



Anaplasma Exposure: Common Questions and Answers

My dog has a positive Anaplasma test? What does that mean and what should we do?

A positive antibody test as used in Idexx "4DX" test detects the presence of antibodies to the organism *Anaplasma phagocytophilum* and is consistent with your dog having been successfully transmitted this bacterial organism from a protracted Deer tick (*Ixodes* species) attachment. A positive test result does not correlate with illness rather it only indicates exposure to the organism. Many if not most dogs are believed to handle and eliminate the organism without complication. It is important that owners understand that there is no known benefit to medicating the asymptomatic dog for *Anaplasma* exposure. In addition to needless expense for owners, and antibiotics potentially having their own adverse side effects, unnecessary administration of antibiotics may lead to the development of antibiotic resistance which may further complicate therapy in the true "Anaplasma-ill" patient. Certainly a positive *Anaplasma* patient reveals tick exposure and veterinarians should be sure dog owners understand the possibility of comorbidity i.e. that other tick transmitted organisms *Borrelia* (Lyme), *Babesia*, *Ehrlichia*, *Bartonella*, Rocky Mountain Spotted Fever associated bacteria may also have infected their pets as many of the ticks that transmit *Anaplasma* also carry and transmit these organisms. Testing for other Rickettsial exposures especially in the ill patient is often indicated. In short, in the absence of any evidence of detectable disease and absent any known benefit antibiotic treatment is not indicated in the *Anaplasma* positive dog.

What are the symptoms of active Anaplasma disease?

Anaplasma infection most commonly presents with a marked lowering of platelet counts that leads to bleeding tendencies and when severe may be evidenced as small red dots or patches of various sizes that are either red in color or resemble bruising under the skin. Left untreated low platelet counts can lead to uncontrolled bleeding and death. Other common symptoms that are associated with *Anaplasma* infection are often indistinguishable from those associated with Lyme disease specifically: as a sudden onset of multiple or single limb arthritis/synovitis that is often accompanied with fever, malaise, inappetance, pain and swollen joints. More rare manifestations of *Anaplasma* infection include: myocarditis, (inflammation of the heart muscle; with possible associated cardiac arrhythmias), neuritis (inflammation within the nervous system) kidney disease, muscle pain (myositis), immune mediated anemia and gastrointestinal disturbances including vomiting and diarrhea with or without blood. Routine blood chemistry screening tests and complete blood counts to assess platelet and red blood cell indices are appropriate pursuits in the *Anaplasma* infected patients. Fortunately, unlike Lyme infected patients that are more inclined to have later developing disease, most *Anaplasma* infected patients that are going to become ill typically demonstrate their illness within a few days to weeks following infection. It is unknown what percentage of infected dogs will demonstrate illness, though it is believed that most will not become ill and will remain subclinical carriers with or without antibiotic treatment.

How is Anaplasmosis related disease treated?

The antibiotics Doxycycline or Tetracycline are considered the antibiotics of choice and both antibiotics tend to be effective against a number of the other tick borne Rickettsial infections. Antibiotics are typically administered for the duration of 30 days' time. The far more common arthritic form of disease typically demonstrates marked improvement within the first 48 - 72 hours of antibiotic administration. Should your dog develop one of the other less common forms of Anaplasma related illness other supportive treatment modalities may also be indicated.

If my asymptomatic dog tested positive for Anaplasma exposure but later developed "Anaplasma-like" symptoms should my pet then be treated with antibiotics?

There are many different diseases that may mimic the signs of Anaplasmosis in dogs. Should subsequent illness suggestive of Anaplasmosis disease befall your pet immediate veterinary evaluation is indicated. Pending the results of a veterinary professional's assessment and diagnosis antibiotics may be prescribed at that time.

Monitoring and Surveillance:

In accordance with the ACVIM's recommendations, serial monitoring of platelets/complete blood counts is strongly recommended in Anaplasmosis infected patients. Assessment of comorbidity especially in the ill patient is highly recommended. The more severe forms Anaplasmosis are best managed with early intervention to help avoid fatal outcomes.

Recrudescence (recurrent Anaplasmosis disease):

Recurrence or re-emergence of Anaplasmosis disease is considered rare but occurs at times in some patients. Scientists are unsure if this reflects repeat infection or re-emergence of symptoms from reactivation of latent forms of Anaplasmosis retained within the patient. Treatment is often the same as acute infection.