VETERINARY TODAY INTERNATIONAL
ISSN 2583-8288

Popular Article

Clinical Management of Lumpy Skin Disease in a Crossbred Jersey Cow: A Case Report

Dr. M.Saravanan
Subject Matter Specialist (Animal Science),
ICAR, KVK, Karur, Tamil Nadu 621 313
Email: Sarvankvk@gmail.com

doi.org/10.5281Veterinarytoday.20174220

Abstract

Lumpy Skin Disease (LSD) is an emerging trans boundary viral disease affecting cattle and buffalo, causing severe economic losses due to decreased milk production, hide damage and reproductive disturbances. A six-year-old crossbred Jersey cow was presented with fever, raised circular skin lesions, itching, salivation, panting and decreased milk production. The rectal temperature was recorded at **103.5°F**. Clinical examination revealed multiple raised nodular lesions distributed over the body surface. Based on the clinical signs and history, the case was tentatively diagnosed as LSD. The animal was treated symptomatically with antibiotics, antihistamines, anti-inflammatory drugs and vitamin supplementation along with supportive therapy. Clinical improvement was observed within three days and the animal recovered completely within one week with restoration of normal milk yield. This case highlights the importance of early diagnosis and supportive therapy in managing LSD in cattle under field conditions.

Keywords: Lumpy skin disease, cattle, Capri poxvirus, supportive therapy, case report

Introduction

Lumpy Skin Disease is an infectious viral disease of cattle characterized by fever, nodular skin lesions and lymph node enlargement that leads to serious economic losses in dairy farming (Sain *et al*., 2022, Haider *et al*., 2024). The disease is caused by the Lumpy Skin Disease Virus belonging to the genus *Capri poxvirus* of the family *Poxviridae* (Yuan *et al*., 2025). Although LSD was originally confined to Africa, the disease has spread rapidly to the Middle East, Europe and Asia in recent years, posing a major threat to the livestock sector. Several outbreaks have been reported in South Asian countries including India during the last decade (Krotova *et al*., 2022).

Transmission occurs mainly through blood-feeding arthropod vectors such as mosquitoes, biting flies and ticks, which mechanically transmit the virus between animals (Krotova *et al*., 2022). Direct contact with infected animals and contaminated equipment may also contribute to disease spread (Sendow *et al*., 2024). Clinically, infected cattle may exhibit fever, anorexia, depression, salivation, nasal discharge and characteristic nodular lesions on the skin (Zeedan *et al.,* 2024). These nodules may undergo necrosis and form deep ulcers, often leading to secondary bacterial infections (Haider *et al*., 2024). Although mortality is usually low, the disease causes significant economic losses due to reduced milk yield, infertility and hides damage (Krotova *et al*., 2022). Since no specific antiviral treatment is available, management of LSD largely depends on supportive therapy, prevention of secondary infections and proper herd management practices (Adamu *et al*., 2024).

Case History

A **6-year-old crossbred Jersey cow** maintained under stall-fed dairy management was presented with the following complaints:

- Raised circular lesions on the skin
- Severe itching
- Reduced appetite
- Excess salivation
- Panting
- Decreased milk yield

The owner reported that the lesions had appeared suddenly two days earlier and gradually increased in size. The cow had also shown a noticeable decline in feed intake and milk production. The herd consisted of several dairy cattle housed together in a semi-intensive system. No recent vaccination against LSD had been administered.

Clinical Examination

Clinical examination revealed the following observations:

- Rectal temperature: **103.5°F**
- Reduced appetite
- Salivation
- Mild respiratory distress (panting)

Multiple **raised circular nodules** were present on different parts of the body. The lesions were firm and elevated above the skin surface. These nodular lesions are considered the most characteristic clinical sign of Lumpy Skin Disease infection (Sain *et al*., 2022). The nodules typically range from **0.5 to 5 cm in diameter** and may be distributed throughout the body surface (Zeedan *et al.,* 2024). Affected animals often exhibit systemic signs such as fever, depression and decreased milk production due to the systemic inflammatory response caused by viral infection (Krotova *et al.,* 2022).

Diagnosis

Diagnosis was made based on **clinical signs and characteristic skin lesions**.

Important diagnostic indicators included:

- Fever
- Nodular skin lesions
- Reduced feed intake
- Decreased milk yield

These signs are commonly reported in LSD-infected cattle (Haider *et al*., 2024 , Krotova *et al.,* 2022). Laboratory confirmation using PCR or virus isolation is recommended for definitive diagnosis; however, clinical diagnosis is often sufficient during field outbreaks where typical lesions are present (Yuan *et al.,* 2025).

Treatment and Therapeutic Management

Since LSD is a viral disease, treatment mainly focuses on supportive care and prevention of secondary infections.

The animal was treated with the following therapeutic regimen:

Day 1–3 Treatment

- **Antibiotic SP – 5 g injection**
  (to prevent secondary bacterial infection)
- **CPM injection**
  (antihistamine to reduce itching and hypersensitivity reactions)
- **Flunixin meglumine injection**
  (anti-inflammatory and antipyretic drug)
- **Vitamin A, D and E injection**
  (to improve skin healing and immune response)

Supportive Therapy

- **Glucoboost syrup – 200 ml per day for 5 days**

Supportive therapy is widely recommended for LSD management to control fever, reduce inflammation and prevent complications associated with secondary bacterial infections (Adamu *et al*., 2024). Administration of antibiotics is often necessary because skin lesions can become contaminated with bacteria, leading to delayed healing (Haider *et al*., 2024).

Treatment Outcome

Gradual improvement was observed following treatment.

Within **2–3 days**:

- Fever subsided
- Itching reduced
- Appetite improved

The nodular lesions also began to decrease in size.

Within **one week**, the animal showed significant recovery:

- Skin lesions reduced considerably
- Salivation and panting disappeared
- Appetite returned to normal
- Milk production improved and returned to the previous level

The animal recovered completely without further complications.

Discussion

Lumpy Skin Disease has become an important emerging disease affecting cattle populations worldwide. The disease is caused by the Lumpy Skin Disease Virus, which belongs to the genus *Capri poxvirus* and shares close genetic similarity with sheep pox and goat pox viruses (Yuan *et al.,* 2025). Recent outbreaks reported in several countries highlight the rapid geographic expansion of LSD due to animal movement and vector transmission. Arthropod vectors such as mosquitoes and biting flies play a major role in spreading the virus between animals (Krotova *et al.,* 2022). The economic impact of LSD is considerable because infected animals show reduced milk yield, weight loss and infertility, which ultimately affects farm profitability (Krotova *et al*., 2022). Clinical manifestations such as fever, nodular skin lesions and reduced productivity observed in the present case are consistent with previous reports of LSD infection in cattle (Sain *et al*., 2022, Zeedan *et al.,* 2024). Although no specific antiviral therapy exists, supportive treatment including antibiotics, anti-inflammatory drugs and vitamin supplementation is effective in reducing clinical symptoms and preventing secondary complications (Adamu *et al*., 2024). Early intervention is therefore crucial for improving recovery and minimizing economic losses.

Conclusion

The present case demonstrates that early diagnosis and prompt supportive treatment can successfully manage Lumpy Skin Disease in dairy cattle. Administration of antibiotics, anti-inflammatory drugs and vitamin supplementation helped control clinical signs and prevented secondary infections. The affected animal recovered completely within one week, and milk production returned to normal levels. Implementation of preventive measures such as vaccination, vector control and biosecurity practices are essential to prevent future outbreaks of LSD in dairy farms.

References

Sain, A., Juneja, R., Venu, G., Panwar, K., Devansh, F., Prajapati, S.K., Dutta, S. and Pankaj, D.K., 2022. A review: Lumpy skin disease in cattle. *Theriogenology Insight-An International Journal of Reproduction in all Animals*, *12*(1), pp.17-22.

Haider, A., Abbas, Z., Taqveem, A., Ali, A., Khurshid, M., Naggar, R.F.E., Rohaim, M.A. and Munir, M., 2024. Lumpy skin disease: insights into molecular pathogenesis and control strategies. *Veterinary Sciences*, *11*(11), p.561.

Yuan, X., Xu, X., Li, Q., Wang, C., Xiang, Z., Chen, Y., Hu, C. and Guo, A., 2025. Isolation, identification and phylogenetic analysis of a lumpy skin disease virus strain from diseased beef cattle in China. *Animal Diseases*, *5*(1), p.25.

Ahmed, M.S. 2024. Lumpy Skin Disease: A review of epidemiological study and preventive measures. *Bangladesh*

Journal of Veterinary Medicine (BJVM), *22*(1), pp.7-16.

Krotova, A., Byadovskaya, O., Shumilova, I., van Schalkwyk, A. and Sprygin, A., 2022. An in-depth bioinformatic analysis of the novel recombinant lumpy skin disease virus strains: from unique patterns to established lineage. *BMC genomics*, *23*(1), p.396.

Sendow, I., Meki, I.K., Dharmayanti, N.L.P.I., Hoerudin, H., Ratnawati, A., Settypalli, T.B.K., Ahmed, H.O., Nuradji, H., Saepulloh, M., Adji, R.S. and Fairusya, N., 2024. Molecular characterization of recombinant LSDV isolates from 2022 outbreak in Indonesia through phylogenetic networks and whole-genome SNP-based analysis. *BMC genomics*, *25*(1), p.240.

Zeedan, G.S., Abdalhamed, A.M., Allam, A.M. and Abdel-Shafy, S., 2024. Molecular detection of lumpy skin disease virus in naturally infected cattle and buffaloes: unveiling the role of tick vectors in disease spread. *Veterinary Research Communications*, *48*(6), pp.3921-3939.

Adamu, K., Abayneh, T., Getachew, B., Mohammed, H., Deresse, G., Zekarias, M., Chala, W. and Gelaye, E., 2024. Lumpy skin disease virus isolation, experimental infection, and evaluation of disease development in a calf. *Scientific Reports*, *14*(1), p.20460.