

## Lumpy Skin Disease

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**ARTICLE ID: 65**

### Introduction

Lumpy skin disease is one of the highly infectious disease of cattle and buffaloes. It is a viral disease which affects all the age groups of animals. The causative virus resembles to the sheep pox virus. Cattle and water buffaloes are the worst victims of this disease making it highly host specific. Biting flies such as certain species of flies, mosquitoes and ticks are the mechanical vector of this disease. The disease can also spread by fomites such as contaminated equipment, fodder, water, saliva, nasal discharge, milk, semen of affected animals and directly from animal to animal contact. The disease is not fatal but the greatest economic loss of the farmers is due to reduced milk yield, temporary or permanent sterility in bulls, loss of condition and reduced value of hide of the animals.

### Epidemiology

Basically, the origin of this disease is from Africa. Later, it spreads to other countries like Turkey, Eastern Europe and Asian countries like Bangladesh, Pakistan, China and India in 2019. In 2020, the cases of lumpy skin disease have been reported from Bhutan, Nepal, Hong Kong, Sri Lanka, Taiwan, Vietnam and Myanmar. Recently, the cases of this disease have also been reported from Indonesia in March, 2022. Although in this year, several outbreaks of lumpy skin disease have also been reported from various states of India such as Rajasthan, Gujarat, Uttarakhand etc. The disease has got seasonal incidence as most of the cases have been reported in wet summer weather. Although this disease may also occur during winter months. Morbidity rate of the disease is 5-50% where as mortality is usually

low. Recently, this disease is considered as notifiable disease by World Organization for Animal Health.

### Clinical Signs

The disease is characterized by high fever, ocular discharge, nasal discharge, profuse salivation and pale mucous membrane (Fig.2). The regional lymph nodes of the animal become swollen (Fig.3,4). Characteristic skin eruptions which are round, firm, painful, slightly raised and well circumscribed nodules spread all over the body, i.e., body, face, muzzle and udder (Fig.1,5,6,7). There is edema on the brisket region, legs and udder. Sometimes, secondary infection may occur and causes extensive suppuration and sloughing. There may also be marked reduction in milk yield of the lactating animals, abortion in pregnant animals and loss of condition. The value of hide of the affected animals got reduced. In severe cases, the animal become anorectic and depressed, later on laterally recumbent, comatosed and died.



Fig1. Characteristic slightly raised skin eruptions. Fig 2. Pale mucous membrane

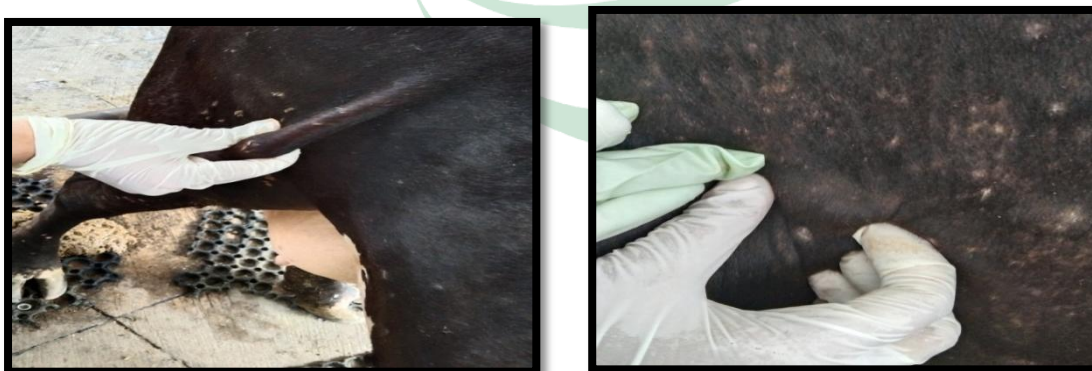
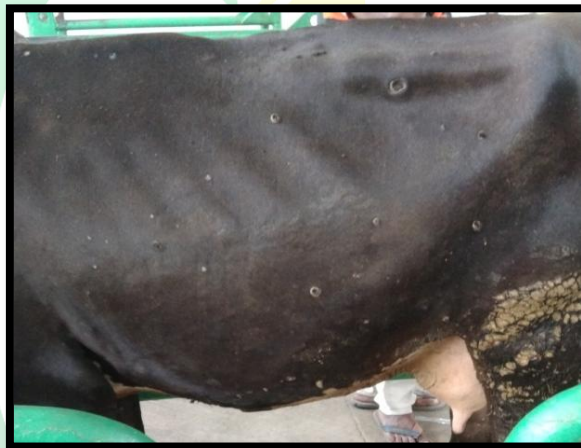


Fig 3 and Fig 4. Swollen lymph nodes on palpation

**Fig 5. Lesions on udder****Fig 6. Lesions on face and muzzle****Fig 7. Lesions on the body**

### **Diagnosis**

Diagnosis is often confusing but the only distinctive feature is the characteristic nodules on the skin & mucosal surfaces and high fever. Laboratory test includes histopathological examination of the characteristic nodules spread over the body, virus isolation and polymerase chain reaction. This disease is differentiated with Pseudo lumpy skin disease which is also known as Bovine herpes mammilitis. It is a milder infectious disease caused by bovine herpes virus-2 where lesions remain confined to teats and udder of the animals.

### **Treatment**

Treatment should be given usually on the basis of the symptom's animal is showing. Administration of antibiotics, anti-inflammatory and multivitamin injections are directed to control secondary bacterial infection, inflammation, fever and for improving the appetite of the animal. Along with this, good nursing care are also recommended. However, various reports also suggested that the combination of Enrofloxacin and Ketoprofen are quite effective for the affected animals in the field conditions. Some homeopathic medication such as Arsenic 200, Belladonna 200 and Thuja 200 are also been administered in the affected animals of Western Rajasthan. Five drops of these medications are given on empty stomach either directly by smearing on the tongue or sprinkling on small tiny pieces of chapati/roti. Along with this, Homeonest V drops-25, a homeopathic medication which provides immunity against this disease, are administered as 20-25 drops qid. For skin lesions, Marigold Plus liquid antiseptic spray is applied regularly for 10- 15 days tid.

#### **Preventive Measures**

Mass vaccination is the only method for prophylaxis of the disease. Currently, Hester Biosciences is the only Indian company who is taking initiative in the development of vaccine for lumpy skin disease. The vaccine for this disease is originally registered as goat pox vaccine and the recommended dose in cattle and buffalo is 3ml. Along with vaccination, strict hygiene and good nursing care should be practiced for the prevention of this disease. Insecticidal sprays should be used twice a week for keeping the environment free from biting flies. Balanced diet containing vitamins, minerals and adlib water should be provided to the animals. If animal found infected, then should be quarantined and treatment should be provided immediately by a veterinarian. Quarantined animal should be restricted for grazing in fields as saliva act as a source of infection for the healthy ones.