

Symptoms and Prevention Measures of Erysipelas Disease in Pigs

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Abstract: Pig erysipelas is caused by pig erysipelas a kind of acute febrile zoonotic disease, disease quickly, pigs die within 2-4 days, route of infection with endogenous, digestive tract infection, blood sucking insects feeding, skin contact, the disease if not timely control, will threaten the healthy growth of pigs, seriously affect the farmers' actual income. Transmission and spread of erysipelas in pigs. The disease is clinically characterized by high fever and acute death, and is characterized by sow abortion, which can cause infection of pigs and all kinds of animals. After pigs infected with bacteria, various diseases can occur, and then cause pig erysipelas. To the public, the pig industry caused huge economic losses. A comprehensive understanding of erysipelas is important for the prevention and treatment of the disease. The source, route of transmission, prevalence and comprehensive control of the disease are summarized. Pig erysipelas strategy, designed to provide evidence.

Keywords: Swine; Symptoms; Diagnosis; Prevention and Control

1. Pathogens

Pig erysipelas is ubiquitous in nature and is caused by erysipelas bacteria with a strong viability and a long survival time in diseased tissue. When observed under the microscope, the dimensions of 0.6 to 2.6 microns and 0.1 to 0.5 microns have an elongated shape. Erysipelas can infect pigs, poultry, ruminants and humans, and its antigenic structure is relatively complex. At present, 25 serotypes have been identified, and A, B and N are common serotypes in China[1]. Isolated B and N types were mainly isolated from the tonsils of healthy pigs. Pigs fed erysipelas are susceptible from drying, decay, or sunlight and survive for more than 5 days in normal groundwater, and for 15 days in sewage.

After the dead pig body is buried deeply, the live bacteria can be detected and isolated within half a year[2].

2. Popular Characteristics

Pigs of different ages and species are susceptible to erysipelas. Studies show that fast-growing finishing pigs and pregnant sows[3]. There is susceptibility, but with increasing age, the immune function gradually increases, and the susceptibility gradually decreases." Erysipelas can be transmitted through various routes, including contaminated feed and drinking water, as well as through mosquito bites and skin lesions. Erysipelas is popular in southern China from April to July, when more rainfall and higher temperature are higher, while the northern region is concentrated in July to September, with more precipitation. Besides seasonal factors, the overall level of management and disinfection measures of pig farms are also important factors affecting disease transmission. Erysipelas generally occurs in hot season but with regional differences, more than 80% of erysipelas occurs in hot season with increased incidence. The virus mainly infects both medium and large pigs. Studies have shown that medium and large pigs are fat and strong, have low heat dissipation capacity, and are considered to be more susceptible to the disease. Heat stress can weaken the immune system and inhibit the operation of the immune system. In recent years, the epidemic of swine erysipelas has caused secondary infections and produced severe cases. The source of this disease is sick pigs, sick pig manure, contaminated feed, drinking water, soil and so on can make healthy pigs sick. The pathogen can survive for a long time, up to 14 months, depending on the environment, temperature and humidity. Erysipelas pigs mostly occur in small free-range households, and the increase in pigs increases due to insufficient vaccination, poor ventilation, poor

environment and equipment, and slow disinfection[4].

It weakens the immune system, reduces their resistance to stress and makes pigs more susceptible to illness[5].

3. Clinical Symptoms and Diagnosis

The autopsy of pigs with the disease showed enlarged lymph nodes, purple and hemorrhagic. The spleen is dull and round and soft in texture, and the medulla tissue can be scraped off with the back of a scalpel. There were bleeding spots in the atrium and epicardium of the diseased pigs. The liver was dark red, with surface opacity, congestion, and poor elasticity. The kidneys show the same symptoms as the liver. The mucous membrane of the gastrointestinal tract is red and swollen, and the surface is covered with mucus, congestion and bleeding. Subacute rash type pigs have several small red or purple mass rashes, mainly on the skin. Red, swollen, erythema, diamond, square pigs with such diseases are caused by the gradual progression of the most acute suppurative and subacute rash disease.the four limbs. Articular pigs have normal feeding, but are unwilling to exercise, suffering from short stature, dyspnea, emaciated, growth retardation, and large epidermis shedding and necrosis."The heart valves of the sick pigs are cauliflower-shaped."" Pigs with such diseases have a high mortality rate, and sudden death is also common. The veterinarian dissected the dead pigs and stained them. If the bacillus ovata was found at the cleavage of bipolar staining, it indicated that the pig was infected with Pasteurella, which indicated that small colonies appeared a day after being on the agar medium. If no liquefaction was detected, it indicated that the sick pig contained erysipelas and the pigs had been infected. In addition, for the scientific diagnosis of pig erysipelas, the first step should determine the high incidence season of pig erysipelas, comprehensively analyze the occurrence characteristics of pig erysipelas, and determine whether the season and temperature are appropriate. It can be used to analyze whether erysipelas is transmitted, and the scientific diagnosis is based on the disease of pigs themselves, piglets aged 3-6 months of age are more likely to be infected with erysipelas. Next, when pigs are infected with erysipelas, their body temperature rises sharply, usually remaining at around 41 °C . For a long time on

the ground. Through the anatomical analysis of the sick pigs, it was found that the erythema appeared on the pigs.3. The symptoms of erysipelas in pigs are classified as acute and subacute according to the clinical symptoms of pigs. Among them, pigs infected with acute erysipelas showed sepsis and epidermal papules, while chronic erysipelas was accompanied by arthritis. Heart disease, meningitis, and other diseases[6-12].

4. Scientific Prevention and Control and Management

4.1 Strengthen Feeding Management

Pig erysipelas usually occurs in the breeding farms with poor sanitary conditions, and the main way of pathogen transmission is the contact between pigs, which is caused by adhesion and infection. Disease can spread and accelerate. The pigsty should be cleaned daily., The ground to clean up, before cleaning, excrement must be clarified in the form of artificial dry waste, in the pig downwind concentrated composting fermentation, biological heating, completely remove pathogens, gate, roads must be cleaned, disinfection at least twice a week or sprinkled with quicklime powder, with 0.2% potassium hydrogen sulfate solution or 0.1% new clean solution for livThe discarded feeding equipment is dried in the sun to remove the surface pathogenic bacteria through the combined action of high temperature and ultraviolet light. Before entering the piggery, the keepers put on special clothes and rubber shoes[13]. After going out, they enter the buffer zone, spray iodine tincture on the rubber shoes to disinfect, and illuminate the clothes and hats with ultraviolet light. After the pigs are slaughtered, the vacant houses are cleaned uniformly, and the ground and walls can be disinfected with 2% caustic soda. The pigsty is the main infectious site of erysipelas. Therefore, it is necessary for breeders to strengthen the health management of pig farms and thoroughly disinfect the piggery. Disinfection channels should be installed at the entrance and exit positions to completely eliminate bacteria, and thoroughly disinfect the breeding equipment to avoid pathogenic bacteria.

Farm pigs were infected with bacteria."At the same time, the breeder should do a good job of dynamic management and monitor the growth of the pigs in the breeding house in real time. If the

pigs have pathological characteristics, the breeder should isolate the pigs and be isolated. Treatment with penicillin and cephalosporins. During treatment, pigs can also be given amoxicillin and wait for them to return to normal body temperature.

Stop taking the medication. Isolation and treatment of pigs can prevent the spread of pathogens at the source and maximize the control of pigs.

The spread of the virus has caused minimal economic loss to the breeders. In addition, the breeders also need to adjust the pig feed according to the feeding conditions of the pigs to meet the growth needs of the pigs at different growth stages. It is also necessary to scientifically control the feeding density of live pigs. In addition, the temperature of the breeding house should be effectively adjusted according to the seasonal changes. Heating management should be carried out when the temperature is low in winter, and ventilation should be noted in summer. The temperature is high. Stock disinfection once or twice [14].

4.2 Strengthen the Immunity to Healthy Pigs

Erysipelas can be minimized by vaccination of healthy pigs and can be prevented by routine vaccination.

Purpose of the fungal diseases. Every spring and autumn inoculation of attenuated vaccine or erysipelas triple vaccine, the prevention effect is very high. Vaccination of infected pigs is prohibited, and treatment with antibiotics is required. Conditional pig farms can conduct serum antibody testing about 2 weeks after vaccination, so that pigs with low antibody levels can be reimplanted in time.

4.3 Strengthen Environmental Disinfection

As erysipelas is sensitive to most disinfectants, regular comprehensive disinfection of the enclosure is recommended. The external environment should be quicklime or caustic soda, wide sterilization spectrum, low cost, easy access to raw materials. Equipment consumables can be disinfected with bromine-colloamine solution, potassium hydrogen sulphate solution, 84 disinfectant solution and other mild and safe disinfectant, the personnel should be strictly disinfected before entering, the disinfectant used is hypoallergenic, broad-spectrum glutaralformium. After the finishing pigs are sold, every corner of the piggery should be thoroughly cleaned and disinfected.

5. Treatment

If sick pigs are found in the farm, they should be isolated immediately to avoid infecting healthy pigs and must take medicine on time.

5.1 Serum Treatment.

Pig erysipelas super free serum can be injected into the ear vein or subcutaneous pig, has a very good therapeutic effect.

5.2 Traditional Chinese Medicine Treatment.

Traditional Chinese medicine treatment is also effective. 500 grams of duckweed, 250 grams of dandelion and willow branches, 100 grams of leek, gypsum and alum, 50 grams of realgar, decocted in water, once a day, until cured.

5.3 Western Medicine Treatment.

β -Lactam antibiotics, such as penicillin and cephalosporins, are often used in acute treatment twice daily. If the dose is doubled, the symptoms will improve within 2-3 days. Antibiotics sensitive to erysipelas can be used to treat the disease. Penicillin is the most sensitive of all antibiotics and can serve as the first choice. Penicillin, ampicillin, amoxicillin, and carboxylpenicillin. Is the most commonly used antibiotic. Because the pathogens are mainly distributed in the body tissue and blood, the best way of administration is intramuscular injection, and the drug is released within a few minutes after intramuscular injection. "In the blood can reach the effective blood concentration, can quickly inhibit and kill the infectious virus. Its efficacy is definite and is characterized by high bioavailability. In addition to penicillin, cefquinolone sulfate oxime injection, ceftiofur hydrochloride injection third generation and fourth generation cephalosporins can also be used for the treatment of this disease, such as cephalosporins, and all current excipients for injection can be used. The drug can be slowly released into the blood, providing immediate and lasting effects, reducing the frequency of administration and reducing stress in pigs. In addition to antimicrobial treatment, acute sepsis and subacute rash occur early, and symptomatic treatment with corticosteroids combined with antipyretic, analgesic and anti-inflammatory drugs is recommended to reduce mortality and economic loss. Injection drugs such as acetaminophen sodium, diclofenac sodium, flunixin meformine, etc. These drugs have a

significant anti-inflammatory effect, can quickly relieve the symptoms, but the body dependence to prevent, the symptoms should be timely stopped after the reduction. The pathological lesions of this disease are mainly caused by multiple organ congestion and bleeding is caused by pathogens in fine blood vessels. After the blood vessel wall is destroyed by toxins, the blood vessel wall needs to be repaired. Iron agent, vitamin A can be used to help strengthen the hemostasis and hemostatic effect. Increasing the density of the blood vessel wall, while preventing damage, and repairing the mucosa of other organs.

6. Conclusion

Erysipelas poses a serious threat to pig breeding, so breeders should fully understand the pathological changes and clinical characteristics of the disease, so as to avoid the spread of erysipelas and promote the stable development of pig breeding industry. After laboratory diagnosis, take corresponding preventive measures and take effective preventive measures. Through the scientific diagnosis of pig erysipelas, the adoption of various prevention and control measures to improve the economic benefits of farmers, can improve the profits and promote the rapid development of domestic breeding industry.

Acknowledgement

This work was supported by Qiqihar Science and Technology Plan Key project: Research and promotion of efficient mutton sheep embryo cryopreservation technology. Project Number: ZDTG-202201.

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