

Vesicular Stomatitis in Horses

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Vesicular stomatitis causes blister-like lesions that when broken, cause painful ulcers. People and other mammals can contract this contagious disease from horses.

Vesicular stomatitis is a viral disease which affects horses, cattle, swine and occasionally sheep and goats. Additionally, numerous species of wild animals including deer, bobcats, goats, raccoons and monkeys are susceptible. Not only can the virus causing vesicular stomatitis affect a wide variety of animals, handlers of infected animals also can become infected with vesicular stomatitis.

Vesicular stomatitis most commonly occurs during warm months in the Southwest region of the United States, particularly along river ways and in valleys. Recent outbreaks in the Southwest have occurred from May to December in 1995, 1998 and 2005. Livestock owners and veterinarians must be on the alert for animals displaying signs characteristic of this disease.

Blister-like lesions may form in the mouth and on the dental pad, tongue, lips, nostrils, hooves and teats of infected animals. These blisters swell and break, leaving raw tissue so painful that infected animals go off feed and water, suffer mild to severe weight loss, and may show signs of lameness.

Aside from the economic loss to livestock producers, vesicular stomatitis is significant because the outward signs are similar to (but less severe than) those of foot-and-mouth disease. Foot-and-mouth disease is a devastating foreign disease of cloven-hooved animals that has not occurred in the United States since 1929. The only method to differentiate between these diseases is through laboratory tests.

Because of the similarity of vesicular stomatitis to foot-and-mouth disease, the potential negative impact on livestock production, and its public health implications, the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) works to keep this disease from becoming established in the United States. Vesicular stomatitis is recognized internationally as a reportable disease and exports of livestock, horses, and animal products from the United States would be restricted if vesicular stomatitis were allowed to spread in the United States.

Clinical Signs

The incubation period for vesicular stomatitis ranges from two to eight days. The most common early signs are excessive salivation and drooling. Increased body temperature may also occur either immediately prior to the development of lesions, or at the same time. Close examination of the mouth reveals blister-like lesions on the gums and lips; lesions may also occur on the nostrils, teats and coronary band. In horses, the lesions generally occur on the upper surface of the tongue. Whereas in cattle, lesions usually appear on the hard palate, lips and gums, sometimes extending to the muzzle and nostrils.

When the blisters break open, painful ulcers develop that cause horses to drool and froth from the mouth. This sign can be mistaken for biting problems, dental abnormalities or colic. Infected animals generally go off feed and suffer mild to significant weight loss. Additionally, mild lameness may occur if lesions develop along the coronary band. Some cases of severe lameness have been reported when hooves were sloughed.

The number of affected animals on a premise will vary. Five percent to 10 percent of horses within an infected herd typically show clinical signs. If there are no complications, such as secondary infections, affected horses may recover as quickly as two weeks. However, in more severe cases, ulcers can take up to two months to heal and horses continue to be contagious while the lesions continue to heal. Fortunately, vesicular stomatitis generally does not cause death.

Transmission

Vesicular stomatitis has been confirmed only in North and South America. The disease is endemic in warmer regions of the Western Hemisphere, but outbreaks occasionally occur in temperate geographic areas.

How vesicular stomatitis spreads is not fully understood; insect vectors, mechanical transmission, and movement of animals all are thought to play a role in the spread of this disease. One type of vesicular stomatitis is known to be spread by phlebotomine sandflies. Once introduced onto a premise, the disease apparently moves from animal to animal by contact or exposure to saliva or fluid from ruptured blisters.

Humans can contract vesicular stomatitis when handling affected animals if proper biosafety methods are not practiced. Prevalence of this disease in humans may be underreported, as it may often go undetected or be misdiagnosed. In people, vesicular stomatitis causes acute influenza-like illness with symptoms such as fever, muscle aches, headache and malaise. People who handle potentially infected horses should wear gloves and should not allow saliva and blister fluids to come in contact with open wounds or mucous membranes such as the eyes or mouth. Producers and other individuals who handle horses and experience symptoms should contact their physician immediately.

Diagnosis and Treatment

Laboratory blood tests can be used to diagnose vesicular stomatitis. Additionally, the virus can be isolated from epithelium around vesicles or from vesicular fluid. Producers need to differentiate between vesicles in the mouth caused by vesicular stomatitis and vesicles caused by photosensitization or trauma due to rough feed. Other vesicular viral diseases such as foot-and-mouth disease do not occur in horses.

There is no specific treatment or cure for vesicular stomatitis other than supportive care. Owners can protect their animals from this disease by avoiding congregation of animals in the vicinity where vesicular stomatitis has occurred. Mild antiseptic mouthwashes may provide comfort and more rapid recovery to an affected horse. Good sanitation and quarantine practices on affected farms usually contain the infection until it dies out of its own accord.

When a definite diagnosis is made on a farm, the following procedures are recommended:

- Separate animals with lesions from healthy animals, preferably by stabling.
 - Animals on pasture apparently are affected more frequently with this disease.
- As a precautionary procedure, do not move animals from a premises affected by vesicular stomatitis for at least 30 days after the last lesion has healed (unless they are going direct to slaughter).
- Implement on-farm insect control programs that include:
 - Elimination or reduction of insect breeding areas
 - Use of insecticide sprays or insecticide-treated ear tags on animals.
- Use protective measures when handling affected animals to avoid human exposure to this disease.

Economic Impact of Vesicular Stomatitis

The majority of horse owners with infected animals will suffer economic losses in caring for sick animals. In an effort to assess the financial impact vesicular stomatitis can have on horse owners, New Mexico horse owners were surveyed following the 1995 outbreak in the southwestern United States. Costs, including labor, veterinary fees and medicine, were estimated to be \$115 for each infected horse.

Restricting horse movement and refraining from participation in events should prevent spread of vesicular stomatitis, but lead to additional economic loss. When a horse tests positive for the disease, generally it is not allowed to move between states or countries. Infected horses also are not allowed to compete in most shows, rodeos, fairs and other events. When such events are cancelled due to an outbreak, owners of healthy horses suffer as well. Health certificates within 24 to 48 hours of transport may be required at some facilities or to transport horses across state lines. Additionally, certain events may require each horse to be examined for the presence of lesions prior to being allowed on the grounds. Horse owners should check to determine restrictions prior to the movement of horses.

Report Suspicious Cases

Veterinarians and livestock owners who suspect an animal may have vesicular stomatitis or any other vesicular disease should immediately contact State or Federal animal health authorities. To report suspect cases or answers to questions regarding vesicular stomatitis in Nebraska, contact the Nebraska State Veterinarian at (402) 471-2351.

For more information, contact USDA, APHIS, Veterinary Services Emergency Programs, 4700 River Road, Riverdale, MD 20737, (301) 734-8073. (www.aphis.usda.gov/vs/ceah/ncahs/nsu/)

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