

EQUINE VIRAL RHINOPNEUMONITIS

By Tom Hutchins, DVM, DABVP

Serious outbreaks of upper respiratory tract disease can ruin a racing season, a show season and foaling season. Administrators of boarding and training facilities have become increasingly authoritative about vaccination requirements. Most of these outbreaks are caused by equine viral influenza. But when equine viral rhinopneumonitis is implicated, it can be devastating for the horseman and the facility itself. The problem is greatest where horses are housed semi-permanently in accommodations provided at the facility. In other circumstances where horses are in respiratory contact only on the day of training or competition, the outbreaks are much less serious.

The most serious outbreaks in horses occur in the winter and spring with equine viral rhinopneumonitis being the most common in winter and influenza causing most of the outbreaks in the summer. Two and three-year-old horses are the most frequent sufferers, as most four years of age or older appear to have developed resistance to the infections. In a horse population it is the average age and the mix of ages which largely determine its herd resistance, and when 30-40% of that population has not been previously exposed to infection then major outbreaks are likely. All of the equine respiratory viruses cause persistent reduction in the tracheal clearance rate of foreign material for at least 30 days. Clinical signs disappear much earlier than this and the recovery period should be extended to ensure that horses are not put back into work too early.

There are four common types of equine herpes virus (EHV).

- EHV-1 has a few subtypes. Subtype 1 is associated with abortion and subtype 2 is associated with respiratory disease, but also capable of abortion. EHV-1 is the most potent equine abortifacient.
- EHV-2 causes long-term infection in foals, some which develop clinical signs of purulent nasal discharge, fever and swollen lymph nodes in a syndrome that lasts about a week. It is rare for animals to die from this type.
- EHV-3 is a venereal disease manifested by lesions that start out flat, then pustular, then eventually ulcerative in the vaginal mucosa which is generally reddened. The ulcers may be as large as 2 centimeters in diameter and 0.5 centimeters deep and are surrounded by a zone of redness and inflammation.
- EHV-4 causes outbreaks of respiratory disease in any kind of horse population, at any time of the year.

The disease is highly infectious, and transmission probably occurs by the inhalation of infected droplets or by the ingestion of material contaminated by nasal discharges or

aborted fetuses. Immediate infection can occur with the virus surviving for 14-45 days outside the animal. The duration of infectivity of animals is unknown, but it is probably some weeks and possibly longer because carrier animals seem to be necessary for persistence of the disease from year to year.

The disease is a mild inflammation of the respiratory tract of horses, characterized by coughing and nasal discharge. The importance of the disease is the large numbers of animals that can be affected in the outbreak, especially when horses are congregated in colder months. Fatalities in uncomplicated cases are unlikely, but affected animals are unable to work, racehorses have to break their training, and 'storms' of abortions occur in bands of brood mares, with as many as 80-85% of mares at risk either aborting or losing their foals during their first day of life.

Nervous system involvement can occur in an outbreak in which abortion and respiratory problems also are present. Outbreaks may be massive. It is most common in horses that become re-infected with the virus. The standard killed vaccine is not preventative but aids in the horse developing a certain level of immunity. There are modified-live vaccines available designed to aid in the prevention of abortion. The vaccine is designed to be administered at 5, 7, and 9 months of gestation.

The ataxia and paresis lasts for up to several weeks and is followed by recumbency. Some die after an illness of only 2 days. In a majority of cases, the patient has to be euthanized within a month. There have been reports of 50-60% of horses exposed to the respiratory form of the disease developed nervous signs. The disease can be reproduced experimentally and is characterized by an incubation period of 7 days.

As an upper respiratory tract infection it must be differentiated from strangles, with nasal discharge and swollen lymph nodes, from the more severe equine viral arteritis and equine in-

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fluenza. It may also be confused with purpura hemorrhagica in which subcutaneous swelling of the legs is severe.

There is no specific treatment that is likely to modify the action of the virus but it is usual to administer antibiotics to horses with equine viral rhinopneumonitis to prevent and treat infection with secondary bacterial invaders. The treatment should be continued over 4-6 days. Warm, draft-free, isolated confinement should be provided if possible, with laxative foods and a constant supply of fresh drinking water.

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ABOUT: Tom Hutchins DVM

Silverado Equine Performance, LLC was established in 2013. With 15 years experience in the performance horse industry, Dr. Hutchins' goal was to create a practice that fulfilled a special niche: provide the absolute best care available for each horse with all necessary diagnostic tools available for your equine athlete and be able to bring it to you in the comfort of your farm or stable. The scope of the practice is primarily lameness and sports medicine although other services are available upon request. This allows Dr. Hutchins to stay on the leading edge of performance medicine. It takes a team to keep a finely tuned athlete going, so when necessary, recommendations and referrals to the most qualified professionals for a given condition are made.



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