



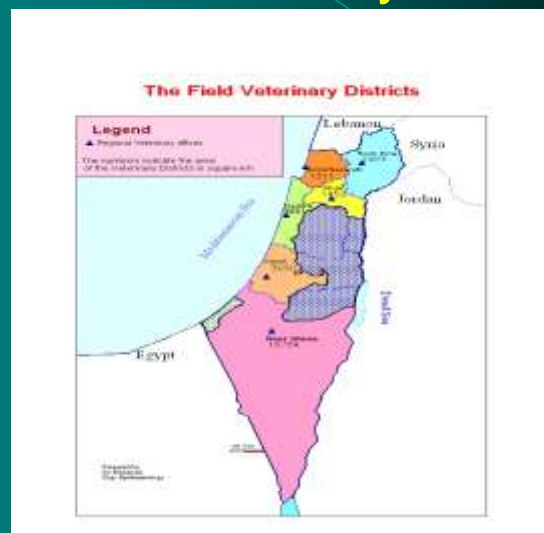
LUMPY SKIN DISEASE (LSD)

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The field veterinary Districts





The agent

- ❖ Family: *Poxviride*
- ❖ Genus: *Capripoxvirus*
- ❖ Strain: *Neethling (Sheepox, goatpox)*
Species specific
(neethling: buffalo, cattle)



History

- The disease was first diagnosed in Zambia at 1929 and was named PSEUDO URTICARIA due to its resemblance to skin allergy reaction.
- At the early 40^s LSD was spread in south and east Africa.
- In the 1970s it extended northwest through the continent
- Since 2000 it has spread to several countries of the Middle East.
- In 2013 it was confirmed in Turkey.
- In 2015: Russia Macedonia and Greece



Geographical distribution of LSD





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Clinical manifestations

- The incubation period is 5 days- 5 weeks
 - In the first stage of the disease:
Pyrexia (high fever) , Lacrimation, Hypersalivation, Nasal discharge
 - Followed by:
 - characteristic eruptions on the skin (raised, circular and firm nodules anywhere on the body) and the mucosa of the GI, respiratory, and genital tracts.
 - Swollen regional lymph nodes
 - Edema develops in the udder, brisket and legs (lameness)
- Secondary infection leads to extensive suppuration and sloughing of nodules (followed by emaciation)



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Clinical manifestations

- ❖ In time, the nodules either regress, or slough (after necrosis of the skin) to leave ulcers which heal and scar.
- ❖ The morbidity rates in LSD is up to 95%
The mortality rates in LSD is up to 25%
- ❖ The course of the disease and healing is very slow.



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Transmission

- Main route: by biting and blood feeding insects (no specific vector was demonstrated to this day!).
- Mechanical transmission.
- Minor route: Infection by direct contact can occur, and is not considered a major component of transmission during epizootics.



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Transmission

- Transmission may also occur by ingestion of feed and water contaminated with infected saliva.
- Infected needles.

African buffalo are suspected as maintenance hosts in Kenya



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Differential diagnosis

- Pseudo-lumpy skin disease
- Bovine herpes mammillitis
- Dermatophilosis
- Ringworm
- Insect or tick bites
- Rinderpest
- Demodicosis
- *Hypoderma bovis* infection
- Photosensitization
- Bovine papular stomatitis
- Urticaria
- Cutaneous tuberculosis



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Diagnosis

- Clinical manifestation in the field.
- PCR
- Isolation of the virus in the laboratory
- Field sampling: biopsy of the nodule, Whole blood (EDTA)



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Treatment

There is no specific antiviral treatment available for LSD infected cattle.

Nursing care may help (move to shaded area, serve quality food and water, treat pyrexia)

Antibiotics for secondary infection

Up to 6 months for severely affected animals to recover fully

Sick animals may be removed from the herd and given supportive treatment



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Economic Impact

- Loss of animals (deaths)
- Treatment and control costs
- Loss of production
 - Severe emaciation
 - Lowered milk production
 - Abortion
 - Secondary mastitis
 - Loss of fertility
 - Extensive damage to hides



Control

- Insect control in premises and on animals.
 - Extensive vaccination.
 - Movement controls.
 - Stamping out or modified stamping out.
 - Disinfection
- Non-endemic areas
- Keep free with import restrictions and proper quarantine



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Disinfection

- Virus susceptible to:
 - Ether (20%)
 - Chloroform
 - Formalin (1%)
 - Some detergents
 - Phenol (2% for 15 minutes)
- Virus can survive up to 35 days in the environment in desiccated scabs



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Thank you for listening

