APHIS Factsheet

Veterinary Services

July 2008

Equine Piroplasmosis

Equine piroplasmosis (EP) is a tick-borne disease that affects horses, donkeys, mules, and zebras. The disease is transmitted via tick bites or through mechanical transmission by improperly disinfected needles or surgical instruments. EP is not endemic to the United States; native tick species do not currently carry the parasites that cause the disease.

Likewise, EP is not endemic to Australia, Canada, England, Iceland, Ireland, and Japan. The disease is, however, found in Africa, the Caribbean (including Puerto Rico), Central and South America, the Middle East, and Eastern and Southern Europe.

The increasingly international nature of the horse industry presents potential risks for EP's introduction from foreign countries. Many areas of the United States have climates suitable for foreign tick vectors or other ticks that could act as vectors. Additionally, because EP is not endemic, U.S. horses are highly susceptible to acute forms of the disease.

Protecting Equine Health

The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) protects the U.S. equine industry against the entry and spread of EP. APHIS' Veterinary Services (VS) program regulates equine importation and maintains tick control and surveillance programs.

Recently, the United States won the bid to hold the 2010 World Equestrian Games in Kentucky, making it the first time that the games will be held outside of Europe. For the event, VS officials will use specific safeguarding measures to safely allow horses with EP and horses from EP-endemic areas to enter the United States. VS officials will closely monitor EP-positive horses to prevent disease transmission and maintain the health of U.S. equine.

Transmission

EP is a tick-borne disease caused by the parasites *Babesia caballi* and *B. equi.* Ticks ingest blood from infected equine and then bite uninfected equine, spreading the disease through blood contact. Ticks carrying the parasites can be moved via hay, bedding, feed, and vegetation.

The only known natural vector of EP in the United States is the tropical horse tick, *Dermacentor nitens*, found in the southern United States. *B. caballi* and *B. equi* have been experimentally transmitted by three other U.S. tick species: *D. albipictus*, the winter tick; *D. variabilis*, the American dog tick; and *Boophilus microplus,* the southern or tropical cattle tick.

Because the disease spreads through contact with blood, EP can also be transmitted through contaminated needles and other skin-penetrating instruments. Intrauterine infection from mother to foal is also common.

Signs

An EP-infected horse can take 7 to 22 days to show signs of the disease. Cases of EP may be mild or acute. Mild forms of the disease cause equines to appear weak and show lack of appetite. More acute cases can occur where EP is not common and horses have not built up a resistance to the disease. Signs of the acute phase include fever, anemia, jaundiced mucous membranes, a swollen abdomen, and labored breathing. Other signs of EP include central nervous system disturbances, roughened-hair coats, constipation, colic, and hemoglobinuria—a condition which gives urine a red color. In some cases, death may occur. Some infected horses, however, may show few or no symptoms in the acute phase and may not experience any decrease in performance.

Horses that survive the acute phase of infection may continue to carry the parasites for long periods of time. These horses are potential sources of infection to other horses through tick-borne transmission or mechanical transfer by biting ticks, needles, or surgical instruments.

Diagnosis

Because the clinical signs for EP are non-specific and similar to many other diseases and conditions, it is difficult to diagnose; the disease, however, can be diagnosed with laboratory tests. If EP is suspected, State or Federal animal health officials should be notified before veterinarians collect any samples.

If an outbreak of EP occurs, APHIS must notify the World Organization for Animal Health (OIE) and indicate the steps it is taking to eradicate the disease. The OIE is the international organization that establishes standards for the safe international trade of animals and their products.

Treatment

Currently, there is no vaccine for EP. In endemic regions, symptoms of EP are treated with drugs.

While disinfectants and proper sanitation are often crucial to preventing the spread of animal disease,

these practices are not necessarily effective against the spread of EP and other tick-borne infections. Preventing the transfer of blood between animals through biting ticks or surgical instruments is crucial to preventing the transmission of EP.

History

In 1960, VS and the State of Florida began a disease investigation after backyard horses in south Florida became ill with progressive anemia, jaundice, and fever. The investigation determined that the illness was EP and that it was carried by tropical horse ticks. A State-Federal EP control program was initiated in 1962 in south Florida to eradicate the disease. The program used quarantine and drug treatment for infected equines, spray treatment for infected and exposed animals, and movement controls to prevent disease spread of EP. As a result of the eradication campaign, the United States was declared EP-free in 1988.

Additional Information

For more information about EP, contact:
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Current information on animal diseases is also available on the Internet at www.aphis.usda.gov/.