Learn the latest on diseases horses can get from ticks and why they continue to frustrate veterinarians and researchers

TICK-BORNE DISEASE: Tremendously Tricky

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If the sight of a tick makes your skin crawl—even if it’s not crawling on your skin—you’re not alone. That feeling is founded on more than a natural aversion to arachnids; diseases transmitted by ticks can pose a real health threat. With Centers for Disease Control and Prevention (CDC) maps outlining tick ranges throughout the majority of the United States, it’s important we brush up on our understanding of tick-borne diseases. In this article we’ll take a look at the three that pose the biggest risk to horses: Lyme disease, anaplasmosis, and piroplasmosis.
**Lyme Disease**

Lyme disease is a tick-borne infection caused by the bacterium *Borrelia burgdorferi*. It is transmitted to humans through the bite of an infected tick. Lyme disease can be challenging to diagnose, and early intervention is crucial for effective treatment.

**Diagnosis**

Lyme disease is diagnosed through a combination of symptoms, blood tests, and occasionally a skin biopsy. The Borrelia burgdorferi antibodies can be detected in the blood using specific serological tests such as the Enzyme-Linked Immunosorbent Assay (ELISA) or Western Blot. It is important to note that a negative initial test does not rule out Lyme disease, and a positive test should be confirmed with a Western Blot.

**Prevention**

Preventing Lyme disease involves using tick repellent, wearing long sleeves and pants, and doing a thorough check for ticks after being in tick-infested areas.

**Treatment**

Treatment for Lyme disease is primarily antibiotic, with the choice of antibiotic depending on the stage of infection. Early-stage Lyme disease can be treated with doxycycline or amoxicillin, while late-stage or treatment-resistant cases may require more aggressive therapy.

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**Tick-Borne Diseases**

Tick-borne diseases are a significant public health concern, affecting millions of people annually. These diseases are transmitted through the bite of infected ticks and can cause a variety of symptoms ranging from mild to severe. Early detection and prompt treatment are crucial for minimizing the impact of these infections.

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**The Western blot test**

The Western blot test is a comprehensive test for antibodies to *B. burgdorferi*. This test is used to confirm the presence of antibodies against *B. burgdorferi* in the blood. It involves separating antibodies from the total blood protein by electrophoresis and detecting them using specific antibodies labeled with a fluorescent or chemiluminescent substrate.

**When to use**

The Western blot test is recommended for patients with suspected Lyme disease who have negative or inconclusive results from other serological tests, or for patients with chronic or relapsing Lyme disease.

**Advantages**

- **Comprehensive** - The test can detect antibodies against multiple *B. burgdorferi* antigens.
- **Specific** - It can differentiate between active and past infections.

**Disadvantages**

- **Interpretation complexity** - The test results can be complex and require specialized knowledge to interpret.

**Conclusion**

The Western blot test is an essential tool in the diagnostic armamentarium for Lyme disease. It provides valuable information that helps in confirming the diagnosis and guiding treatment decisions.

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**Tick-borne diseases**

Tick-borne diseases are a group of infections that can affect humans and animals worldwide. They are transmitted by the bite of infected ticks and can cause a range of symptoms, from mild flu-like symptoms to severe neurological and cardiac issues. Early detection and treatment are crucial to prevent long-term complications.

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**References**

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If you find a tick on your horse, remove it immediately. Transmission of B. burgdorferi bacteria, for instance, occurs 36-48 hours after the tick has begun feeding.

Diagnosis One of the most challenging aspects of tick-borne disease diagnosis is that tick bites are often unnoticed. These organisms can remain latent in the body for years, re-emerging to cause disease months or even decades after the original bite. The clinical signs of tick-borne diseases may include fever, fatigue, joint pain, and neurological symptoms. A complete blood count (CBC) and serum chemistry panel can sometimes reveal abnormalities, but definitive diagnosis usually requires specific testing.

Treatment Treatment for tick-borne diseases is primarily focused on symptom management and supportive care. Antibiotics are sometimes prescribed to treat infections. However, early diagnosis and prompt treatment are crucial to prevent long-term complications.

Prevention To reduce the risk of tick-borne diseases, it is important to minimize exposure to tick-infested areas, use insect repellent, and perform regular tick checks on yourself and your horse.

References