

Wet Noses & Wagging Tails

Our survey of the membership indicated that canine health news was one of the topics that most members would like to see added to the newsletter. As a biologist who once had veterinary ambitions, I maintain an active interest in health topics. Thus, Wet Noses and Wagging Tails (WN&WT) was born. In the coming months I will be developing informational articles on topics of regional importance and I have a couple of my vet buddies on the hook to review the columns that I develop. In addition, I am hoping to get contributions from other veterinary professionals.

I chose the current topic after living through a frightening weekend with a local Flat-Coat and his owner. After that incident, I became aware of how little most of us know about tick-borne diseases. I hope that you find the information useful. I would appreciate any and all feedback on this article, particularly if you find it to be too technical. I am also looking for suggestions for future WN&WT columns; please don't hesitate to ask: Tidalfats@compuserve.com

Jane

Yet Another Reason to Hate Ticks

By: Jane Boraczek

Imagine this: Your flattie is running around, frolicking like usual one day but by the next day is lethargic and perhaps even experiencing joint stiffness or pain. By the following day or so the dog is exhibiting lameness and/or malaise and perhaps even decreased appetite. The dog seems to be running a low-grade fever and may have minor joint swelling, but both symptoms are only sporadic. You have no reason to believe that the dog has physically injured the spine or any limbs to cause a partial paralysis. Now imagine that this happens while you are away from home and you're very worried. What could it be?

Chances are you can blame it on one or more tick-borne diseases. Folks who have had dogs for a while may be aware of the most common disease in our area (Lyme Disease) but are often unaware of the other potential problems, some of which can be lethal. Most tick-borne diseases exhibit similar acute symptoms (those exhibited shortly after infection) as detailed above. Acute symptoms can range from severe to minor (perhaps not even noticeable), depending on the individual dog and the concentration of the infection in the blood. Nearly all tick-borne diseases are a result of bacterial infection and most are very treatable if caught early. All tend to have acute and chronic phases and are more difficult to treat when chronic.

The bacterial tick-borne diseases in this area are of two basic types: rickettsial or spirochaete. In the Mid-Atlantic region there are three rickettsials and one spirochaete that cause canine diseases. The spirochaete is called *Borrelia burgdorferi* and is the cause of Lyme disease. Of the tick-borne bacterial infections, Lyme is perhaps the most common in our area and among the least likely to cause noticeable early symptoms in canines. It is often hard to diagnose and there is some evidence that it can be passed between animals through infected body fluids (much like AIDS). Because of the serious short- and long-term implications of Lyme Disease to canine and human health, it will very likely be the subject of a future WN&WT column.

The three rickettsial tick-borne diseases in this area of the country are: Rocky Mountain Spotted Fever (RMSF); Ehrlichiosis; and Thrombocytopenia. All have very similar symptoms, if any, in the acute (early) stages. The vast majority of cases of canine RMSF are mild and asymptomatic (without noticeable symptoms) and clinical symptoms may only appear in severe acute or chronic cases. Unlike the other locally occurring rickettsials, RMSF is known to cause swelling of the lower limbs, jaws, ears, and other extremities due to physical damage to the blood vessels caused by the bacteria.

Next to Lyme, Ehrlichiosis is perhaps the most common of the tick-borne bacterial diseases in this area and among the most deadly. This is because the bacteria parasitize white blood cells in the early stages of the disease and cause a drop in platelets. The dog can quickly become anemic and, if the infection becomes chronic, organ/glandular damage and failure is common. There is evidence that some dog breeds are more susceptible to Ehrlichiosis than others (based on research comparing German Shepherds to Beagles). The only cases that I know of were both flat-coats, which makes me wonder if flat-coats may be among the more susceptible breeds. Thrombocytopenia is similar to Ehrlichiosis except that the bacteria involved parasitize blood platelets only and the disease appears to be fairly rare this far north. Ehrlichiosis and Thrombocytopenia have been found occurring together, suggesting a similar carrier.

The aforementioned diseases are all carried by slightly different tick species. RMSF is carried by the American dog tick; Lyme is predominantly carried by the deer tick; Ehrlichiosis is associated with the brown dog tick in our region. The carrier for Thrombocytopenia is unknown, but is thought to also be the brown dog tick. The host animal is infected when contaminated saliva is passed to the host by the tick during a bite. In most cases the bacteria travel to and eventually settle in the lymph nodes and/or joints where they reproduce and spread via the blood.

One other paralytic condition, "Tick paralysis," is a result of toxins released into the bloodstream by ticks. This is fairly rare and usually only associated with severe tick infestations. It is treated somewhat differently than the bacterial diseases because it requires an antiserum. It is, however, reversible and the prognosis is generally good.

Please note: Any lethargy or paralysis is potentially serious and requires immediate veterinary attention. First, isolating the exact causal agents involves blood work. Although the treatments for these diseases are similar (tetracycline-type antibiotics), the dosages, durations, and preferred antibiotics vary somewhat, particularly for Lyme. In addition, several other causal factors, including more rare but more potentially lethal bacterial diseases (e.g., tetanus, botulism) can cause symptoms similar to those caused by tick-borne bacteria. Once these diseases become chronic, permanent physical damage to joints, blood vessels, glands, and other organs can occur. Cyclic reoccurrence of the disease has been noted in many chronic cases, particularly for Lyme and Ehrlichiosis.

The good news is that most of the tick-borne diseases are very treatable if caught early and most respond very well to antibiotics. Prevention of these diseases involves prevention of tick bites. Oral, systemic pesticides that kill fleas and ticks when they bite your dog will do nothing to protect your dog from infection. Topical pesticides/herbal preparations that repel ticks or kill them before they are able to bite your dog are the best prevention of tick-borne diseases.

References and suggested reading:

UC Davis School of Veterinary Medicine, 1995. *Book of Dogs*. Harper Collins Publishers, Inc., New York.

VetInfo: www.vetinfo.com/doginfo.html