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# Treatment and management of lumpy skin disease in cow: A case report

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**Abstract**
Lumpy skin disease is one of the major health problems of cattle and water buffalo that cause momentous economic losses in the livestock industry. The disease is caused by Lumpy skin disease virus under the genus Capripox virus which is mechanically transmitted by arthropod vectors. Clinically it is characterised by distinctive nodular lesions on the skin which consequently results in loss of production and fertility. As the treatment is only symptomatic therefore; prevention is more effective way to avoid the economic losses.

**Keywords:** arthropods, capripox, cattle, lumpy skin disease

## Introduction
Lumpy skin disease is one of the major health issues that affect the livestock industry of most the developing countries including India. It is principally a disease of cattle caused by Lumpy skin disease virus (LSDV) for which Neethling strain is the prototype and transmitted mechanically by arthropod vectors [1, 2]. Usually LSD is seen during the warm and humid months of the year which is directly associated with vector abundance [3]. LSD results in huge economic losses due to high morbidity and low mortality which is manifested by distinguishing firm, circumscribed, few to multiple skin nodules, which sometimes involve the mucosa of respiratory system, urogenital system and other internal organs [4]. In severe cases, high fever (40-41.5°C), depression and anorexia are clinically manifested along with subsequent decrease in milk production, permanent damage to hide, decreased weight gain and fertility [6, 7]. The treatment is only symptomatic and targeted at preventing secondary bacterial infections using combination of antimicrobial and anti-inflammatory drugs [8, 9]. The current case study deals with therapeutic management of the disease with available effective treatment protocol.

## Materials and Methods
A non-descript cow was presented with chief complaints of generalised lump on different body parts, reduced feed intake and performance of the animal. Initially, the cow was found depressed, lethargic and emaciated. During clinical examination rectal body temperature was recorded as 104 °F while other physiological parameters are within normal range. There was flare-up of small to large sized circumscribed nodules on different areas of the body including both the limbs (Fig.1). Beside the nodular growth, oedematous and inflammatory swelling was also noticed on the right thoracic limb as well as on the brisket region (Fig.2). The case was tentatively diagnosed as lumpy skin disease (LSD) based on the owner's history, typical clinical findings or generalised skin lesions and occurrence of similar outbreaks in nearby localities.

**Fig 1:** Typical nodular lesions distributed over the body

**Fig 2:** Oedematous and inflammatory swelling on right forelimb and brisket region

## Results and Discussion

Treatment was initiated with Enrofloxacin (Inj. Fortivir ™) @ 7.5 mg/kg b.wt. i/mly at 48 hours interval for seven occasions, Chlorpheniramine meleate (Inj. Anistamin ™) @ 0.5 mg/kg SID and NSAID (Inj. Melonex ™) @ 0.5 mg/kg SID i/mly for three consecutive days. Topically Himax ™ ointment was applied on the erupted lesions for prompt healing. Marked recovery and start of feeding was observed after 7 days of treatment.

Usually LSD is manifested as multiple firm circumscribed nodules developed over the different parts of the body particularly the neck region along with very low mortalities (1-3%). However, economic losses occur significantly due to decreased feed intake, milk production, weight gain, fertility and damaged hides [9]. Therefore systemic antibiotic and anti-inflammatory drugs are obligatory for prevention of secondary bacterial infections. But treatment of LSD (its complications) is costly as well as does not ensure full recovery therefore; prevention is more beneficial to avoid the substantial economic losses [10]. The disease may also impose dramatic affects on rural livelihood, which are strongly dependent on cattle husbandry. Effective vaccination and strict farm bio security, the sooner they are used the less severe economic impact of an outbreak is likely to be [11].

## Conclusion

It is concluded that early infection with lumpy skin disease virus can be successfully treated with symptomatic therapy but to reduce the devastating economic loss prevention is better that cure.

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