



Lumpy Skin Disease – A Havock for Livestock Animals

Amit Kumar Singh^{1*} and Upali Kisku²

¹Subject Matter Specialist (Animal Husbandry), ICAR- Krishi Vigyan Kendra, Amihit, Jaunpur 2, Uttar Pradesh, India

²PhD Scholar, Dairy Extension Section, ICAR- National Dairy Research Institute, Eastern Regional Station, Kalyani, India

Abstract

Lumpy skin disease (LSD) is a viral disease that affects cattle and other ruminants. The disease is caused by the lumpy skin disease virus (LSDV), a member of the Capripoxvirus genus. LSD is a significant threat to the livestock industry, with the potential to cause severe economic losses. This article provides an overview of the disease, including its clinical signs, transmission, diagnosis, and prevention.

Introduction

Lumpy skin disease is a viral disease that primarily affects cattle, although it can also infect other ruminants, including buffalo, sheep, and goats. The disease is endemic in many parts of Africa, the Middle East, and Asia, but has recently emerged in Europe. The disease is caused by the lumpy skin disease virus (LSDV), a member of the Capripoxvirus genus.

LSD is characterized by the formation of nodular lesions on the skin, mucous membranes, and internal organs. The disease can be severe, leading to significant morbidity and mortality in affected animals. LSD can also cause substantial economic losses, due to decreased milk production, reduced fertility, and restrictions on the movement of infected animals.

Transmission

The primary mode of transmission of LSD is through biting insects, such as mosquitoes and ticks. The virus can also be spread through direct contact with infected animals or contaminated objects, such as equipment and clothing. The disease can spread rapidly in susceptible herds, particularly in areas with high insect populations and poor biosecurity measures.

Clinical signs

The clinical signs of LSD can vary, depending on the severity of the disease and the age and immune status of the animal. The most common clinical sign is the formation of nodular lesions on the



skin, which can range in size from a few millimeters to several centimeters. The lesions can occur anywhere on the body, including the face, neck, back, and limbs. In severe cases, the lesions can become large and ulcerated, leading to secondary bacterial infections and significant pain and discomfort for the animal.

Diagnosis

Diagnosis of LSD can be challenging, as the clinical signs can be similar to those of other diseases, such as bovine tuberculosis and contagious ecthyma. Laboratory testing, such as polymerase chain reaction (PCR) and virus isolation, is necessary to confirm a diagnosis of LSD.

Prevention

Prevention of LSD relies on a combination of vaccination and biosecurity measures. Vaccination is an effective method for preventing LSD in susceptible animals, although the vaccines must be used correctly to be effective. Biosecurity measures, such as insect control, quarantine of new animals, and disinfection of equipment and clothing, can help prevent the spread of LSD.

Treatment options for LSD are limited, as there are no specific antiviral therapies available. However, supportive care, including wound management and pain relief, can help improve the welfare of affected animals. In some cases, antibiotics may be necessary to treat secondary bacterial infections.

LSD can have significant economic impacts on the livestock industry, including decreased milk production, reduced fertility, and restrictions on the movement of infected animals. In some cases, entire herds may need to be culled to prevent the spread of the disease. As a result, it is crucial to implement effective control measures to prevent the introduction and spread of LSD.

Insect control is an essential component of LSD control, as biting insects are the primary mode of transmission. Measures such as insecticide application, removal of stagnant water sources, and use of insect repellents can help reduce the risk of disease transmission. Quarantine of new animals and strict biosecurity measures can also help prevent the introduction of LSD into a herd.

In conclusion, lumpy skin disease is a significant threat to the livestock industry, with the potential to cause severe economic losses. The disease is caused by the lumpy skin disease virus, which is primarily transmitted by biting insects. Diagnosis of LSD requires laboratory testing, and prevention relies on a combination of vaccination, insect control, quarantine, and disinfection. Effective management and control measures are crucial to reducing the impact of LSD on the livestock industry.

Conclusion

Lumpy skin disease is a significant threat to the livestock industry, with the potential to cause severe economic losses. The disease is caused by the lumpy skin disease virus, which is primarily



transmitted by biting insects. The clinical signs of LSD can vary, but the formation of nodular lesions on the skin is the most common. Diagnosis of LSD requires laboratory testing, and prevention relies on a combination of vaccination and biosecurity measures. With proper management and control measures, the impact of LSD on the livestock industry can be reduced.

References

1. Abutarbush SM, Hananeh WM, Alsheyab FM. (2015). Emerging lumpy skin disease in the Middle East: New disease occurrence and development in Jordan during 2014-2015. *Transboundary and Emerging Diseases*, 64(3), 862-868. <https://doi.org/10.1111/tbed.12210>
2. Carn VM, Kitching RP. (1995). The clinical diagnosis of lumpy skin disease in cattle. *Australian Veterinary Journal*, 72(4), 122