

Recommendation for management of *Ixodes scapularis* bites draws mixed reactions

To the Editor:

I was disappointed with the review article "The Management of *Ixodes scapularis* Bites in the Upper Midwest" by Elizabeth Maloney, MD.¹ When controversy regarding a condition or treatment results in wide variation in diagnostic and therapeutic approaches, "guidelines" for diagnosis and treatment, developed and published by an authoritative body using the best science available, may be developed in an effort to limit variation and improve outcome. The Infectious Disease Society of America (IDSA) developed such guidelines, as the author correctly points out and effectively reviews and summarizes.

Amazingly, in spite of acknowledging that evidence supporting an "alternative recommendation" is limited, Dr Maloney proceeds to advocate such an alternative based on "deductive" reasoning. At the very least, I would expect some citation of evidence suggesting that the rate of identifiable disease associated with *Ixodes scapularis* bites is increased if not given prophylaxis. As limited as the research regarding tick-borne disease may be, and as limited as the IDSA Guidelines may be, I see no evidence offered by Dr Maloney suggesting the need or desirability of not following the IDSA guidelines.

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Reference

1. Maloney EL. The management of *Ixodes scapularis* bites in the upper Midwest. *WMJ*. 2011;110(2):78-81.

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To the Editor:

Doctor Maloney's authoritative article regarding tick-borne diseases in the April issue of *WMJ*¹ is timely coming at the beginning of heightened tick activity in the spring. Located in the central bird migratory corridor, the Midwest

is the site of diseases spread by ticks that travel with birds and find resident intermediate hosts. As Maloney points out, local education about tick-borne diseases is essential. Minimizing tick exposure is a primary preventive measure.

Lyme disease (LD) caused by the spirochete bacteria *Borrelia* is the most frequently encountered of these tick-borne disease. LD is easily diagnosed and effectively treated. A centrifugally expanding annular erythema migrans (EM) rash heralds the disease in 30% to 60% of infected people and should be immediately treated. If an individual is seronegative 6 weeks after tick exposure, LD is unlikely. The prophylactic single oral dose of doxycycline advocated by the IDSA guidelines to prevent LD from a tick bite² is dangerous and should be avoided. This recommendation was based on a flawed 2001 paper by the guideline chairman showing that a single dose blocked both seroconversion (87%) and EM. The single antibiotic dose blocked neither disease (flu-like symptoms) nor long-term signs of infection (<6 week follow-up made evaluation impossible).

The capacity of inadequate doses of antibiotics to block skin and antibody responses had been shown previously. In 1952, an inadequate dose of penicillin was shown to abrogate the skin manifestations of rabbit syphilis³ without stopping infection, and inadequate doses of antibiotics have been shown to block seroconversion in man also without curing the infection.^{4,5} More ominous, the guideline risks leaving treated people with persistent *Borrelia* infections for years and little anti-*Borrelia* antibodies to indicate the cause. Sixty percent to 80% of mice given the recommended oral regime at the time of infection developed persistent borreliosis.⁶

Physicians in the Midwest need to recognize tick-borne diseases and avoid treating tick bites prophylactically with the recommended

single oral doxycycline regimen. Twenty days of daily doxycycline in patients older than 8 effectively treats several diseases spread by ticks.²

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