

Understanding Pseudo Lumpy Skin Disease: A Viral Threat to Cattle

Dr. Kalyani Putty

Associate Professor and Head, Dept. of Veterinary Biotechnology, College of Veterinary Science, Rajendranagar, PVNR Telangana Veterinary University, Hyderabad-30

[DOI:10.5281/15537666](https://doi.org/10.5281/15537666)

Cattle farming is a cornerstone of agriculture in many parts of the world, providing milk, meat, and other essential products. However, diseases like Pseudo Lumpy Skin Disease (PLSD), caused by the Bovine Herpesvirus (BHV-2), pose significant challenges to livestock health and farm productivity. While not as widely known as its cousin, Lumpy Skin Disease (LSD), PLSD is a growing concern for farmers and veterinarians.

What is Pseudo Lumpy Skin Disease?

Pseudo Lumpy Skin Disease is a viral infection in cattle caused by Bovine Herpesvirus 2 (BHV-2), also known as Bovine Herpes Mammillitis Virus. Unlike true Lumpy Skin Disease, which is caused by a poxvirus, PLSD is triggered by a herpesvirus and presents with similar but less severe skin symptoms. The name "pseudo" reflects its resemblance to LSD, but the two diseases differ in their causes, severity, and management.

PLSD primarily affects the skin, particularly around the udder, teats, and sometimes other parts of the body. It was first identified in the 1960s and has since been reported in various regions, including Africa, North America, and parts of Europe. While it is not as economically devastating as LSD, PLSD can still cause significant discomfort to affected animals and lead to economic losses for farmers due to reduced milk production and treatment costs.

Symptoms of PLSD

The symptoms of PLSD can be distressing for cattle and alarming for farmers. They typically include:

- **Skin Lesions:** Small, raised nodules or sores appear on the skin, particularly on the udder and teats. These lesions may resemble those of LSD but are generally less severe and widespread.
- **Pain and Swelling:** Affected areas may become swollen, painful, and sensitive, making milking difficult or impossible.
- **Fever and Malaise:** Infected cattle may show signs of fever, lethargy, and reduced appetite.

- **Secondary Infections:** Open sores can become infected with bacteria, leading to complications like mastitis, a painful udder infection.
- **Reduced Milk Yield:** Pain and inflammation in the udder often lead to a drop in milk production, impacting dairy farms.

Unlike LSD, PLSD rarely causes systemic illness or high mortality, but it can still affect animal welfare and farm operations.

How Does Bovine Herpesvirus 2 Spread?

BHV-2 is highly contagious and spreads through direct contact between infected and healthy cattle. The virus can also be transmitted indirectly through:

- **Contaminated Equipment:** Milking machines, towels, or other tools that come into contact with infected skin can spread the virus.
- **Insects:** While less common than with LSD, biting insects like flies may play a role in transmission.
- **Bodily Fluids:** The virus can be present in skin lesions, milk, or other secretions, increasing the risk of spread during milking or close contact.

Stress factors, such as poor nutrition, overcrowding, or extreme weather, can weaken a cow's immune system, making it more susceptible to infection.

Diagnosis and Differentiation from LSD

Diagnosing PLSD can be tricky because its symptoms mimic those of Lumpy Skin Disease and other skin conditions like ringworm or bacterial infections. Veterinarians typically rely on:

- **Clinical Examination:** Observing the location and appearance of lesions, particularly on the udder and teats.
- **Laboratory Tests:** Tests like PCR (Polymerase Chain Reaction) or virus isolation can confirm the presence of BHV-2.
- **History and Context:** Understanding the herd's health history and ruling out LSD,

which is more severe and often accompanied by systemic symptoms.

Differentiating PLSD from LSD is critical, as LSD is a notifiable disease in many countries, requiring strict quarantine and control measures. PLSD, while serious, does not have the same regulatory implications.

Impact on Farmers and the Dairy Industry

For dairy farmers, PLSD can be a frustrating setback. The pain caused by udder lesions often makes cows resistant to milking, leading to reduced milk yields. Secondary bacterial infections, like mastitis, can further complicate matters, requiring costly treatments and sometimes culling of affected animals. In small-scale farms, where every cow's output matters, even a few cases of PLSD can have a noticeable financial impact.

Additionally, PLSD outbreaks can disrupt farm operations, requiring extra labor for cleaning and disinfecting equipment, isolating affected animals, and implementing biosecurity measures. While PLSD is not typically fatal, it can weaken herd health and productivity over time if not managed properly.

Treatment and Management

There is no specific antiviral treatment for PLSD, so management focuses on supportive care and preventing spread. Key steps include:

- **Isolation:** Separate infected animals to prevent the virus from spreading to healthy cattle.
- **Hygiene:** Thoroughly clean and disinfect milking equipment, barns, and other shared spaces. Use disposable gloves when handling affected animals.
- **Symptomatic Treatment:** Apply topical treatments to soothe lesions and prevent secondary infections. Anti-inflammatory drugs may help reduce pain and swelling.
- **Monitor for Complications:** Watch for signs of mastitis or other infections and treat promptly with antibiotics if necessary.

Recovery typically occurs within a few weeks, but affected cows may remain carriers of the virus, posing a risk of future outbreaks.

Prevention: The Key to Control

Preventing PLSD is far easier and more cost-effective than managing an outbreak. Farmers can take the following steps:

- **Biosecurity:** Limit contact between herds and ensure visitors, equipment, and vehicles are clean before entering the farm.
- **Insect Control:** Use fly repellents and maintain clean environments to reduce the risk of insect-borne transmission.

- **Vaccination:** While no specific vaccine exists for BHV-2, maintaining overall herd health through vaccinations for other diseases can reduce stress and susceptibility.
- **Regular Monitoring:** Routinely check cattle for skin lesions, especially during milking, to catch cases early.

Research into BHV-2 vaccines is ongoing, and future developments may offer better tools for prevention.

The Bigger Picture: Why PLSD Matters

While Pseudo Lumpy Skin Disease may not grab headlines like other livestock diseases, it's a reminder of the constant challenges farmers face in keeping their animals healthy. As global demand for dairy and beef continues to grow, diseases like PLSD can strain food systems, particularly in regions with limited veterinary resources. Raising awareness about PLSD and investing in better diagnostics and prevention strategies are crucial steps toward sustainable livestock farming.

Moreover, understanding PLSD highlights the importance of distinguishing between similar diseases. Misdiagnosing PLSD as LSD could lead to unnecessary economic losses due to trade restrictions or culling, while underestimating PLSD's impact could harm herd health. Education and collaboration between farmers, veterinarians, and researchers are key to staying ahead of this and other emerging threats.

Conclusion

Pseudo Lumpy Skin Disease, caused by Bovine Herpesvirus 2, is a manageable but significant concern for cattle farmers. By recognizing its symptoms, understanding how it spreads, and implementing strong biosecurity measures, farmers can protect their herds and minimize losses. While PLSD may not be as severe as its counterpart, Lumpy Skin Disease, it underscores the importance of vigilance and proactive health management in livestock farming. With continued research and awareness, we can better equip farmers to tackle this viral challenge and keep their cattle healthy and productive.