



Ehrlichia Exposure: Common Questions and Answers

My dog has a positive Ehrlichia 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 Ehrlichia spp. and is consistent with your dog having been successfully transmitted one or more of the different Ehrlichia bacterial organisms from a protracted tick attachment. *Ehrlichia canis* is transmitted by *Rhipicephalus sanguineus*, commonly known as the brown dog tick. *Ehrlichia ewingii* is transmitted by *Amblyomma americanum*, commonly known as the lone star tick. Both diseases are capable of causing a broad range of clinical signs. A positive test result does not correlate with illness rather it only indicates exposure to the organism. Most dogs are believed to handle and eliminate the organism without complication. It is important that owners understand that these organisms can cause fatal illness. Assessing and monitoring complete blood counts with an emphasis on platelet counts is vitally important for veterinarians to detect emerging illness before dogs experience the potentially severe and even fatal consequences of these infections. It is important that owners also understand that there is no known benefit to medicating the asymptomatic dog for Ehrlichia 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 "Ehrlichia-ill" patient. Certainly a positive Ehrlichia 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, Anaplasma, Bartonella, Rocky Mountain Spotted Fever associated bacteria may also have infected their pets as many of the ticks that transmit Ehrlichia 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 Ehrlichia positive dog.

What are the symptoms of active Ehrlichia disease?

Ehrlichia 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 Ehrlichia infection include: a sudden onset of multiple or single limb arthritis/synovitis that is often accompanied with fever, malaise, inappetence, pain and swollen joints. . More rare manifestations of Ehrlichia infection include: 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 and lastly, ocular abnormalities including retinal hemorrhage, retinal detachment, uveitis and potentially even glaucoma.

How is Ehrlichia 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 Ehrlichia related illness other supportive treatment modalities may also be indicated.

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

There are many different diseases that may mimic the signs of Ehrlichiosis in dogs. Should subsequent illness suggestive of Ehrlichia 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:

Serial monitoring of platelets/complete blood counts is recommended in Ehrlichia infected patients. Assessment of co-morbidity especially in the ill patient is highly recommended. The more severe forms Ehrlichia are best managed with early intervention to help avoid fatal outcomes. Routine blood chemistry screening tests and complete blood counts to assess platelet and red blood cell indices are appropriate pursuits in the Ehrlichia infected patients. 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. Overall prognosis for acutely infected dogs is good. Marked improvement is usually seen within 24-48 hours after initiation of appropriate antimicrobial therapy. If marked improvement is not seen, other diseases or other infectious agents should be considered. A 95% cure rate has been reported.² Some dogs with experimental infections have been spontaneously cured.⁹ Prognosis for dogs with chronic Ehrlichiosis is poorer.

Recrudescence (recurrent Ehrlichia disease):

Recurrence or re-emergence of Ehrlichiosis 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 Ehrlichiosis retained within the patient. Treatment is often the same as acute infection.