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Protecting Small Ruminants from Pox Diseases: Simple Steps for Big Gains

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The genus Capripoxvirus is the cause of sheep pox and goat pox, which are severe, feverish, and extremely contagious viral illnesses of small ruminants that require OIE notification. Fever, nasal and ocular discharge, eyelid enlargement, and widespread skin eruptions that eventually turn into scabs are the disease's hallmarks. In extreme situations, the lesions spread to internal organs and mucosal membranes, which can cause systemic disease and even death. Due to decreased output, abortion, subpar wool and skins, subsequent infections, and higher mortality, these diseases result in substantial financial losses for producers.

Epidemiology

There are reports of sheep pox and goat pox in many parts of the world, especially in the Middle East, South-East Europe, North Africa, China, and the Indian subcontinent. Goat pox is a common disease in several Indian states, including Jammu & Kashmir, Punjab, Bihar, Odisha, Rajasthan, Andhra Pradesh, Kerala, Karnataka, and Maharashtra.

The illness typically strikes during unfavorable weather, such as November through May, when animals are under stress and have weakened immune systems. Disease transmission is further increased by risk factors such the addition of additional animals to the current herd, inadequate immunization, and inadequate biosecurity measures.

The respiratory route is the main way that the viruses that cause sheep pox and goat pox are spread, either directly through contact with infectious respiratory droplets or indirectly through contaminated settings. The mobility of sick animals continues to be a significant factor in the spread of the disease, while vectors such stable insects may also play a role.

Mortality rate due to sheep pox is usually as low as 5%, but in cases of lambs, it may be as high as 50% or even more. For goat pox, morbidity varies from 5-100% and mortality from 5-50%.

Pathogenesis

The virus enters the body and spreads to different organs through viremia. particularly the skin. Once it localizes in the skin, it forms macules, which are widespread eruptions that

eventually develop into vesicles and scabs. The animal is frequently observed rubbing its body against walls, fences, corners, or other animals in order to relieve the irritation caused by skin sores. Vesicles and ulcers develop on the mucous membranes of the respiratory and digestive systems in systemic form.

Clinical signs

Sheep have an incubation period of 4–8 days, while goats have a duration of 5–14 days. Goats typically have milder clinical symptoms. Fever, swollen eyes, mucopurulent nasal discharge, appetite loss, and enlarged lymph nodes are among the initial signs. On the nose, ears, tail, cheeks, and other hairless parts, characteristic skin lesions first begin as tiny erythematous macules that eventually grow into 0.5–1.5 cm hard papules. After the papules heal, they frequently leave behind distinctive star-shaped scars. The papules progressively mature into firm, well-defined scabs. Additionally, lesions may develop on the mucous membranes of the mouth, nose, eyes, anus, and genital regions, where they may become necrotic or ulcerate.

When internal organs are involved, different clinical indications appear. Inappetence, rhinitis, excessive salivation, and mucopurulent discharge are the results of oral and nasal involvement. Blepharitis and conjunctivitis can be brought on by ocular diseases and papules on the eyelids. Coughing, dyspnea, diarrhea, and occasionally abortion are other symptoms.

Diagnosis

Clinical signs and symptoms are used to make the diagnosis. The skin lesions help with diagnosis because they are typical of the illness. Additionally, serological assays such fluorescence antibody test (FAT), agar gel immunodiffusion (AGID), ELISA, and virus neutralization can be used. The viral genome can be specifically detected using the polymerase chain reaction (PCR).

Prevention and control

The best and most certain way to stop the transmission of the capripoxvirus is by vaccination. Vaccinations against sheep pox and goat pox are given to infants between the ages of three and five months. A booster shot is given three to four weeks after the first injection, and this process is repeated once a year to ensure protection. Culling afflicted animals, thoroughly cleaning and disinfecting farm equipment and facilities, and making sure infected carcasses are disposed of properly are also important control strategies. To stop the disease from spreading further, these actions are crucial. After recovering from clinical symptoms, sick animals and infected herds should be kept apart for at least 45 days.

Conclusion

Farmers suffer large financial losses as a result of high mortality and decreased productivity from sheep and goat pox. Early detection, stringent biosecurity, appropriate carcass disposal, and—above all—systematic immunization programs are necessary for effective management. Protecting cattle health and minimizing financial losses require raising farmer awareness and encouraging preventive measures.

References

Jadhav, S., Veeregowda, B. M., Tadakod, S., Naragund, M. V., & GB, M. R. (2025). Sheep and Goat Pox Disease: Epidemiology, Diagnosis, Prevention and Control. In *Advances in Animal Sciences (Volume 1)* (pp. 10-37446). Cornous Publications LLP.

Sharma, R. D., Kumar, M., & Sharma, M. C. (2019). *Textbook of preventive veterinary medicine and epidemiology*. Indian Council of Agricultural Research.

Sheep Pox – IIL – Indian Immunologicals. (2023). Indian Immunologicals Limited. https://www.indimmune.com/business-unit/animal-health/veterinarian- resources/sheep-pox/

Spickler, A. R. (2017). Sheep and goat pox. Center for Food Security and Public Health, Iowa State University. http://www.cfsph.iastate.edu/DiseaseInfo/factsheets.php

Vegad, J. L., & Katiyar, A. K. (2008). A Textbook of Veterinary Special Pathology: Infectious diseases of livestock and poultry.

Zewdie, G., Derese, G., Getachew, B., Belay, H., & Akalu, M. (2021). Review of sheep and goat pox disease: current updates on epidemiology, diagnosis, prevention and control measures in Ethiopia. *Animal diseases*, *1*(1), 28.