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YOUR GUIDE TO EQUINE HEALTH CARE

Equine Influenza

Influenza is a highly contagious infection of the upper respiratory tract of horses

Overview

Equine influenza is a highly contagious infection of the upper respiratory tract caused by strains of the influenza virus type A. The two most common types of influenza A virus that infect horses are subtype A1 (H7N7) and subtype A2 (H3N8). Currently, and for nearly the past 30 years, only the A2 (H3N8) subtype has been in circulation.

Like other respiratory diseases of horses, influenza is a source of major economic loss to the equine industry due to lost training days and veterinary costs. Further, influenza A infections often occur as outbreaks that rapidly spread through susceptible horse populations.

Horses become infected by inhaling the influenza A virus that is shed by infected, coughing horses or via contaminated equipment such as feed buckets, grooming aids, etc., that were contaminated by an infected horse.

The virus has a short incubation period (only one to three days) and replicates in the epithelial (skin) cells that line the entire respiratory tract.

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Clinical Signs of Influenza

Classic clinical signs associated with equine influenza include a sudden onset of a high fever, coughing, a serous (clear, runny) nasal discharge, and sometimes mild swelling of the intermandibular lymph nodes. Rarely, edema (swelling) of the distal limbs and trunk in horses with influenza is noted, which is referred to as epizootic cellulitis.

In some horses a secondary bacterial infection can develop, resulting in pneumonia. The nasal discharge in these horses usually changes from serous to mucoid (green, yellow, and thick), signifying a secondary bacterial pneumonia on the heels of the influenza, and this can be fatal if left untreated.

It is important to remember that the severity of clinical signs is highly variable depending on the immune status of the horse, and sometimes horses can be infected and contagious without showing any clinical signs.

Since the clinical signs of influenza are non-specific, distinguishing influenza from other causes of upper respiratory tract infections can be challenging based on presentation alone. Other disease that influenza could be mistaken for include equine herpesviurs-1 and -4, rhinovirus, *Streptococcus equi* infection, equine viral arteritis, bacterial pneumonia, chronic obstructive pulmonary disease, pharyngitis, strangles, and a multitude of less-common conditions.

Influenza is most commonly diagnosed in young horses between one and five years of age, especially those that frequent areas with large groups of transient horses (such as racetracks and show grounds) and in unvaccinated horses.

Older horses can become infected with influenza, but they generally have a milder disease than their younger counterparts.

Diagnosis

In many cases a presumptive diagnosis of influenza A is made based on history and clinical presentation.

It is not always economical or necessary to determine the exact cause of a viral respiratory tract infection; however, an accurate diagnosis is important for the industry to determine efficacy of the existing vaccines. It is usually sufficient to rule out the more serious causes of fever, cough, and nasal discharge, such as bacterial pneumonia or strangles.

Nonetheless, various tests do exist, including virus isolation, serology (determination of acute and convalescent antibody titers), polymerase chain reaction (PCR), and stall side immunoassay kits that detect the influenza A virus. Most of these tests require nasal swab samples.

Treatment

There is no specific treatment for influenza. Affected horses are isolated from healthy horses and general supportive care is instituted. This includes encouraging the

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horse to eat and drink and administering non-steroidal anti-inflammatory drugs to control high fevers.

It has been recommended that infected horses be rested one week for every day of fever, and that training not resume until coughing subsides.

If the fever persists for three or more days and the nasal discharge becomes mucopurulent, then the horse should be re-examined for development of a bacterial pneumonia.

Horses with a suspected pneumonia are treated aggressively with antibiotics. Selection of antibiotics is generally based on the culture and sensitivity results performed on a tracheal aspiration.

Prognosis

For uncomplicated cases, horses will completely recover and return to exercise within three to four weeks of infection. In more severe cases, horses might require up to 100 days of rest.

Horses that develop a secondary bacterial infections require longer recovery periods and have a more conservative prognosis for return to previous athletic function due to damage to the lung tissues.

Prevention

Vaccination plays an important role in prevention of equine influenza A infections. The American Association of Equine Practitioners (AAEP) recommends vaccinating all at-risk horses. The vaccination schedule varies depending on current vaccine status, age of horse, broodmare status, and potential exposure.

For example, the AAEP recommends administering a series of three boosters to adult, unvaccinated horses followed by semi-annual vaccination. It is advisable to discuss vaccination protocols with your veterinarian to develop a custom risk-based vaccine schedule most suitable for your horse.

Management is also important in preventing disease. Quarantine all new horses for 14 days prior to mixing them with resident horses to minimize the chance of introducing the influenza A virus to your herd. Don't share utensils between horses, especially if one spikes a fever, has nasal discharge, or is coughing.

FAST FACTS

- ***Influenza A*** viral infections are highly contagious in horses.
- ***Classic clinical signs*** include a high fever, cough, and serous (clear/runny) nasal discharge.
- Subclinically infected horses can still be contagious.
- ***Influenza A*** is often difficult to distinguish from other viral upper respiratory tract infections, and in many cases achieving a definitive diagnosis is not necessary (although it is important to the industry to know which strains of influenza are currently circulating).
- It is important to rule out other, more serious upper respiratory tract infections such as strangles or bacterial pneumonia.
- ***Treatment*** is supportive in nature and includes controlling the fever, rest, and offering food and water.
- ***Prognosis*** is very good for uncomplicated cases. Infected horses should be rested one week for every day of fever, and they should not resume training until coughing has resolved.