

**A case report on clinical management of Lumpy Skin
Disease (LSD) in Chandanaish Upazilla, Chattogram,
Bangladesh.**



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**A case report on clinical management of Lumpy Skin
Disease (LSD) in Chandanaish Upazilla, Chattogram,
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Abstract

Lumpy skin Disease (LSD) is a transboundary disease of cattle originated in Africa. In recent years it has emerged in different countries with a severe impact on production. Bangladesh has now encountered the second consecutive year's outbreak of LSD. The first outbreak occurred in 2019 while disease manifested with high fever, skin nodules and edema. The reported morbidity rate was 10 to 20% with a 1-5% mortality rate. Sharp decrease in milk production, long time treatment cost and reproductive difficulties lead to the widespread financial loss of farmers. But the scarcity of literature on the epidemiology, vector and genetic characteristic of the virus in Bangladesh cause delay in diagnosis and reporting which make the situation become worst. Quarantine and mass vaccination are efficient tools to halt the epidemic.

Key Words: Lumpy skin disease, Treatment.

Chapter 1: Introduction

Lumpy skin disease (LSD, Pseudo-urticaria, Neethling virus disease, exanthema nodularis bovis) is an infectious disease. It is caused by a virus, Lumpy skin disease virus (LSDV) in the family *Poxviridae*, Genus *Capri poxvirus*. It is closely related antigenically to sheep and goat pox virus. However, these viruses cannot be differentiated using routine serological test (Alexander *et al* 1957). LSD is a disease of cattle and water buffalo. It is a vector-borne disease transmitted by different biting and biting blood- feeding arthropods (mosquitoes, flies, ticks). LSD Causes considerable economic losses due to emaciation, damage to hides, infertility, mastitis, loss of milk production. The incubation period is 4–14 days.

The nodules are well circumscribed, round, slightly raised, firm, and painful and involve the entire cutis and the mucosa of the GI, respiratory, and genital tracts. Nodules may develop on the muzzle and within the nasal and buccal mucous membranes. The skin nodules contain a firm, creamy-gray or yellow mass of tissue. Regional lymph nodes are swollen, and edema develops in the udder, brisket, and legs. Secondary infection sometimes occurs and causes extensive suppuration and sloughing; as a result, the animal may become extremely emaciated, and euthanasia may be war LSDV is susceptible to 55°C/2 hours and 65°C/30 minutes. It can be recovered from skin nodules and kept at –80 °C for 10 years. The infected tissue culture fluid can be stored at 4°C for 6 months. The virus is susceptible to highly alkaline or acid pH.

Chapter 2: Materials and methods

Study area:

The study was conducted in Upazilla Veterinary Hospital (UVH) at Chandanaish. The study period was two months from 13th October 2019 to 13th December 2019.

Case history and Clinical findings:

A seven month old calf with the history of anorexia, fever and nodules in the skin since a week. On close physical examination, the temperature of the infected animals raises to 40- 41.5°C, lacrimation, increased nasal and pharyngeal secretions, anorexia, nodules and edema in brisket.

There was no history of vaccination and deworming and previously administration of drug.

Sample collection:

Total 6ml blood was collected from jugular vein of the calf with sterilized syringe and put into a sterilized tube, containing Lithium heparin for CBC analysis, labelled carefully and sent to physiology lab.

Name of the test	Result	Normal Range
Total count of WBC	6.3	4-12(thousand/cumm)
Total count of RBC	7.7	5-10(million/cumm)
Hemoglobin	10.5	8-15gm%
Lymphocyte	76	45-75%
Monocyte	05	0-8%
Eosinophil	09	0-20%
Neutrophil	17	15-33%

Table 1: Routine blood test

Treatment:

The animal treated with streptomycin and penicillin (Sterptopen, Renata Drugs Bangladesh Limited, 2.5 gm vial) combine preparation intramuscularly once at daily for 7 days, antihistaminic (Histavet, ACI pharmaceutical limited, vial 10 ml) at 22.75mg/10 kg BW intramuscularly once daily for 7 days, NSAID drugs (Fevenil, Renata Drugs Bangladesh Limited, 10 mlvial) at 2mg /kg BW intramuscularly once daily for 5 days. Also, prescribed to apply Ectoparasiticides (Ectonil vet, Sqaure pharmaceuticals limited) on the lesions twice daily for 7 days.



Fig 1: Field practice of LSD



Fig 2: The animal after giving treatment

Chapter 3: Results & Discussion

Based on the clinical signs, history, the current incident was considered as LSD which indicates clinical manifestations of LSD. The infected animals may show fever commonly rises to 40-41.5°C, lacrimation, increased nasal secretions, and anorexia. The usual manifestations of LSD are multiple firm circumscribed nodules developed in the skin of the animals in which head, neck, the perineum, the genitalia, udder, and the limbs are principally involved. The regional lymph nodes are easily palpable and enlarged 3-5 times their normal size. Most cases may complicate or extend to other underlying tissues or internal organs and may sequel in economically significant disorders. LSD is not associated with high mortalities (13%). The losses are significantly due to decreased feed intake, milk production, abortion, infertility, and damaged hides .Therefore systemic antibiotic and anti-inflammatory drugs are obligatory for skin infections and economic losses. . In this case study, the blood examination report shows that Lymphocyte is higher in blood level, which shows animal suffering from infectious diseases. So due to lack confirmatory diagnostic tools, it is important to diagnose the animal according response to treatment.

In the current incident, Dexamethasone can be for having high fever, anorexia, nodular lesions. It can be used as a lifesaving drug during this critical stage. However, the treatments do not guarantee full Recovery as the skin nodular restoration prolonged and healed with scar. But foresaid line of treatment having good recovery result. Control of Lumpy skin disease by quarantine and movement control is not very effective because biting flies and certain tick species are the most important method of transmission of the disease. By using of insecticides together with repellents can be an aid in the prevention of the spread of LSD. Lumpy skin disease outbreaks can be eradicated by quarantines, proper disposal of carcasses, cleaning and disinfection of the premises and insect control.

Limitations

Specific media and other modern technique like ELISA, PCR, rtPCR, are expensive enough to perform. It is also time expensive. The study period was short. The owners were reluctant to bring their infected cattle to Upazilla veterinary Hospital.

Conclusion

Lumpy skin disease (LSD) is an economically devastating viral disease of cattle characterized by distinctive nodular lesions particularly nodular lesions on the skin, hence reduces the 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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Biography

I am Md. **Rajibul Hasan Rony**, only son of **Abdus Salam Matabbar** and Mrs. **Rashida Begum**. I passed SSC examination in 2011(G.P.A-5.00) followed by HSC examination in 2013 (G.P.A-5.00). Now, I am an intern veterinarian under the Faculty of Veterinary Medicine (FVM) in Chittagong Veterinary and Animal Sciences University. In the future, I would like to work as a veterinary practitioner.