

Strangles; a threat to equine

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ABSTRACT

Strangles is a highly contagious disease of horses caused by a bacterium streptococcus equi subspecies equi. This bacteria has a great potential to survive in harsh environmental conditions. Also the horses can easily transmit the disease to one another. In this article we will go through the brief introduction and history of strangles also the clinical signs and symptoms and how to prevent the disease.

Introduction

Strangles is a life-threatening disease of equine family[1]. It is very highly contagious and debilitating disease. It has been affecting equine family for hundreds of years[2]. Etiological agent of this disease is a bacteria named streptococcus equi subspecies equi[3]. This bacteria have a great potential to survive in the environment. The disease is of worldwide significance mainly in horses. Characteristic sign of this disease is swelling of upper respiratory lymph nodes and abscess formation. Strangles name is given to this disease due to this specific sign because the animal finds difficult in swallowing food. Swollen lymph nodes of upper respiratory tract also causes difficult breathing. This disease can affect horses of all ages including all breeds. As the disease is contagious, primarily it is transmitted through the direct contact with saliva, nasal discharge or infected pus. Disease can also spread through indirect transmission including fomites, contaminated feed or water[4]. Clinical signs and symptoms may include high grade fever, coughing, swollen lymph nodes and loss of appetite. But in severe cases some complications may occur including pneumonia and abscesses formation. Early detection and isolation are very important regarding control of this disease. Treatment includes antibiotics, supportive treatment and drainage of liquid from the abscesses. For prevention vaccines are available but they have some limitations and these vaccines are not fool-proof. Diagnosis is based on clinical signs and symptoms while some laboratory tests may be done for confirmation like PCR (polymerase chain reaction) and bacterial cultures[5].

History

Strangles was first described briefly in 18th century by a veterinarian, Dr. Edward Coleman. He wrote all about strangles in his book "The Gentleman's Stable Directory" that was published in 1737. Also, he provided the detailed information about the clinical signs and symptoms as well as its treatment protocol. But the history of strangles dates back to Rome and ancient Greece. In historical texts descriptions of a highly transmissible disease were found, that is now known as strangles. As the time passes researchers and veterinarians done a lot of work on finding its etiological agent. They found the primary agent that is streptococcus equi in late 19 century[6]. After the identification of streptococcus equi, researchers focused on preventing the disease by making vaccine. Many formulations were made in order to boost up the immunity against strangles. But the limitations were always there. Despite the struggle to prevent strangles, outbreaks have continued to occur worldwide. Reasons of out breaks are the persistent nature of the bacterium to survive in very harsh environment and the ability of horses to spread the disease. Strangles still holds a significant importance for horse owners.

Clinical findings:

Incubation period is between 3 to 14 days. During incubation period no clinical sign and symptom appear means the disease is in sub clinical phase. After the incubation period signs starts to appear beginning with high grade fever that is typically over 102°F or 38.9°C[7]. Nasal discharge start to drool out. Thick and pus like discharge coming out of the nostrils. Swollen lymph nodes in the neck and head region is a characteristic sign of strangles[8]. When the lymph nodes are swollen it causes difficulty in swallowing feed and animal feel pain. Animal is reluctant to eat and loss of appetite occurs which causes weight loss. Animal show depression and lethargic signs and become dull. It doesn't show any interest in the environment. In severe cases difficulty in breathing occurs results in high respiration rate. While in some cases abscess formation occurs in the lymph nodes. When these abscesses burst thick whitish or yellowish pus comes out. These abscesses are may

formed under the submandibular region. You can see granulation around the corners of ruptured sites.

Diagnosis is made on mainly clinical signs and symptoms. Blood and serological tests are used for confirmatory diagnosis while nasal swabs are also used.

1. **Prevention:** Vaccinations are available but they don't work every time and have limitations.
2. Good hygienic practices must be applied.
3. Establish all biosecurity protocols.
4. New animals must be kept in isolation or quarantine minimum for 2 weeks.
5. Monitoring and testing of animals must be done on regular basis. Give proper counseling to the owner of the animal

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