

What is a Coggins test? (Equine Infectious Anemia)

Equine infectious anemia is a contagious virus that is potentially fatal. The immune system attacks and destroys the red blood cells that are affected by the virus, which leads to the anemia (decrease number of circulating red blood cells). The inflammation associated with the virus causes damage to vital organs, such as the bone marrow, kidneys, liver, and heart. In addition, secondary infections can develop due to the immunosuppression. Horses may die from the direct effects of the virus or from the secondary infections.

Equine infectious anemia virus is transmitted by blood via blood-sucking insects, such as horse flies, deer flies, and mosquitoes. The mouthparts of the insect contain the virus-infected blood and allow passage from an infected horse to other horses when bitten by the insect. Transmission also occurs through the placenta from an infected pregnant mare to the foal.

There are wide ranges of symptoms that are associated with equine infectious anemia. However, these signs are not specific, which makes it more difficult to diagnose. Signs include fever, depression, weakness, small hemorrhages on the mucus membranes, decreased platelet numbers, decreased red blood cell numbers, decreased appetite, increased respiratory rate, sweating, rapid weight loss, bleeding from the nostrils, pale or yellowish mucus membranes, irregular heartbeat, colic, abortion, and swelling of the limbs, chest, and abdomen.

There are three phases of equine infectious anemia. The first, the acute phase, is seen within 1-4 weeks after exposure to the virus. Any or none of the above mentioned clinical signs might be present. The virus is damaging the immune system and other organs, yet the acute onset prevents accurate diagnosis because the antibody levels may not have risen and the anemia may not be present yet. This is the most detrimental of the three phases. The second, the chronic phase, occurs in horses that survive the acute phase. This phase contains the expected signs of fever, depression, weight loss, anemia, and hemorrhages on mucus membranes. The signs will wax and wane, with reoccurrence most typically associated with periods of stress or corticosteroid administration. The final, unapparent phase occurs approximately one year after the chronic phase begins. This phase has less frequency and severity of clinical signs, yet the horse remains infected with the disease and is a source of infection for unaffected horses.

The only way to accurately diagnose equine infectious anemia is by detection of the antibodies in the blood. Two types of tests are used. The first is the agar gel immunodiffusion test (AGID), which most horse-owners know as the Coggins test. This test is very reliable and accurate. The second method is the competitive enzyme linked immunoadsorbent assay test (C-ELISA). This test has an increased chance of obtaining false-positive results, which makes it less accurate. However, the advantage is faster results than the AGID test.

Equine infectious anemia is a reportable disease. All positive cases must be reported to the state veterinarian and the federal Animal and Plant Health Inspection Service (APHIS). All horses must be tested annually. Each state has its own specific requirements. The state of Florida requires a negative Coggins for the movement of horses into and out of the state, within the state, traveling to public places (parks, horse shows, etc), and when changing ownership. It is also important to have a current Coggins for emergency situations, such as leaving the state in the case of a hurricane or other natural disaster. Without a current Coggins, it is illegal for a veterinarian to provide a health certificate, which then prevents traveling out of state. Furthermore, the USDA requires a negative Coggins test from horses imported from foreign countries.

There is no effective treatment, no vaccine, and no cure for equine infectious anemia. Therefore, prevention is the only solution for the disease. It is critical that horses are tested annually. If you suspect that a horse may have equine infectious anemia, it is important to report it to your veterinarian and he/she will report to the state veterinarian.