Babesiosis in Dogs

By Dr. Karen Becker

Hi, this is Dr. Karen Becker. Babesiosis is a disease caused by the intracellular parasite Babesia. Dogs are most often exposed to the parasite through the bite of an infected tick, but transmission can also occur via blood transfer from a dog bite, from a blood transfusion, or from across the placenta from an infected mother dog to her litter of babies.

When babesiosis is a tick-borne infection, it's not unusual for an affected dog to have additional tick-borne infections including ehrlichiosis, Rocky Mountain spotted fever, and others. These infections can interact, making each one more severe. Dogs that spend a lot of times outdoors, especially in wooded areas, are certainly at increased risk for tick bites and for contracting the parasite, especially during the summer months when tick populations are highest.

Young dogs tend to suffer more serious symptoms. And greyhounds, pit bull terriers, and American Staffordshire terriers appear to be more susceptible than other breeds. Most canine cases of babesiosis occur in the southern part of the United States with pockets of disease also reported in Massachusetts, Pennsylvania, and New Jersey.

Symptoms

The incubation period between exposure to the parasite and symptoms is about two weeks. A babesia infection can have very mild to no symptoms, or it can be very, very severe. Babesia parasites replicate in the red blood cells. As the red blood cells are destroyed, hemoglobin is released into the dog's body, which can lead to jaundice as well as anemia, including immune-mediated hemolytic anemia.

In addition to destruction of the red blood cells and the anemia, the severe inflammation that can occur with babesiosis can be overwhelming and completely separate from the anemia. Blood clotting can be impaired and a variety of neurologic symptoms can also occur when the parasite invades the central nervous system. In severe cases, there can be lung damage and liver disease as well.

Severity of the symptoms depends on the species of parasite involved and on the ability of the dog's immune system to defend against it. Babesia strains reported in the U.S. appear to cause milder forms of the disease than when the disease is found elsewhere in the world and in other species.

Symptoms may come and go as the disease runs its course and can include lack of energy, lack of appetite, weakness, fever, pale gums and tongue, orange-or red-colored urine, discolored stool, weight loss, enlarged lymph nodes, an enlarged spleen, and jaundice, which is yellowing of the eyes and skin. A severe infection can affect multiple organ systems including the lungs, GI tract, kidneys, and the nervous system.

Diagnosis

Diagnosis of canine babesiosis can be actually really challenging. Your veterinarian will take a complete history to identify any possible incidents that might have exposed your dog to a parasitic infection. And in addition to a physical examination, he or she will also do a blood chemical profile, a complete blood count (CBC), and a urinalysis. Your vet might also use Wright's stain to check a blood sample for

microscopic examination. Immunofluorescence antibody (IFA) testing may also be performed. But it is often difficult to differentiate between species and subspecies of the parasite with an IFA test.

In addition, some infected dogs, especially young dogs, may have no detectable antibodies. PCR, which stands for polymerase chain reaction testing, for the presence of Babesia DNA in a biological sample can differentiate between subspecies and species and is actually more sensitive than other type of testing methods. While only certain laboratories run the PCR test, it's really the very best method for confirming a Babesia infection.

Treatment

A severely ill dog, especially one that requires fluid therapy or blood transfusions, should obviously be hospitalized. Unfortunately, the drugs used to treat babesiosis are not always effective and actually can have serious side effects. In asymptomatic dogs, drug treatment is not worth the risk. In addition, oftentimes drug therapy relieves the symptoms of the disease but doesn't actually clear the parasite from the dog's system. The dog can remain infected and the infection can flare up during periods of stress or immunologic imbalance.

I put chronically ill or infected dogs on several nutraceuticals and herbs, including beta-glucans, medicinal mushrooms – including shiitake, maitake, and reishi – curcumin, olive leaf, cat's claw, and if possible, hyperbaric oxygen chamber therapy.

If your dog spends time in areas that are known tick habitats, prevention is obviously the very best course of action. Check your dog daily for the presence of ticks and safely remove them. A tick must feed for two to three days to infect the dog with Babesia. The longer it stays attached to your dog, the higher the risk for parasite transmission.

If your dog isn't acting normally and she's has had exposure to ticks, ask your veterinarian about the potential for infection with a tick-borne disease. I really think that tick-borne diseases are really responsible for a lot more causes of illness than vets really are giving them credit for and could be a root cause of why your pet isn't feeling well.

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