

Equine Anaplasmosis

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Anaplasmosis is an infectious disease affecting horses most commonly during tick season. A majority of cases are reported in California but it has also been identified all over the United States and worldwide including right here in New England. Knowledge of this disease and early recognition can greatly improve the prognosis for your horse.

Clinical Signs

This disease can affect horses of all ages and the clinical presentation can vary greatly depending on the duration of illness. Horses with Anaplasmosis can display a large variety of clinical signs ranging from a high fever (103-105 F), depression, decreased appetite, mild limb swelling, reluctance to move, icterus, and in rare cases incoordination/ataxia. The fevers are normally highest in the first few days of infection but can persist up to 12 days. Icterus, a build up of bilirubin, leads to a yellowing most commonly appreciated on the sclera of the eyes and oral mucous membranes. It is important that your veterinarian perform bloodwork while working up a horse with icterus as any disease process affecting the liver can also lead to icterus and should be ruled out in a case of Anaplasmosis.



Fig 1. Icteric Sclera & Mucous Membranes

Disease Process

Anaplasmosis is a tick borne disease caused by the bacterium *Anaplasma phagocytophilum*. This bacteria is carried by the deer tick, the same tick that carries and spreads Lyme disease. A horse becomes infected with the bacteria through the bite of a tick and it enters the blood stream where it lives within white blood cells. The organism acts to cause destruction of red blood cells, white blood cells and platelets and low levels of these cells are often seen on bloodwork when working up a horse with Anaplasmosis.

Testing

There are multiple ways to diagnose this disease with the most definitive being identification of the organism within the white blood cells on a blood smear. Even in cases of active infection, the bacteria may only infect a small number of cells so it is not always visualized. Titers can also be performed to assess immune response and confirm exposure to the bacteria. Lastly polymerase chain reaction (PCR) tests can be performed to recognize the DNA of the bacterium. Routine blood work may also be consistent with the disease process and show decreased red blood cell, white blood cell and platelet levels. In many cases it is difficult to obtain an immediate diagnosis so treatment is often initiated prior to confirming infection.

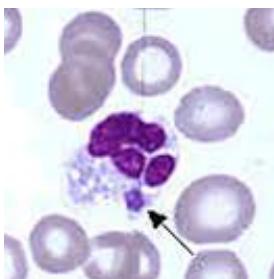


Fig 2. Morula within white blood cell

Treatment

Early recognition of the disease and treatment with appropriate antibiotics often leads to a good prognosis and full recovery. Administration of a tetracycline antibiotic can be done intravenously or orally and can include oxytetracycline, doxycycline or minocycline depending on the individual case. In most cases fever and other clinical signs will dramatically improve within 48 hours of initiating antibiotics. Some horses with a mild form of the disease may recover without treatment but can also relapse within a few weeks so treatment is highly recommended. Banamine or other anti-pyretics are often used to help control the fever.

More severe cases with neurologic signs often require supportive care and may benefit from corticosteroid treatment.

Prognosis

Prognosis is excellent if the disease is recognized early and treatment is initiated. In more severe cases where neurologic signs develop additional treatment may be needed and permanent injury may occur due to incoordination/ataxia. Fatality is rarely reported due to this disease unless secondary complications occur.

Prevention

There is currently no vaccine for this disease. Immunity is acquired after infection and normally lasts around two years following an active infection. The most important aspect of disease prevention is tick control by routinely checking your horses for ticks and removing them. Topical products are also available that can help against ticks.

If you have any questions or concerns regarding Equine Anaplasmosis do not hesitate to contact the doctors of New England Equine Medical & Surgical Center.

References:

Fig 1. Icteric Sclera: [https://s-media-cache-](https://s-media-cache-ak0.pinimg.com/originals/3b/f8/bf/3bf8bfdcfba519c86e25c93dba303247.jpg)

[ak0.pinimg.com/originals/3b/f8/bf/3bf8bfdcfba519c86e25c93dba303247.jpg](https://s-media-cache-ak0.pinimg.com/originals/3b/f8/bf/3bf8bfdcfba519c86e25c93dba303247.jpg)

Fig 1. Icteric MM: https://www.vetstream.com/images-equis/thumbs/21_165672-thumb.jpg

Fig 2. Bloodsmear: <https://anokaequineblog.files.wordpress.com/2014/03/morula.jpg>

Merck Vet Manual. Webpage. <http://www.merckvetmanual.com/mvm/generalized_conditions/equine_granulocytic ehrlichiosis/overview_of_equine_granulocytic ehrlichiosis.html>.

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