

Contagious Equine Metritis

Contagious equine metritis (CEM) is a venereally transmissible disease of horses caused by the bacterium *Taylorella equigenitalis* that historically has been considered exotic to the United States. Since the causal agent frequently causes subclinical infection in mares and an asymptomatic carrier state in stallions, the disease can be difficult to detect and control. There is no evidence that CEM affects people.

CEM is a serious equine disease because it is highly contagious. When coupled with the fact that mares can be bred only during a certain period of the year, CEM can have a devastating effect on equine reproductive efficiency. If CEM were to become established in the United States, the horse industry could suffer considerable economic losses.

History

The first case of CEM was diagnosed in the Newmarket area of England in 1977. Because of the nature of the disease, it is difficult to determine its origin or how widely it is distributed throughout the world.

For the most current information on CEM incidence around the world, visit the World Animal Health Information Database Interface at http://www.oie.int/wahis/public.php?page=disease_status_detail.

The first cases of CEM in the United States were diagnosed in March 1978 in central Kentucky and in April 1979 in Missouri. The disease was rapidly eradicated from both States. No CEM cases were detected again until 2006 when two post quarantine imported stallions in Wisconsin were found positive for the CEM bacteria. This outbreak was eradicated as well. In December 2008, new cases of CEM involving multiple States were diagnosed. As of March 2009, efforts to eradicate this outbreak continue.

Transmission

CEM is commonly transmitted directly during sexual intercourse between CEM-positive mares and stallions. Transmission may also occur indirectly by artificial insemination or contact with other objects, such as hands or instruments contaminated with the disease bacterium. Outbreaks usually occur at breeding facilities.

Infected carrier mares and stallions are the source of infection for acute outbreaks of the disease. During the breeding season, a carrier stallion may infect several mares before the disease is suspected or diagnosed.

Clinical Signs

There are three general degrees of infection in mares.

- **Acute:** Active inflammation of the uterus causes an obvious thick, milky, mucoid vulvar discharge 10 to 14 days after breeding.
- **Chronic:** Milder uterine inflammation causes less obvious vulvar discharge, and infection may be more difficult to eliminate.
- **Carrier:** The bacteria are established in the reproductive tract. The mare, though asymptomatic, is still infectious and can remain a carrier for several months or longer. Infected mares are likely to return to heat (estrus) after a shortened diestrus.

CEM rarely induces abortion or permanent infertility. Unlike mares, stallions do not show clinical signs of the disease. But stallions can be carriers of *T. equigenitalis* on their external genitalia for years.

Diagnosis

There are three different tests or procedures used to determine if a horse is infected. They are: bacterial culture, serum testing, and test breeding.

Bacterial culture is used to test both stallions and mares. Swabs are used to collect samples from the stallion or mare's genitalia. These swabs are sent to laboratories approved to test for *T. equigenitalis*. The samples must be shipped in special transport media under controlled temperature. Samples must be placed on the culture media at the lab within 48 hours of when the sample was collected. It takes 7 days to determine if a sample is positive or negative. Usually three sets of swabs for culturing will be collected during a 7-day period.

Serology testing (blood test) is also used to assist in diagnosing CEM. The test used is a complement fixation test; however, it is limited to mares that have produced detectable antibodies to *T. equigenitalis*. Stallions do not develop systemic detectable antibodies.

A third testing method called test breeding involves breeding a stallion to two pretested negative mares. Adding a third test helps detect the organism in stallions. The test mares are then tested by bacterial

culture and serology test to see if they have become infected. It takes 35 days after the test breeding to declare the stallion negative. Test breeding will sometimes detect a *T. equigenitalis* infection that earlier bacterial culturing of the stallion did not detect. To maximize the chances of detecting CEM infection, stallions are required to be tested by both bacterial culture and test breeding. Mares are tested with the complement fixation serology test and culturing.

Treatment

Both mares and stallions can be successfully treated with topical and systemic antibiotics. However, mares cannot be successfully treated until the CEM bacteria has cleared from the uterus, a process that may take several months. Fertility of treated mares is not impaired after recovery from CEM.

Prevention and Control

Using strict biosecurity measures in day-to-day procedures, even when disease is not suspected, is very important in preventing the introduction and spread of CEM and many other infectious diseases. Horse owners should contact their State veterinarian if they suspect one of their horses may have *T. equigenitalis*, or if they have questions or concerns.

- Quarantine and test all imported fillies, mares, and stallions of foreign origin, and mares and stallions not previously bred in the United States that are older than 731 days (2 years).
- Quarantine all suspects until all test results are negative.
- Avoid breeding any CEM-positive horses until they have been successfully treated and certified CEM negative.
- Maintain strict hygiene when handling mares and stallions (e.g., use disposable gloves, change gloves between horses, and thoroughly clean and disinfect instruments).

Report Suspicious Cases

Veterinarians and equine owners who suspect that an animal may have CEM or any other foreign animal disease should immediately contact State or Federal animal health authorities.

Additional Information

For more information, contact:

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Veterinary Services
National Center for Animal Health Emergency
Management
4700 River Road, Unit 41
Riverdale, MD 20737
Telephone: (301) 734-8073
Fax: (301) 734-7817

Current information on animal diseases and suspected outbreaks is also available on the Internet; visit the APHIS Web site at <http://www.aphis.usda.gov/vs>.

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