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Case Report

## Lumpy Skin Disease and its clinical management under field conditions: A case report

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### Abstract

Lumpy Skin Disease (LSD) an emerging and devastating viral infectious disease of cattle and buffalos of all ages. LSD causes severe economic loss to the farmers in terms of chronic debility, decreased milk yield, poor growth rate, infertility, abortion and even death. Twenty-seven animals were observed and treated during recent LSD outbreak. Out of 19 cows 18 were in milking and 4 were pregnant. The clinical signs varied from animal to animal. Nodular skin lesions varying in diameter were first sign in animals with mild form of LSD whereas in acutely infected animals' high fever nodular skin lesions were first symptoms. The nodular skin lesions were observed distributed throughout body of animal. The firm circumscribed nodules were concentrated on neck, perineum, genitalia udder and limbs. The infected animals also presented symptoms of high fever, general depression, lacrimation, increased nasal discharges, anorexia and dysgalactia. Permanent loss of one quarter was observed in one cow and loss of full udder in 2 cows. It is concluded that Lumpy skin disease (LSD) is an economically devastating viral disease of cattle characterized by distinctive nodular lesions principally on the skin, hence reduces hide quality. A treatment aimed at preventing LSD complications and saving the life has been successful using a combination of antimicrobials and anti-inflammatory.

**Keywords:** Lumpy Skin Disease, Nodular skin lesions, depression, anorexia and dysgalactia

### Introduction

Lumpy Skin Disease (LSD) an emerging and devastating viral infectious disease of cattle and buffalos of all ages (Rouby et al., 2021; Wani. 2022). LSD causes severe economic loss to the farmers in terms of chronic debility, decreased milk yield, poor growth rate, infertility, abortion and even death (Abutarbush *et al.*, 2013). The most common clinical symptoms are nodular lesions

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on skin and mucous membranes. Animals affected with LSD will have long-term symptoms of mastitis, pneumonia and deep holes in skin (Selim et al., 2021a) in many cases. LSDV is supposed to spread through vectors, lactation spread, blood feeding insects, semen spread and iatrogenic transmission (Weiss, 1968; Carn and Kitching, 1995; Mullen and Durden, 2002; Annandale et al., 2010;). LSD was first reported in Zambia, South Africa in 1929 (Rhodesia, 1932). LSD is an infectious viral disease caused by Lumpy skin disease virus (Murphy et al., 2008).

### **Clinical signs/observations**

Twenty-seven animals including 19 cows, 4 calves, 2 bullocks and 3 heifers (Table 1) were observed and treated during recent LSD outbreak in district Budgam. Out of 19 cows 18 were in milking and 4 were pregnant. The clinical signs varied from animal to animal. Nodular skin lesions (Fig.1) varying in diameter were first sign in animals with mild form of LSD whereas in acutely infected animals' high fever nodular skin lesions were first symptoms. The nodular skin lesions were observed distributed throughout body of animal. The firm circumscribed nodules were concentrated on neck, perineum, genitalia udder and limbs. Purulent / mucopurulent nasal discharge was observed in 15/27 animals. These discharges were caused by necrotic plaques in the nasal mucosa. Excessive salivation and frothing were observed in animals (15/27) with oral lesions. Ulcerative lesions in the cornea of one or both eyes were observed in seven animals. Out of 27 animals 4 animals (3 cows and one calf) died. Two cows became off fed from 9<sup>th</sup> day to 13<sup>th</sup> days. On these days farmers fed these animals wheat bran. The infected animals also presented symptoms of high fever (104.0°F-106.7°F; 40-41.5°C), general depression, lacrimation, increased nasal discharges, anorexia and dysgalactia. Some animals were even reluctance to move. The nodules progressed to scar formation in many animals. Permanent loss of one quarter was observed in one cow and loss of full udder in 2 cows. The edema ruptured in 3 animals and progressed to chronic wounds. 7 animals were treated by paravets and farmers themselves. Out of these seven, two animals died.

Table 1. Status of animals with LSD

	Cows	Calf	Bullock	Heifer
Morbidity	19	3	2	3
Mortality	3	1	0	0
Pregnant	4	.	.	.
Milking	18	.	.	.



### **Diagnosis**

Diagnosis was done on the basis of history, observation of clinical findings and nodular lesions observed on skin of animals.

### **Treatment**

The animals were treated with symptomatically with combination therapy of antibiotics (Enrofloxacin @ 2.5 mg/ kg body weight, Anti Inflammatory Meloxicam @ dose rate of 0.5 mg per/Kg body weight and antihistamines Pheniramine Maleate @ 0.4 to 0.5 mg/Kg, Ivermectin @ 0.2 mg/Kg BW. Loraxine spray (fly repellent) was applied in all animals with ruptured skin nodules. Livertonix Brotone was used as supportive treatment. Mortality was observed among animals treated by para-vets and farmers themselves before they were managed properly.

### **Discussion**

LSD cause significant economic losses to the farmers (Sudhakar et al., 2020) due to decrease feed intake, which causes chronic debility, reduced milk production, infertility, damage the quality of hide, chronic mastitis (Halder and Seikh. 2022). The infected animals present symptoms of high fever, lacrimation, nasal secretions, anorexia, dysgalactia, general depression and reluctance to move (Pandeya., 2020). LSD is a viral disease hence there is no specific treatment. However, supportive treatment including antibiotics, analgesics, multivitamins were given (Wani 2022). Cattle infected with LSD virus showed some clinical symptoms like edema, decrease milk yield, enlargement of lymph nodes, nodular lesions of different sizes on the skin, lameness etc etc. (Awad et al., 2010; 2011; Molla et al., 2017; Okur-Gumusova et al., 2020; Liang et al 2022). Halder and Seikh (2022) reported that diagnosis of LSD countries where it is endemic is done on the basis of history, observation, clinical findings and nodular lesions by the experienced veterinarians. Animals were treated on similar lines by **Feyisa (2018)**.



## Conclusion

LSD is an economically important viral disease characterized by nodular skin lesions on different body parts. The clinical signs varied from animal to animal. Nodular skin lesions varying in diameter were first sign in animals with mild form of LSD whereas in acutely infected animals high fever nodular skin lesions were first symptoms. The nodular skin lesions were observed distributed throughout body of animal. The firm circumscribed nodules were concentrated on neck,



perineum, genitalia udder and limbs. Purulent / mucopurulent nasal discharge was observed in 15/27 animals. Lumpy skin disease (LSD) is an economically devastating viral disease of cattle characterized by distinctive nodular lesions principally on the skin, hence reduces hide quality. A treatment aimed at preventing LSD complications and saving the life has been successful using a combination of antimicrobials and anti-inflammatory.

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