

What is ehrlichiosis? A friend told me his dog got this from a tick bite and that his veterinarian told him it was a common problem in Oklahoma. Since I live near my friend and just got a dog, I would like to learn more about ehrlichiosis and how to protect my dog from getting this disease.

Ehrlichiosis is a disease frequently found in dogs residing in Oklahoma. It is most commonly caused by an organism named *Ehrlichia canis*, although other *Ehrlichia* species may also infect Oklahoma dogs.

*Ehrlichia canis* is usually transmitted to dogs by the bite of the brown dog tick (the most common dog tick), which carries the *Ehrlichia* organism. The organism eventually spreads to many locations in the body by white blood cells called monocytes and their derivatives.

There is no known sex or age predisposition. However, the German shepherd dog is believed to have increased susceptibility to the effects of *Ehrlichia* infection.

A wide variety of clinical signs can be seen in dogs infected with *Ehrlichia*. Some infected dogs may not show any obvious signs or display only mild signs of illness and may recover from infection on their own. Others may remain carriers for life or eventually develop the chronic phase of infection.

Clinical signs of illness that the owner may observe include lethargy, weight loss, lameness, nosebleeds or other evidence of hemorrhage, loss of balance, pale gums, and decreased appetite.

Owners may occasionally notice small red "spots or splotches" on the skin. These are very small areas of bleeding called petechiae. These usually result from a low platelet count (see below) which is common in ehrlichiosis.

The most common blood abnormality, which can alert your veterinarian that ehrlichiosis might exist in your dog, is the presence of a low platelet count. This is usually apparent on a routine complete blood count. A positive diagnosis of ehrlichiosis is then made by special blood tests (serology) which identify antibodies formed in response to the presence of the *Ehrlichia* organism.

Sometimes the organism itself may be identified in a blood smear, tissues, or fluids obtained from areas such as joints or the central nervous system. However, it is rare to find it this way.

Other diseases can produce similar signs; therefore, your veterinarian may suggest other tests to check for these diseases since there are few clinical signs that are unique to ehrlichiosis.

Although other drugs are sometimes used in the treatment of this disease, the antibiotic doxycycline (a type of tetracycline) is the most commonly used drug. It is usually given for 3 to 4 weeks.

In most cases, the prognosis with treatment is good although some infected dogs may relapse or become reinfected. The prognosis is worse if the disease has advanced to the chronic stage.

In the chronic stage, the bone marrow can become depleted of precursors for red blood cells, white blood cells, and platelets (cells which help blood clot), making recovery of the affected patient unlikely.

Prevention of ehrlichiosis includes good tick control. There are numerous products available from your veterinarian that are effective in repelling and/or keeping ticks from attaching to a dog.

Since a tick must attach to a dog to transmit the organism, tick control is very important. This is especially important since there is not a vaccine available for prevention of ehrlichiosis. Your veterinarian can also help protect your dog through regular check-ups and screening tests for Ehrlichia.

And finally, some species of Ehrlichia may cause disease in humans, but it is extremely rare for Ehrlichia canis to cause a problem in people. In general, dogs infected with Ehrlichia are not considered to be directly contagious to other dogs or humans but can act as a reservoir of infection for the tick vector. These ticks could then expose susceptible dogs to infection.

This column is provided by the faculty of the OSU Boren Veterinary Medical Teaching Hospital.

###