



SETH G B PODAR COLLEGE
NAWALGARH, JHUNJHUNU



UNNAT BHARAT ABHIYAN
INDIAN INSTITUTE OF TECHNOLOGY
JODHPUR



State level workshop
ON

**Gramin Vaigyaanik Chopal:
Symptoms of Lumpy Virus and
Methods of Prevention**

Let's register with link

<https://forms.gle/4JFFXvdiK7kxxaw29>



JOIN NOW

meet.google.com/mxd-rrna-dyf



Start 11.00AM - 01.00 PM

12 August, 2022



DR. RAJESH NEHRA

CVAS, RAJUVAS,
Bikaner



DR. KASHI NATH

Veterinary Officer
NRC Camel, Bikaner



DR DAU LAL BOHRA

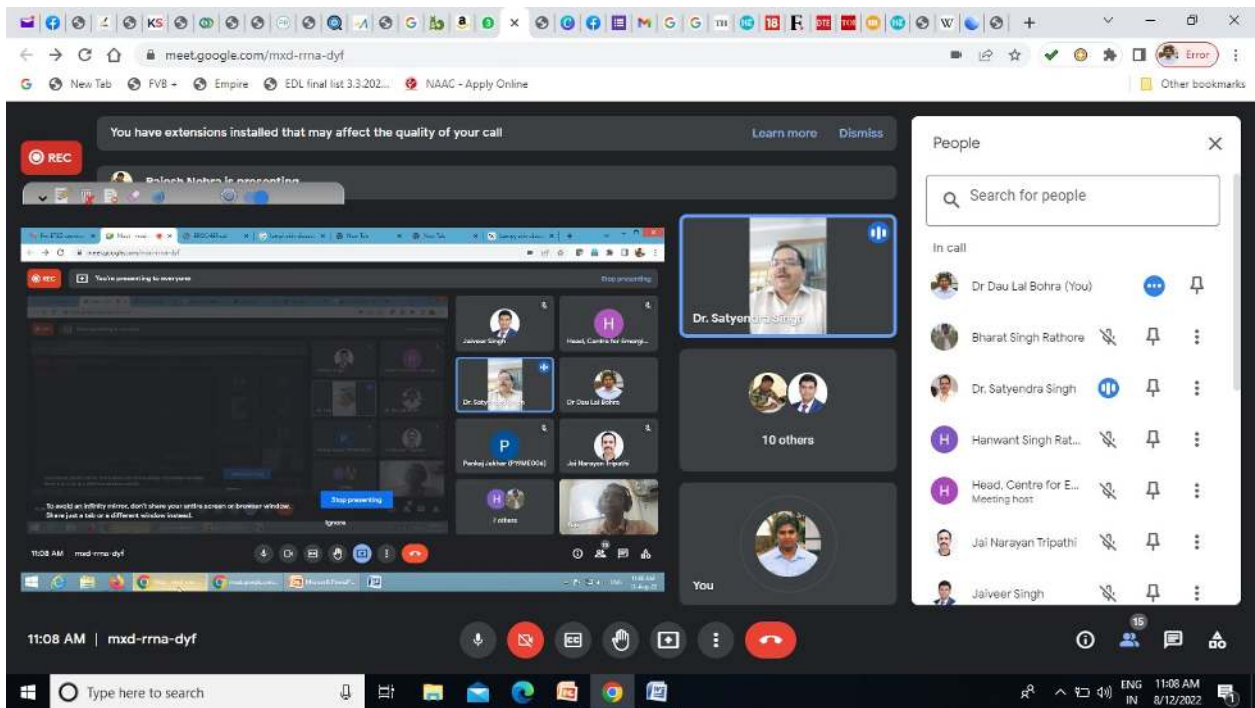
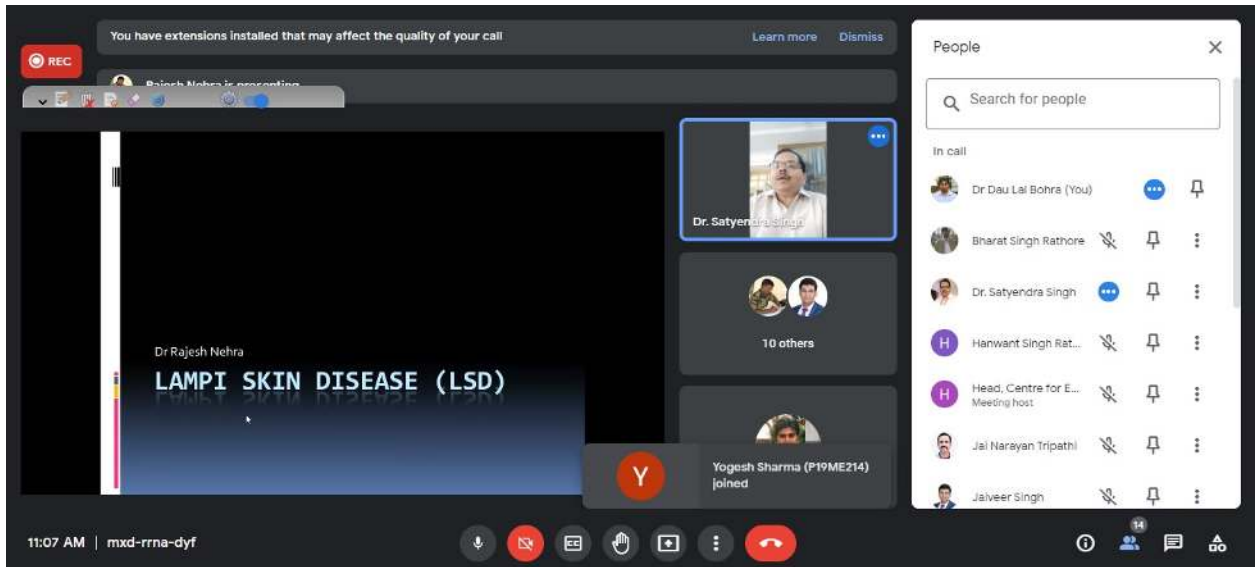
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REC

Rajesh Nehra is presenting

History

Lumpy skin disease was first seen as an epidemic in Zambia in 1929. Initially, it was thought to be the result of either poisoning or a hypersensitivity to insect bites. Additional cases occurred between 1943 and 1945 in Botswana, Zimbabwe and the Republic of South Africa. Approximately, 8 million cattle were affected in a panzootic infection in South Africa in 1949, causing enormous economic losses. LSD spread throughout Africa in the 1950s, 60s, and 70s, affecting cattle in Kenya, Uganda, Somalia, and Cameroon.

Jai Narayan Tripathi has left the meeting

Rajesh Nehra
Jaiveer Singh
Head, Centre for Emer...
kashi nath
Dr. Satyendra Singh
Hanwant Singh Rathore
Athuko Tayu
14 others
You

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Rajesh Nehra is presenting

vectors

Blood-feeding insects such as mosquitos and flies act as mechanical vectors to spread the disease. A single species vector has not been identified. Instead, the virus has been isolated from Stomoxys, Biomyia fasciata, Tabanidae, Glossina, and Culicoides species.

Rajesh Nehra
Jaiveer Singh
Head, Centre for Emer...
kashi nath
Dr. Satyendra Singh
Hanwant Singh Rathore
Athuko Tayu
14 others
You

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Rajesh Mehra is presenting

Other transmission medium

The virus can be transmitted through blood, nasal discharge, lacrimal secretions, semen and saliva. The disease can also be transmitted through infected milk to suckling calves.

In experimentally infected cattle, LSDV was found in saliva 11 days after the development of fever, in semen after 22 days, and in skin nodules after 33 days.

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Participants: Rajesh Mehra, Jaiveer Singh, Head, Centre for Emer..., kashi nath, Dr. Satyendra Singh, Athuko Teyu, Hanwant Singh Rathore, 15 others, You.

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Rajesh Mehra is presenting

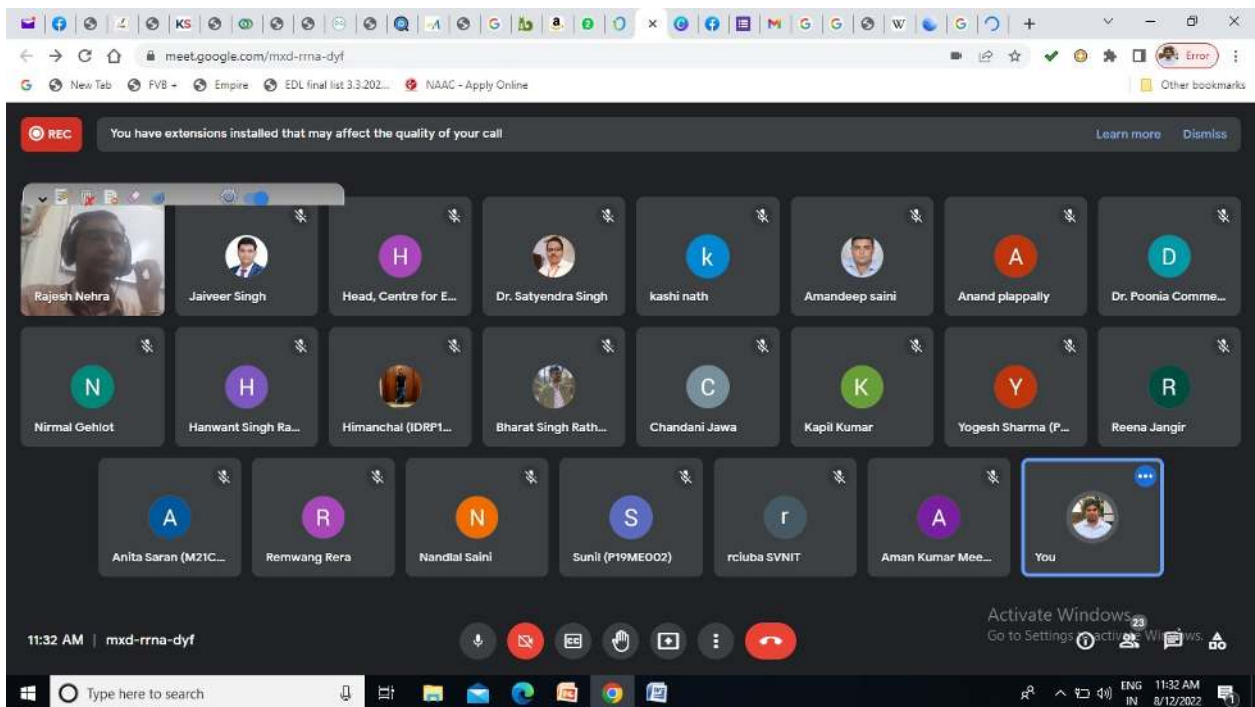
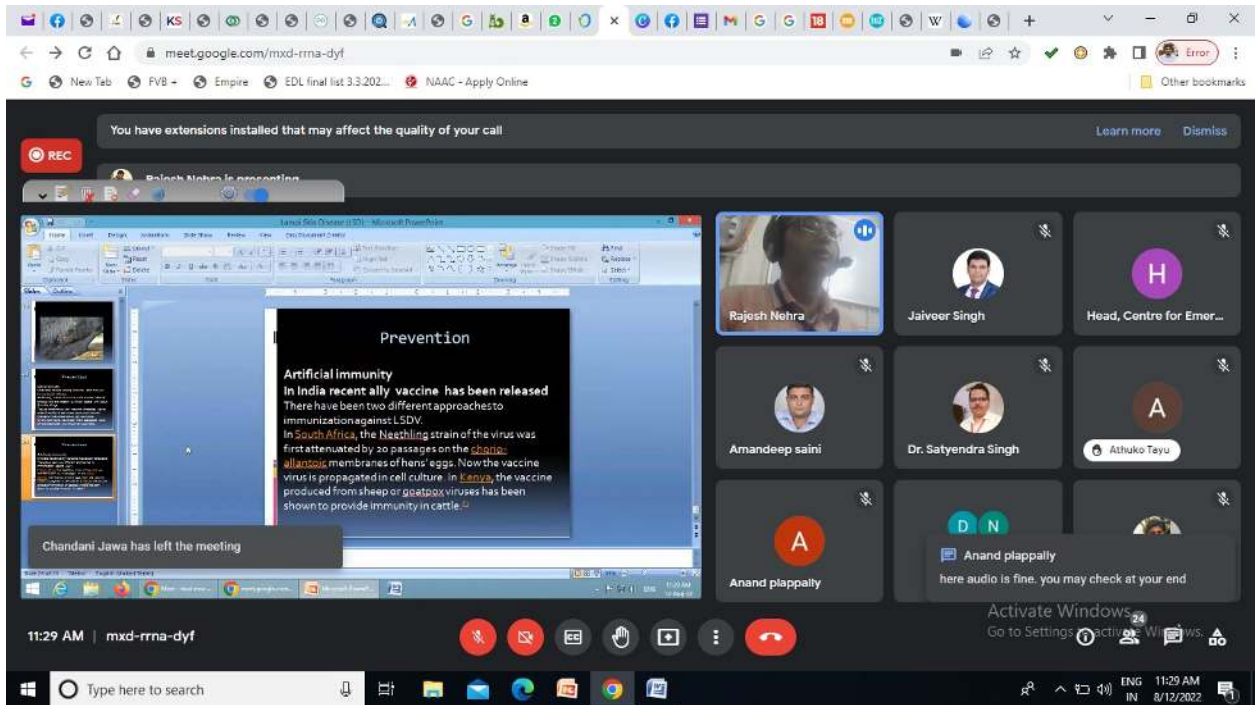
Prevention

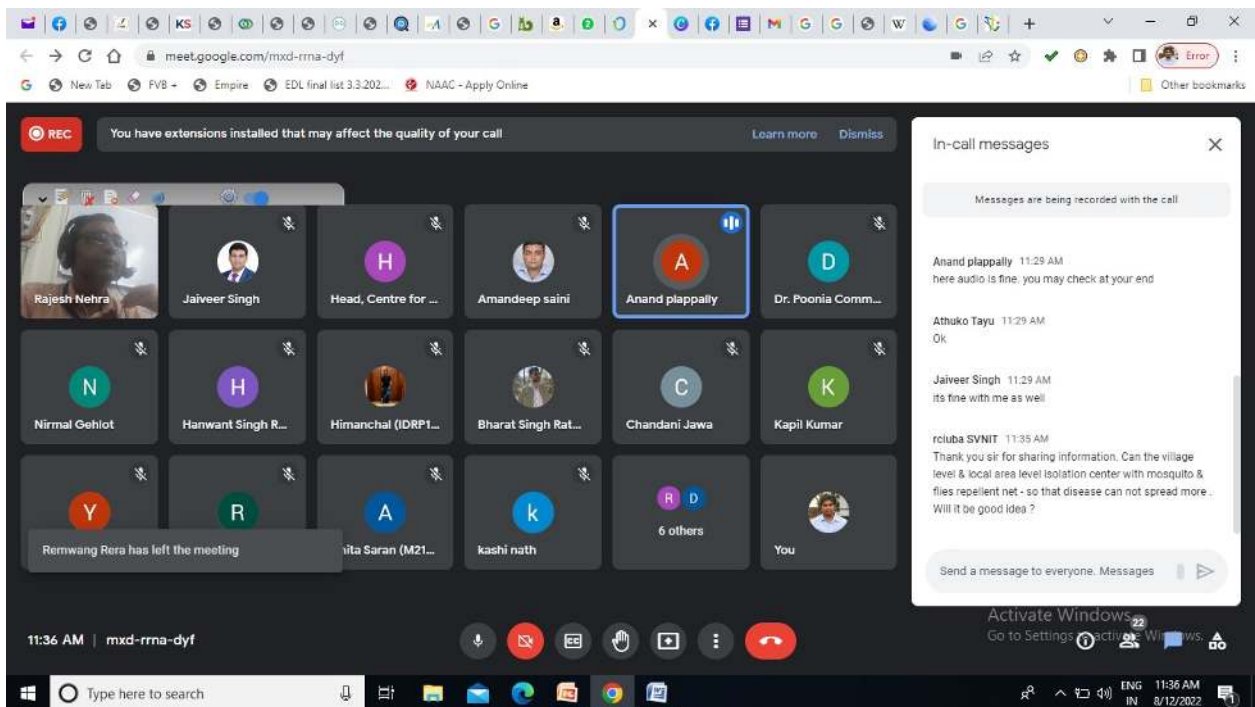
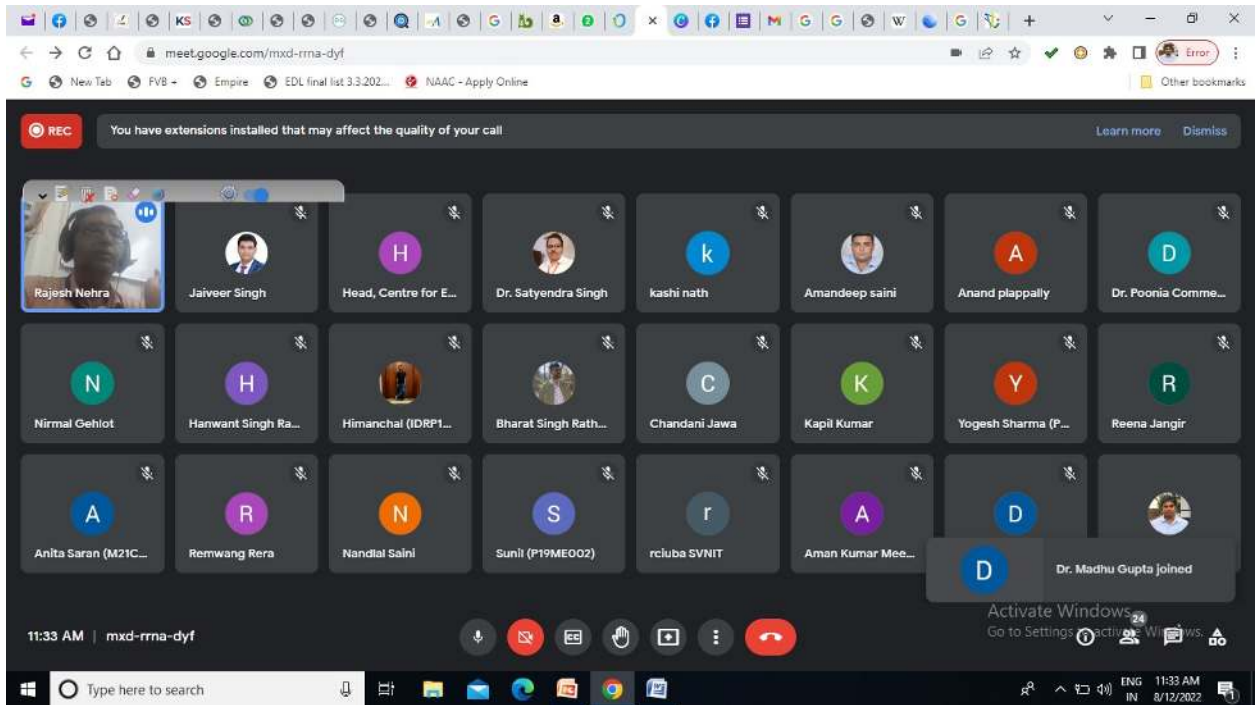
Natural immunity

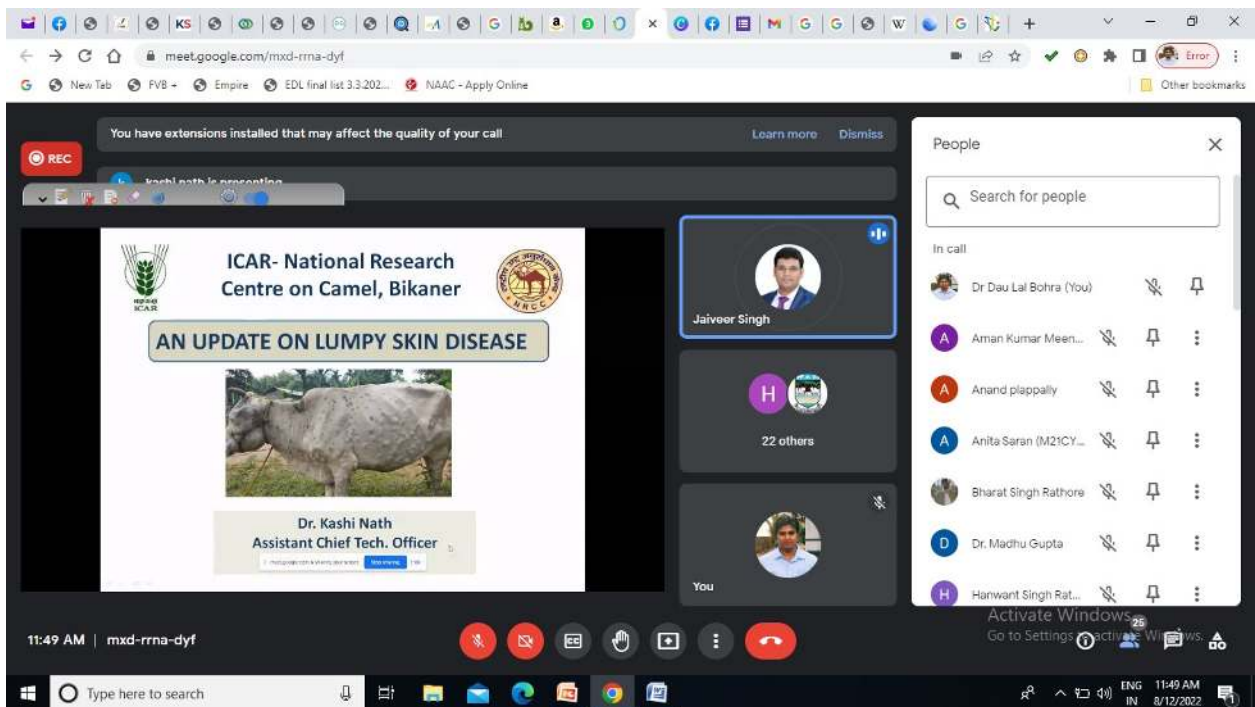
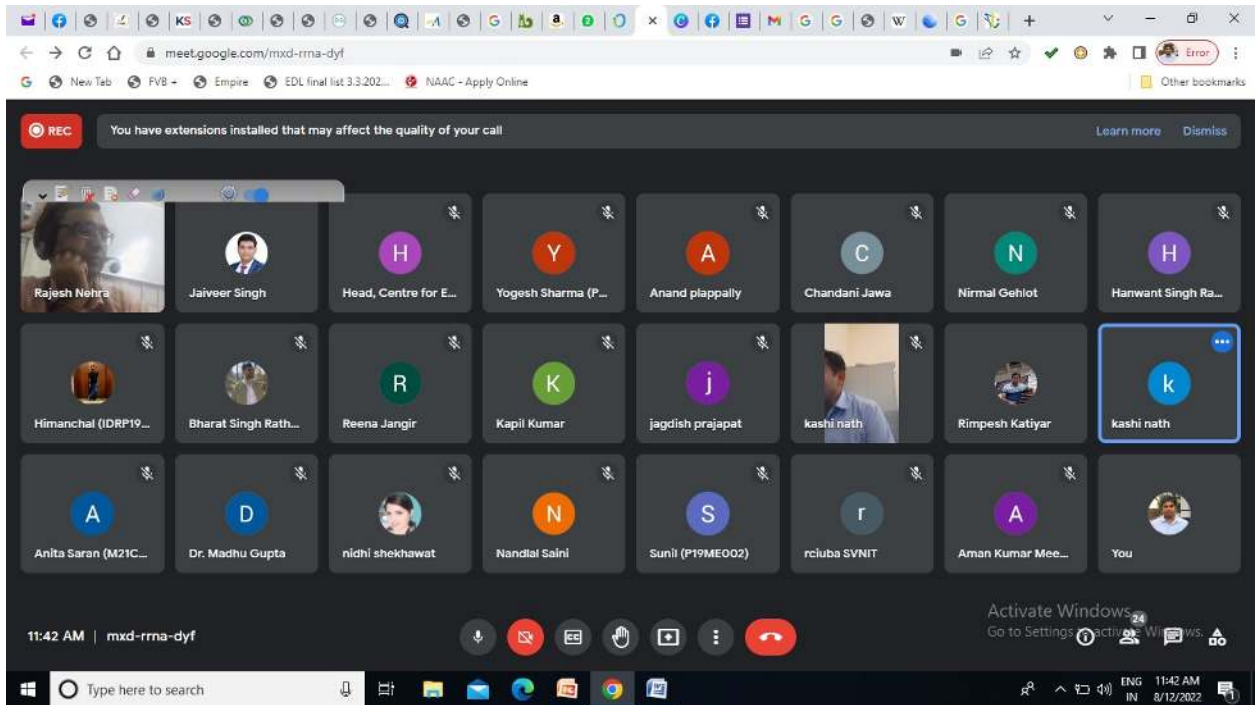
Most cattle develop lifelong immunity after recovery from a natural infection. Additionally, calves of immune cows acquire maternal antibody and are resistant to clinical disease until about 6 months of age. To avoid interference with maternal antibodies, calves under 6 months of age whose dams were naturally infected or vaccinated should not be vaccinated. On the other hand, calves born from susceptible cows are also susceptible and should be vaccinated.

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Participants: Rajesh Mehra, Jaiveer Singh, Head, Centre for Emer..., Amandeep saini, Dr. Satyendra Singh, Athuko Teyu, kashi nath, 16 others, You.







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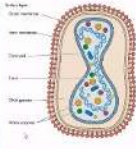
kashi nath is presenting

LUMPY SKIN DISEASE VIRUS

Family: Poxviridae
Genus: *Capripoxvirus*
 Closely related to sheep and goat pox
 Cannot be differentiated with serology



Domain: Virus
Group: Ds DNA Virus
Family: Poxviridae
Subfamily: Chordopoxvirinae
Genus: Capripoxvirus
Species: Lumpy skin disease virus



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People

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In call

- Dr Dau Lal Bohra (You)
- Anand plappally
- Bharat Singh Rathore
- Dr. Madhu Gupta
- Hanwant Singh Rat...
- Head, Centre for E... Meeting host
- Himanchal (IDRP19S...

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kashi nath is presenting

Contd.

First reported to OIE from India: 18/11/2019

Occurrence: 12/06/2019
Confirmation: 14/11/2019

As of August 8, 2022 the disease has spread to Rajasthan, Gujarat, Punjab, Himachal Pradesh, Andaman & Nicobar and Uttarakhand



Outbreak 1: Himachal Pradesh, Rajasthan, Gujarat, Andaman & Nicobar

Date of start of the outbreak: 12/06/2019

Head and Organized by: kashi nath

kashi nath has left the meeting

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People

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In call

- Dr Dau Lal Bohra (You)
- Aman Kumar Meen...
- Anand plappally
- Bharat Singh Rathore
- Dr. Madhu Gupta
- Hanwant Singh Rat...

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EPIDEMIOLOGY

- Morbidity is widely variable between 3% to 85%.
- Usually 10% to 20% are normal.
- Mortality rates of 1 to 5% are considered usual.
- It may be up to 15-20%



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POTENTIAL RISK FACTOR

Table 2. Potential Risk Factors of Leptospirosis Disease.

Types	Items	Risks
Microbiological	Species	Cattle serovar susceptible to the bacteria
	Gender	Both are susceptible
	Age	Younger are vulnerable from this
Age related	Food	Cross breed of more susceptible from subgroups
	Drying and feed and water	ESK person available
	Living and housing	ESK's stable
	Interaction with food	ESK person 0.7 days and 0.1% percent 10 days
Immune	Immune	ESK person approximately 12 days
	Toxins	ESK person approximately 11 days
	Diagnosis	ESK person to subacute form
Environmental/Management	Water and animal disease	From production of susceptible, also not stable
	Microbes	From abundance of host feeding insects
	Resilience/epidemic	Stable entry of cross contact to feed

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INCIDENCE IN ANIMALS

- ✓ Cattle (30.8%)
- ✓ Buffaloes (1.6%)
- ✓ Arabian Oryx (1.0%)
- ✓ Giraffe (1.0%)
- ✓ Impala (1.0%)
- ✓ Yak (1.0%)

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PATHOGENESIS

Development of virus (LSDV in Monds)

Localization in the skin and development of inflammatory nodules (nodular skin lesions develop (1-2 cm in diameter) and the predilection sites include skin of the head, neck, sides, pectorum and genitalia)

Spreading of virus (mainly by monocytes) at secondary sites of infection

Keratinocytes tropism of LSDV, hyperplasia and ballooning degeneration of keratinocytes

Formation of epidermal microvesicles, inflammatory cells infiltration into dermis

Coalescence of epidermal microvesicles into large vesicles and ulceration develops

A schematic diagram of LSD pathogenesis.

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- Aman Kumar Meen...
- Anand plappally
- Bharat Singh Rathore
- Dr. Madhu Gupta
- Hanwant Singh Rat...

CLINICAL SIGNS

- Incubation period 2 to 5 weeks Inapparent to severe infection
- Fever that may exceed 41°C (106°F)
- Marked reduction in milk yield in lactating cattle.
- Depression, anorexia and emaciation.
- Rhinitis, conjunctivitis and excessive salivation.
- Enlarged superficial lymph nodes
- Pregnant cows may abort and be in anoestrus for several months!
- Bulls may become permanently or temporary infertile

kashi nath

Head, Centre for...

UBA KUD

Rajesh Nehra

Vivek Vijay joined

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In-call messages

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GOOD MORNING EVERYONE,
UBA (RCI), KARNATAKA UNIVERSITY DHARWAD

Kapil Kumar 11:55 AM
Please sir you can speak in hindi language.

Anand plappally 12:03 PM
<https://www.oalixt.com/comparative-studies-on-jumpy-skin-disease-virus-in-human.pdf>

You 12:05 PM
Sure Kapil

Send a message to everyone. Messages

DIAGNOSIS

- Clinical Symptoms
- Characteristic skin nodules
- Laboratory Virus isolation and identification
- Electron microscopy in combination with history
- Serology: cross-reactions with other poxviruses may occur
- Before collecting or sending any samples, the proper authorities should be contacted
- Samples should only be sent under secure conditions and to authorized laboratories to prevent the spread of the disease

kashi nath

Head, Centre for...

UBA KUD

Rajesh Nehra

16 others

You

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TREATMENT

- Animals generally recover with good nursing care .
- There are no specific antiviral drugs available but, supportive treatment can be given to the infected animals which include the treatment of the skin lesions and antibiotics to check secondary bacterial infection and anti-inflammatory drugs
- Treatment with enrofloxacin along with antihistaminics, NSAIDs and Vit B-complex for 3-10 days depending upon the severity of cases was the most cost-effective as compared to other treatment protocols.

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kashi nath is presenting

TREATMENT

- Animals generally recover with good nursing care .
- There are no specific antiviral drugs available but, supportive treatment can be given to the infected animals which include the treatment of the skin lesions and antibiotics to check secondary bacterial infection and anti-inflammatory drugs
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REC kashi nath is presenting

TREATMENT

- The topical application of antiseptic ointment with fly repellent properties can be a good choice.
- Ivermectin strongly inhibits invitro replication stage of lumpy skin disease virus (99.82 % inhibition) and sheep pox virus (99.87% inhibition).

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PREVENTION AND CONTROL

Disease Free countries: (India was free till 2019)

- Import restrictions on animals and selected animal products.
- Surveillance measures to detect LSD are recommended over a distance of at least 20 kilometers from an infected country or zone
- **Infected countries:**
- Restriction of movement of cattle in infected regions, removal of clinically affected animals, and vaccination.
- Proper disposal of dead animals (e.g. incineration), and cleaning and disinfection of premises and implements are recommended for LSD.
- There is currently no evidence of the efficacy of vector control in preventing disease

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VECTOR POPULATION CONTROL MEASURES

- ✓ Use of Mosquito net
- ✓ Spray of insecticide
- ✓ Avoid animal gathering

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CLEANING ANIMAL SHED WITH

- Sodium hypochlorite (2-3%)
- Ether (20%)
- Chloroform
- Formalin (1%)
- Phenol (2% for 15 minutes)
- Iodine (1:33)

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PROPHYLAXIS

- ✓ Homologous LSDV live attenuated vaccine strain for example "Neethling" LSD strain
- ✓ Homologous live-attenuated LSD vaccine "Lumpi-ProVacnd" ICAR-National Research Centre on Equines (ICAR-NRCE), Hisar (Haryana), in collaboration with ICAR-Indian Veterinary Research Institute (IVRI), Izatnagar, Uttar Pradesh has developed This vaccine
- ✓ "Heterologous" sheep pox or goat pox virus live attenuated vaccine strain.

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kashi nath, Rajesh Nehra, Head, Centre for E..., Anand plappally, Jaiveer Singh, jagdish prajapat, Nirmal Gehlot, Laxya Jangir, Naresh Patidar, Hanwant Singh Ra..., Aman Kumar Mee..., Bharat Singh Rath..., Surendra Kumar (...), Yogesh Sharma (P..., Vivek Vijay, Dr. Madhu Gupta, nidhi shekhawat, Kapil Kumar, Nandlal Saini, Sunil (P19ME002), rcluba SVNIT, You

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Surendra Kumar (...), UBA KUD, Head, Centre for E..., kashi nath, Rajesh Nehra, Jaiveer Singh, kashi nath, Anand plappally

jagdish prajapat, Laxya Jangir, Sanjeev Kumar (M..., Hanwant Singh Ra..., Nirmal Gehlot, Bharat Singh Rath..., Vivek Vijay, Mitail Mukerji

Dr. Madhu Gupta, DEEPAK KUMAR, nidhi shekhawal, Kapil Kumar, rciuba SVNIT, You

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Surendra Kumar (...), UBA KUD, Head, Centre for ..., kashi nath, Rajesh Nehra, Jaiveer Singh

kashi nath, Anand plappally, jagdish prajapat, Laxya Jangir, Sanjeev Kumar (...), Hanwant Singh R...

DEEPAK KUMAR, Bharat Singh Rat..., Vivek Vijay, Mitail Mukerji, 5 others, You

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In-call messages

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UBA KUD 12:35 PM
Respected Sir, whether the vaccination is free for LSD infected animals?

UBA KUD 12:37 PM
thank you sir

rciuba SVNIT 12:46 PM
Dear sir, the Government can also provide / introduce balanced diet / minerals for weak cattle through village PDS system ? (Reach out is too important ON TIME)

Send a message to everyone. Messages



गांठदार त्वचा रोग वायरस (LSDV)

- लंपी त्वचा रोग जटिल, संक्रिय, जू एवं लतैयी के कारण फैलता है। जिसे गांठदार त्वचा रोग वायरस (LSDV) कहते हैं।

लंपी त्वचा रोग की होती हैं 3 प्रजातियाँ-

लंपी त्वचा रोग की मुख्यतः तीन प्रजातियाँ होती हैं।

- कैप्रिपॉक्स वायरस (Capripoxvirus)
- गांटपॉक्स वायरस (Goatpox Virus)
- शीपपॉक्स वायरस (Sheeppox Virus)

