Ehrlicchiosis : a tick borne disease of dogs

Ehrlichiosis is an infectious disease of dogs. It first gained attention as a significant disease when military dogs returning from Vietnam during the 1970's were found to be infected, being particularly severe in German shepherds and Doberman pinchers.

The organism responsible for this disease is a rickettsial organism which are closely related to bacteria. *Ehrlichia canis* is the most
No. However, common species involved in ehrlichiosis in dogs, but occasionally, other strains of the organism will be found. Ehrlichiosis is transmitted to dogs through the bite of infected ticks; the brown dog tick, *Rhipicephalus sanguineus*, is the main reservoir of the organism in nature.

Signs of Ehrlichiosis can be divided into three stages: acute (early disease), sub clinical (no outward signs of disease), and chronic (long-standing infection). In areas where Ehrlichiosis is common, many dogs are seen during the acute phase. Infected dogs may have fever, swollen lymph nodes, respiratory distress, weight loss, bleeding disorders, and, occasionally, neurological disturbances. This stage may last two to four weeks.

The subclinical phase represents the stage of infection in which the organism is present but not causing any sign of disease. Sometimes a dog will pass through the acute phase without its owner being aware of the infection. These dogs may become subclinical and develop laboratory changes yet have no apparent signs of illness. During this stage, the dog may eliminate the organism, or it may progress to the next stage
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Clinical chronic ehrlichiosis occurs because the immune system is not effective in eliminating or controlling the organism. Dogs are likely to develop a host of problems: anemia, thrombocytopenia (decreased platelets, the blood clotting cells), bleeding episodes, lameness, eye problems (including hemorrhage into the eyes), neurological problems, and swollen limbs. If the bone marrow (site of blood cell production) fails, the dog becomes unable to manufacture any of the blood cells necessary to sustain life (red blood cells, white blood cells, and platelets).

It may be difficult to diagnose infected dogs during the very early stages of infection. The immune system usually takes two to three weeks to respond to the presence of the organism and develop antibodies. Since the presence of antibodies to *Ehrlichia canis* is the basis of the most common diagnostic test, such dogs may be infected yet test negative. Testing performed a few weeks later will reveal the presence of antibodies and make confirmation of the diagnosis possible. Detection of antibodies with the Cite Test @ EAAH, <u>coupled with appropriate clinical signs,</u> is the primary diagnostic criteria.

Treatment for uncomplicated cases is accomplished with the antibiotic Doxycycline given for 3 – 4 weeks. Chronic cases may require long term treatments, and relapses have been reported.
Dogs experiencing severe anemia or bleeding problems should be hospitalized and may require a blood transfusion.

Prevention involves avoidance of woods and high grass area where tick are prevalent, or using tick preventative(s). Currently we recommend Advantix® or Frontline® once every 3 – 4 weeks and / or a Preventic collar. In high tick infested areas, you may want to keep pets on year round tick prevention.

Humans can get canine ehrlichiosis. However, the disease is only transmitted to humans through the bites of ticks. Thus, although the disease is not transmitted directly from dogs to humans, infected dogs serve as sentinels to indicate the presence of infected ticks in the area and may be a source of the organism for infections in humans or other dogs.