

Strangles

By Sarah Graham, DVM

Strangles is one of the oldest known diseases to affect horses. It was first described in the veterinary literature by Jordanus Ruffus in the year 1251. The disease “Strangles”, also called “Equine Distemper”, is caused by infection of the lymph nodes with *Streptococcus equi* (*Strep. equi*) bacteria. Normally, infection is characterized by the onset of fever which is followed by thick nasal discharge and swelling and later abscessation of the submandibular and retropharyngeal lymph nodes. It is the swelling of the retropharyngeal lymph nodes that can cause difficulty breathing and thus gave the disease its name “strangles”.

Streptococcus equi is a highly contagious bacterium that is easily spread by direct horse to horse contact. It can also be transmitted via contaminated tack, feeding equipment and people. A horse may become infected by inhaling or ingesting the organisms. Young horses tend to be more susceptible to infection because they have not yet developed sufficient immunity to the organism. Horses who are densely populated or who are exposed to large numbers of new horses (as on the track or show circuits) are at higher risk for becoming infected.

The incubation period of *Strep. equi* in the horse, after exposure, is 3 to 14 days. The first clinical sign of infection is a high fever (typically a rectal temperature of 103 degrees Fahrenheit or higher). Shortly after the onset of fever the horse may exhibit signs of depression, inappetance, cough, nasal discharge and swollen lymph nodes. Infected horses do not become contagious until 2-3 days after the onset of fever but once infected they will continue to shed the bacteria in their nasal secretions for 2-3 weeks. Abscessed lymph nodes generally rupture 7 -14 days after the initial onset of clinical signs and are also a source of shedding bacteria. Occasionally (up to 10% of cases), horses may become chronic carriers of strangles by having a persistent infection of the guttural pouches called “empyema” or “chondroids”. These horses may have shedding of the bacteria until the source of infection is medically or surgically removed. “Bastard Strangles” is the term for the metastatic spread of the infection to other organs and results in the development of abscesses in the thorax, abdomen or brain. “Purpura Hemorrhagica” is another potential complication of infection with *Strep. equi*. This disease is caused by an inappropriate immune response to the bacteria and results in widespread vasculitis (inflammation and leaking of the blood vessels).

Early detection and quarantine are the cornerstones of controlling strangles outbreaks. New horses should be isolated from the rest of the herd for a period of three weeks. If infection is detected early (within 24 hours of the onset of fever) treatment with appropriate antibiotics can stop the infection from progressing to disease. Antibiotic therapy is also indicated in horses that are having complications such as difficulty breathing or swallowing. For horses that have lymph node abscesses and are otherwise doing fine, antibiotic therapy may not be required. Hot packing the abscesses to encourage rupture or surgical drainage with daily flushing may help speed recovery.

Vaccination is usually only indicated for high risk horses, such as those housed in high density or high traffic areas. Most horses that have a history of infection with strangles maintain high levels of immunity for a period of at least five years and vaccination is contraindicated. Intramuscular bacterin and subunit vaccines are available and will generate a weak immune response. They are unlikely to prevent infection but may decrease the severity and duration of clinical signs. These vaccines have a relatively high rate of complications that include injection site swellings, abscesses or purpura hemorrhagica. An attenuated live intranasal vaccination is also available and may provide the best immunity. It should only be administered to healthy horses older than 4 months that do not have a history of exposure to strangles. This vaccine is also safe to administer to pregnant mares and may provide additional protective immunity to their foals. A blood test (ELISA for SeM protein) can be performed to evaluate whether a horse has protective immunity or may benefit from vaccination.

Strangles is an old disease that has been long -recognized by horsemen and veterinarians. It usually affects younger horses that have high levels of exposure to other horses. Most horses are able to fight the infection without complications and doing so gives them long-lasting immunity. Continued research into genome sequencing, vaccine production and serological testing will hopefully improve our abilities to detect silent carriers and prevent new infections, thus reducing the economic and personal losses associated with this disease.

Sources:

Sweeny CR, Timoney JF, Newton JR, Hines MT. Streptococcus equi Infections in Horses: Guidelines for Treatment, Control, and Prevention of Strangles. J Vet Intern Med 2005; 19: 123-134.