# **Canine Anaplasmosis**

#### Introduction

Canine anaplasmosis, or infectious cyclic thrombocytopenia, is caused by one of two bacteria (Anaplasma phagocytophilum or Anaplasma platys) that infect the dog's platelets (blood clotting cells). Both bacteria have a world-wide distribution and are commonly seen in the upper Midwest. In the United States, disease outbreaks tend to be seasonal and coincide with the emergence of ticks in spring and early summer, and then again in fall. Most infections don't cause any illness or result in a flu-like disease that is self-limiting. Only a few dogs exposed to it become seriously ill.

### **Clinical Signs**

There are three phases of illness. The acute phase tends to be mild and occurs 1 to 3 weeks after the dog is bitten by an infected tick. The anaplasma bacteria begin multiplying within platelets, the immune system destroys the infected platelets, and the dog's platelet count decreases. Dogs may become lethargic, have a poor appetite, have muscle tenderness or be reluctant to move, and may develop enlarged lymph nodes. A fever may be present as well. This phase is rarely life threatening. Most dogs clear the organism on their own after phase one, but some will go on to the next phase.

The second phase is considered the "subclinical phase", during which the dog appears normal. The bacteria are typically hiding in the spleen during this time. As a result, an enlarged spleen is a common physical exam finding. Dogs can stay in the subclinical phase for months or even years. The only hint of infection is a somewhat reduced platelet count and/or elevated globulin level on a blood test.

The final phase is the chronic phase when the dog gets sick again. During this phase up to 60% of dogs infected will have abnormal bleeding due to reduced platelets. You might notice bruising, blood in the urine, a bloody nose, or other signs.

#### Diagnosis

Even in a dog with symptoms, abnormalities in laboratory tests can vary during the acute phase of the disease. If a dog tests positive on our in-house test we will do a complete blood count (CBC) to screen for decreased platelets or red blood cells. If the CBC is normal the dog is then monitored for symptoms of disease. Should symptoms occur, more testing is needed.

## Treatment

Oral administration of the antibiotic doxycycline every 12 hours for 14 to 28 days is effective. Depending on disease severity, supportive care such as blood transfusions may be needed. Affected pets are often significantly improved within 24-48 hours of beginning the medication. Although a cure may occur, elimination of the bacteria is not possible in some infections; dogs may remain positive when blood samples are tested.

## Transmission and prevention

Transmission is suspected to be via ticks, although blood transfusions provide an additional route of infection. Because there is no vaccine for anaplasmosis, prevention should be aimed at avoiding tick exposure and using topical preventatives such as Frontline and Preventic collars.

