomatic for only a short period of time, they “may not have detectable serum IgM antibodies to the causative organism because it takes time for this immune response to develop.”

It can also be difficult to determine the cause of the ocular complaints if there is evidence of more than one tick-borne illness. “One case report [2] describes a patient with optic neuritis and orbital myositis who had serologic evidence of HME [Human Monocytic Ehrlichiosis], *Borrelia burgdorferi*, and *Babesia*,” cites Sathiamoorthi.

There are more than one species of ticks associated with ocular findings, as well. According to Sathiamoorthi, those include *Ornithodoros* genus, *Dermacentor variabilis*, *Amblyomma americanum*, *Ixodes scapularis*, and *Dermacentor andersonii*.

Sathiamoorthi advises doctors to “carefully generate a reasonable differential based on clues in the medical and social history regarding exposures and risks.”

“Patients who are most likely to have ophthalmic Lyme disease,” explains Sathiamoorthi, “are those with ocular manifestations commonly associated with Lyme disease (i.e. Bells palsy, cranial nerve palsies and keratitis); tick exposure in Lyme endemic regions; other signs/symptoms of late Lyme disease (i.e. inflammatory arthritis, carditis, acrodermatitis chronica atrophicans rash, encephalopathy and meningitis); and negative syphilis testing.”

Read more on eye problems in tick-borne diseases in ["A growing list of eye problems in Lyme disease."](#)

References:

1. Sathiamoorthi S, Smith WM. The eye and tick-borne disease in the United States. *Curr Opin*

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2. Pendse S, Bilyk JR, Lee MS. The ticking time bomb. Surv Ophthalmol. 2006;51(3):274-279.

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