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Cause Analysis and Countermeasures of Human Infection in Sheep Brucellosis Immunization

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Abstract: Brucellosis of sheep is an important way to cause human infection. Immunization of sheep is an effective measure for the prevention and control of brucellosis of sheep. Now, M5 and S2 strains of vaccines are commonly used to immunize sheep, while M5 and S2 strains of vaccines are live vaccines, which are easy to cause infection of epidemic prevention personnel during the epidemic prevention process. Because the epidemic prevention personnel are worried that they will be infected with brucellosis due to immunization of sheep, it is difficult to promote the immunization of sheep against brucellosis, In order to reduce the risk of infection of epidemic prevention personnel in the immunization of sheep brucellosis and ensure the normal development of the immunization of sheep brucellosis, combined with three years of experience in the immunization of oral S2 strain of brucellosis, the epidemic prevention personnel infected with brucellosis due to immunization of sheep against brucellosis were carefully investigated, and it was found that the main reason for personnel infection was the weak protection awareness of the epidemic prevention personnel, the risk of scattered bacteria in oral immunization, the lax implementation of epidemic prevention operation procedures and the problems of personal protective equipment, etc. Find corresponding solutions to these problems. The quality of epidemic prevention personnel should be strengthened; Select safe immunization mode; Strictly implement the operation procedures and optimize personal protective equipment. The improvement of these measures can effectively prevent human infection caused by immunization against sheep brucellosis. Eliminating the fear of epidemic prevention personnel about being infected with brucella in the immunization of sheep brucellosis, thus ensuring the solid progress of the immunization of sheep brucellosis, and playing a positive role in reducing human infection with brucellosis.

Keywords: Brucellosis, Immunization, Personnel Infection, Reason, Countermeasure

1. Introduction

Brucellosis is a serious zoonosis. Immunization of brucellosis is an important measure to prevent and control the spread of brucellosis between humans and animals [1-3, 6-16]. Immunization of sheep brucellosis has been carried out in our district for three years. The situation of infection caused by epidemic prevention personnel during the immunization process has always existed, which has become a major problem in the immunization of sheep brucellosis [2, 14]. In order to solve this problem and find relevant solutions, there is no literature report on relevant research in China, In order to reduce personnel infection and better complete the immunization of sheep brucellosis, Through careful investigation of the epidemic prevention personnel infected with brucellosis due to the immunization of sheep against brucellosis, I analyzed and summarized the four main causes of human infection during the immunization of sheep against brucellosis, and put forward four corresponding countermeasures.

2. Analysis of the Causes of Human Infection in Sheep Brucellosis Immunization

2.1. The Awareness of Epidemic Prevention Personnel Is Weak

The village-level epidemic prevention team is unstable [4,

5], and the degree of specialization among the employees is low. Some non-professionals who are only temporarily involved in seasonal epidemic prevention work do not do enough personal protection required to be done during the epidemic prevention process, and do not strictly implement the epidemic prevention operation procedures, resulting in their own infection with brucellosis.

2.2. There Is a Risk of Scattered Bacteria in Oral Immunization

After the brucella S2 strain attenuated vaccine was sprayed into the mouth of sheep through the dosing gun, the droplets and aerosols produced by the sheep's cough or bleating spread the live vaccine bacteria into the air, resulting in an increase in the content of brucella in the surrounding environment. If the personal protection of the epidemic prevention personnel is not strict, it will cause personal infection.

2.3. Operating Procedures for Epidemic Prevention Are Not Strictly Implemented

The vaccination against brucellosis requires that the epidemic prevention site should be carried out in a ventilated and dry, flat and hard ground, which is conducive to disinfection and dust suppression, and also to the elimination of aerosols generated during the epidemic prevention process. However, in the process of epidemic prevention, it is often because sheep are set up, which only facilitates the gathering of sheep, without too much consideration of the safety of personnel. Although dust compression disinfection is done, it can not achieve the effectiveness of disinfection. Or due to the poor ventilation of the site, the generated aerosols exist in the environment of the immunization site for a long time, causing the infection of epidemic prevention personnel [2, 14].

2.4. Problems in Personal Protective Equipment

The quality of protective articles is an important guarantee for the safety of epidemic prevention personnel. The use of poor quality protective articles by epidemic prevention personnel can not play a role in their own protection. Goggles are important protective equipment for brucellosis immunization. During the immunization process, fog is easily generated in the goggles, which causes blurred vision of epidemic prevention personnel. Some epidemic prevention personnel will take off the goggles in order to see clearly, causing personnel infection. The quality of the mask is also very important. The epidemic prevention personnel should wear N95 mask, and disinfect immediately after the completion of the epidemic prevention, and cannot reuse it. Gloves should also be nitrile gloves of good quality. Once damaged, they should be disinfected and replaced immediately. If the quality of protective equipment provided to epidemic prevention personnel during epidemic prevention is poor, the risk of infection of brucellosis will be increased.

3. Countermeasures to Reduce Human Infection in Immunization Against Sheep Brucellosis

3.1. Strengthen the Quality of Epidemic Prevention Personnel

The village-level epidemic prevention personnel are the main force to carry out the centralized compulsory immunization of animals in spring and autumn. They should choose professional and responsible personnel to join the village-level epidemic prevention personnel team, and should do strict epidemic prevention knowledge and on-site operation training before each epidemic prevention [4-5]. Rural veterinarians are generally professional and technical personnel, and are also the main part of village-level epidemic prevention personnel. In order to give full play to the role of village-level epidemic prevention personnel and fully mobilize their enthusiasm in epidemic prevention work, it is necessary to quantitatively assess the effectiveness of epidemic prevention personnel by monitoring the level of immune antibodies, investigating epidemic prevention density and improving epidemic prevention remuneration. Reward the good and punish the bad, and constantly improve the quality of village-level epidemic prevention personnel.

3.2. Select Safe Immunization Mode

Although the oral immunization of Brucella S2 strain live vaccine has the advantages of convenient immunization operation and low abortion rate of pregnant ewes, it also has the disadvantages that the live vaccine is easy to spread in the environment. In order to make the epidemic prevention personnel and sheep safe, other immunization methods such as eye contact or subcutaneous injection should also be considered to effectively reduce the risk of the live vaccine spreading in the environment.

3.3. Strictly Implement the Operating Procedures

The immunization of brucellosis should strictly prevent the infection of wild virus and live vaccine bacteria to epidemic prevention personnel, and strict requirements should be made for the immunization site, such as the cement surface is conducive to thorough dust disinfection; The ventilated site is conducive to blowing away the droplets and aerosols; After use, the empty vaccine bottle and dosing gun should be strictly disinfected. Each step is to eliminate the bacteria in the environment, so it should be carried out in strict accordance with the operating procedures.

3.4. Preferred Personal Protective Equipment

For the safety of epidemic prevention personnel, when selecting personal protective equipment, it is necessary to select protective equipment with good protective effect. The goggles should be equipped with safety ventilation holes, which can disperse the fog generated in the goggles, and prevent the fog generated from causing blurred vision. During

the immunization process, epidemic prevention personnel should choose to operate in the upwind direction, so as to ensure that the air entering the goggles is clean. Protective clothing, masks, gloves and other personal protective equipment should also be used only when they have good protective effects, and should be used once and strictly disinfected after use.

4. Conclusion

Immunization of sheep brucellosis is an important measure to cut off the transmission of brucellosis to humans. If the immunization of sheep brucellosis is not strictly implemented just because it will cause the infection of epidemic prevention personnel during immunization, human brucellosis will not be eradicated. The key point to do a good job of immunization against sheep brucellosis is the seriousness and responsibility of the epidemic prevention personnel. As long as the epidemic prevention personnel have excellent professional quality, strictly implement the operating procedures and do a good job of personal protection, they can prevent the personnel infection caused by the immunization against sheep brucellosis and better prevent brucellosis.

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