

Letters to the Editor

Call for research on tick-prevention products

Tick season is upon us here in the Northeast, meaning that tick prevention is especially important. As I understand it, there are two general classes of tick prevention products available for dogs: those that repel ticks and those that kill ticks after they bite a host. Manufacturers of products that kill ticks after they bite a host provide evidence that transmission of *Borrelia burgdorferi* requires 24 to 72 hours of attachment and transmission of *Anaplasma phagocytophilum* may require 12 to 24 hours of attachment. Although these organisms cause two of the more commonly recognized tick-borne diseases in dogs, as veterinarians, we recognize that ticks can transmit other equally serious and medically important disease-causing organisms. Unfortunately, accepted diagnostic testing procedures for some of these other tick-borne diseases in dogs have not yet been developed.

There are > 15 known tick-borne diseases (including subtypes) that affect humans,^{1,2} and it seems reasonable to believe that many, if not all, of these diseases also affect dogs. This raises questions about the efficacy of tick-prevention products that work by killing ticks after they bite a host, as manufacturers of these products have failed to address

transmission times for the causes of the other eight to 10 tick-borne bacterial (eg, tularemia and Rocky Mountain spotted fever) and viral (eg, Colorado tick fever and Powassan) diseases that may occur after a tick bite.

In my opinion, repelling ticks before any bite or envenomation can occur is preferable to killing ticks after they bite, but I have not seen any discussion of this issue in the recent veterinary literature. I would like to ask product manufacturers, entomologists, veterinarians, and epidemiologists to weigh in with respect to this issue. There is a need for knowledge and direct scientific evidence of time of transmission after a tick bite for all the tick-borne diseases of concern in the United States. The lack of well-documented scientific evidence of the efficacy of orally administered tick

prevention products suggests to me that repellants are both more efficacious and preferable to orally administered products.

As a matter of transparency, I want to state that I have no financial or other ties to any company that manufactures or distributes flea and tick products. My concern is solely for the best protection of my patients and clarification of these issues.

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1. CDC. Tickborne diseases of the United States. 3rd ed. Available at: www.cdc.gov/lyme/resources/tickbornediseases.pdf. Accessed Apr 10, 2017.
2. NIH. Tickborne disease-specific research. Available at: www.niaid.nih.gov/diseases-conditions/tickborne-diseases-specific. Accessed Apr 10, 2017.

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