THE SCIENCE WORLD
A Monthly e Magazine
ISSN:2583-2212
Jan 2024 Vol.4(1), 164-166

Popular Article

Pneumonia: a disease that occurs in winter in young calves

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https://doi.org/10.5281/zenodo.10496073

Introduction

Many diseases that animals can suffer during the winter season of which pneumonia is the most common in young calves. Pneumonia is the second most common health problem in young calves, after diarrhoea.

There are two similar health problems as respiratory infections and pneumonia. Respiratory infections include all diseases affecting the entire respiratory tract including lungs. In contrast, pneumonia is the inflammation of the lung parenchyma usually accompanied with the inflammation of the bronchioles (broncho-pnemonia) or with pleura (pleura pneumonia). Pneumonia is a disease that may vary from subclinical to acute and fatal. Depending on the severity of the infection, damage to the lungs can be temporary or permanent. Calves with chronic pneumonia seldom recover completely and should not be used as replacement animals. Pneumonia is manifested clinically by rapid shallow breathing, cough, fever with adventitious vesicular sounds like rales, ronchi etc. bacterial pneumonia may produce the sign of toxaemia.

Etiology

A. Predisposing factors

- Colostrum feeding (i.e., passive immunity) appears to protect calves for the first month after birth as few cases of pneumonia occur until then. The peak incidence occurs between 40 and 50 days after birth, which corresponds to a low point in the concentration of antibodies in the blood. In healthy calves, immunoglobulin A (IgA) is the immunoglobulin in highest concentration in the upper respiratory tract

Published 12.01.2024

and the lungs (respiratory mucosa). However, immunoglobulin G (IgG) predominates in the lungs of infected animals. Blood serum concentrations of IgG greater than 15 g/l seem adequate to protect calves against pneumonia.

- The calf's resistance to pneumonia may be overwhelmed more easily under feeding, housing and management techniques that are inadequate sudden exposure of animal in damp place and cold environment, long transport by train/ship, malnutrition, sudden change in weather, inhalation of dust, irritating vapours, main develops in animals that have been heated and then rapidly chilled

B. Causing factors

Bacterial- Streptococcus spp., Staphylococcus spp., Cornybectrium spp, Pseudomonas spp., Bordetella Bronchoseptica (Mainly in Dog)

Viral- Influenza virus

Fungal- Aspergillus spp.

Parasitic- Dictyocaulus viviparous

Symptoms

Animals suffering from pneumonia are bleeding from their noses. The animal is in pain while breathing. There is sharp rise of body temperature. Anorexia, dullness, depression and an increased pulse rate. A roaring sound came from the lungs. Animal show difficulty in eating and drinking. If timely treatment is not done then the animal may even die.

Clinical pathology study

- Cultural examination of nasal discharge and swab
- Blood examination for WBC and RBC and haemo parasite. Neutophilia in bacterial infection, neutropenia in viral infection, eosinophilia for parasitic infection.
- Serological test for viral infection, radiographic examination

Prevention and control

To protect the animals from the cold, the window gate of the school should be closed from the sunny side. Keep the gate closed or close it at night by putting a bag. Do not keep the floor of the cattle shed wet it gets pneumonia. In winter, if the animal sweats too much or suddenly reach another warm place, it can fall prey to pneumonia. Drinking too much water in the night can also cause pneumonia. The partial reduction or elimination of the predisposing factors and the improvement of faulty management techniques will reduce the occurrence of pneumonia significantly. Adequate intake of colostrum, proper housing (dry individual pen), good natural ventilation and avoidance of nutritional stress are effective ways of reducing the

Published 12.01.2024

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incidence of pneumonia. Vaccines against several of the implicated microorganisms are available, but they should be considered only when specific agents have been identified. A vaccination program relevant to agents prevalent in an area should be planned with the help of a veterinarian.

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Treatment of Pneumonia

First of all, sick animal should be kept in a light place with a shed and moderate warmth without draft but with good ventilation. Easy-digestible feed is fed, e.g. bran or ground oats mash, root crops, and a lot of drinking water. In treatment of bronchial pneumonia, a vet-doctor should set several goals which are as follows.

Increase organism resistance to unfavourable conditions and vital activity of cells. In order to activate host Défense mustard plasters are placed on chest, in ribs region, and kept for 2-3 hours so that an edema remains in hypodermic tissue. Autohemotherapy is applied.

Second goal is to promote solution and dilution of exudate and faster secretion. This is achieved by administrating soda, ether-aromatic preparations (caraway, dill), and inhalation of water steam with turpentine and soda.

Third goal is maintenance of host defences of a sick animal. It should be kept in mind though the peculiarities of treatment of very young, very old, and weakened animals and those with cardiac weakness. Cardiac performance of these animals should be thoroughly monitored and if needed supported with caffeine.

Fourth goal is control of pathogenic and conditionally pathogenic microflora. Broad spectrum antibiotics are administrated either from the very beginning or the choice is made after study of respiratory tracts sensitivity to this or that antibiotic. Sulfanilamides are used simultaneously with antibiotics. Hypoavitaminosis is come over by administration of vitamins. It should be taken into account that a complete course of treatment is ought to be applied.When a calf becomes sick, early detection is important in improving the likelihood of survival. The calf should be placed in a warm (sunshine), dry, well-ventilated (fresh air) environment. Diarrhoea and dehydration can be treated with fluid administration

Published 12.01.2024

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