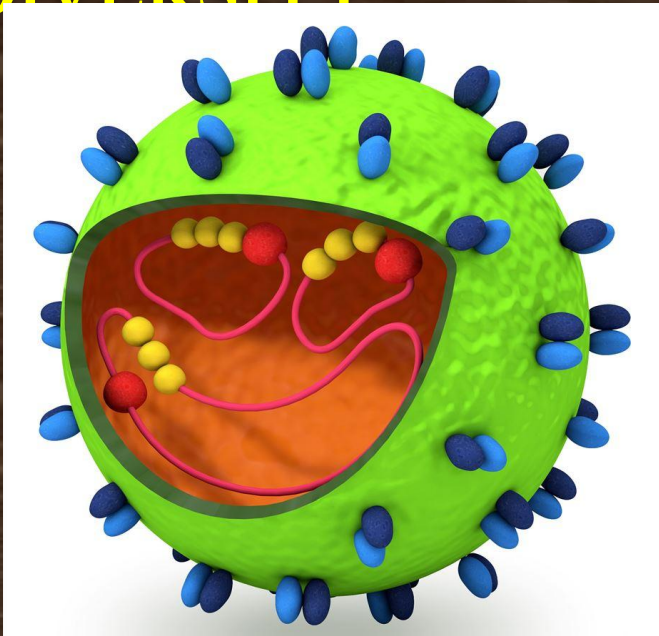


**“INSTITUTION”**

**MEDICAL ACADEMY NAMED AFTER S.I. GEORGIEVSKY OF  
VERNADSKY CFU**

**SUBMITTED BY- RASTOGI AYUSH  
LA2\_192(2)**

**TOPIC – VIRUSES FROM THE FAMILY BUNYAVIRIDAE–  
STRUCTURAL FEATURES AS A BASIS OF THE HIGH  
DIVERSITY**



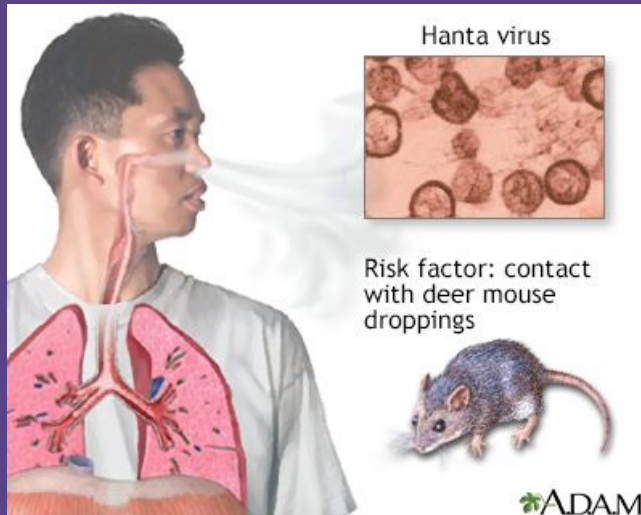
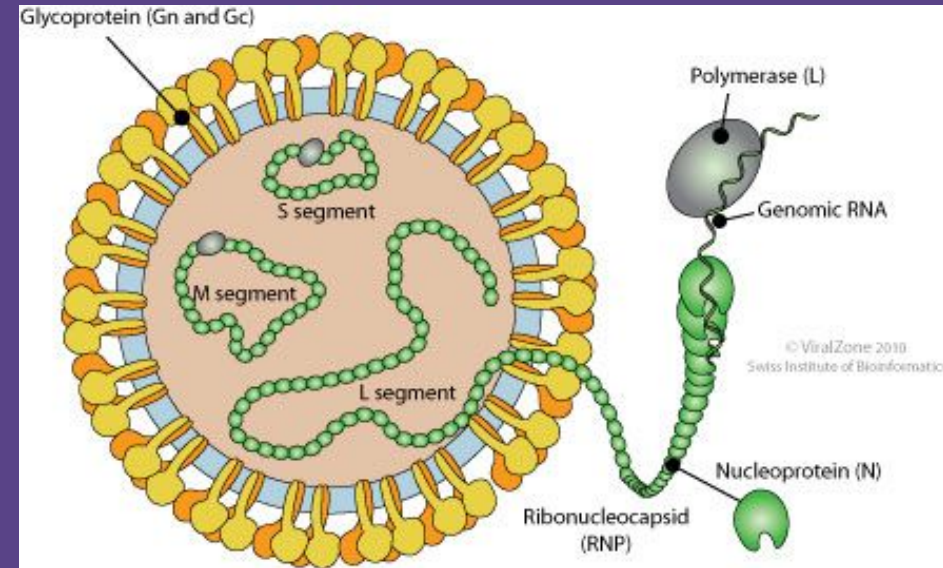
**GUIDED BY : PROFESSOR YURY  
KRIVORUTCHENKO**

# INTRODUCTION

Family Bunyaviridae contains more than 300 members. It was first isolated from a place 'Bunyamwera' in Uganda, from which the name of virus is derived .

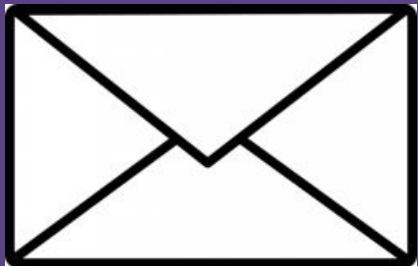
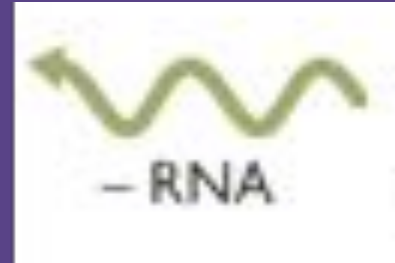
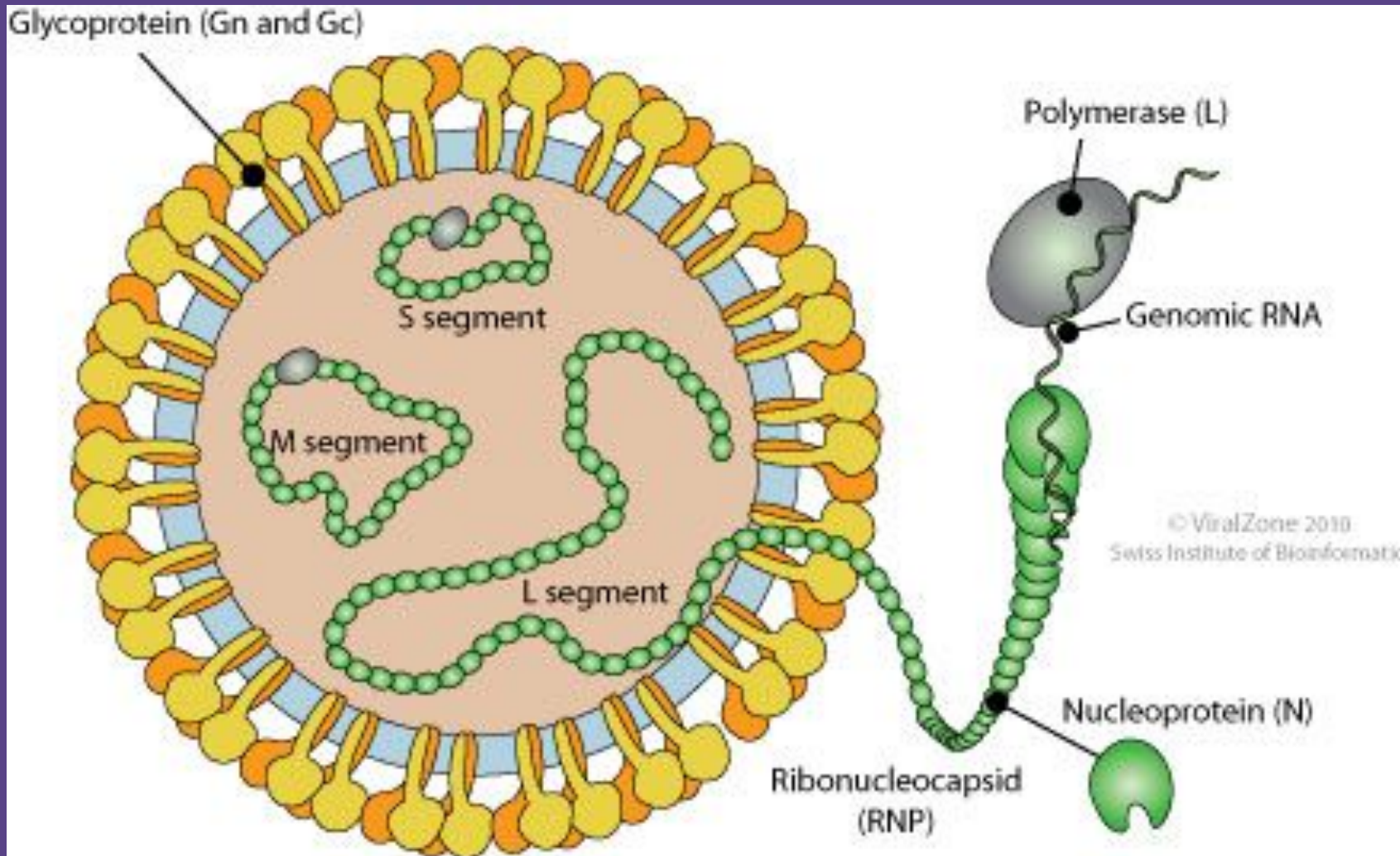
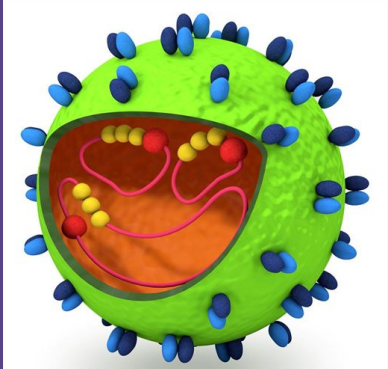
Family Bunyaviridae contains 4 genera.

- Bunyavirus (Mosquito-borne)
- Phlebovirus (Phlebotomus or mosquito-borne)
- Nairovirus (tick-borne)
- Hantavirus (Non-arthropod borne)

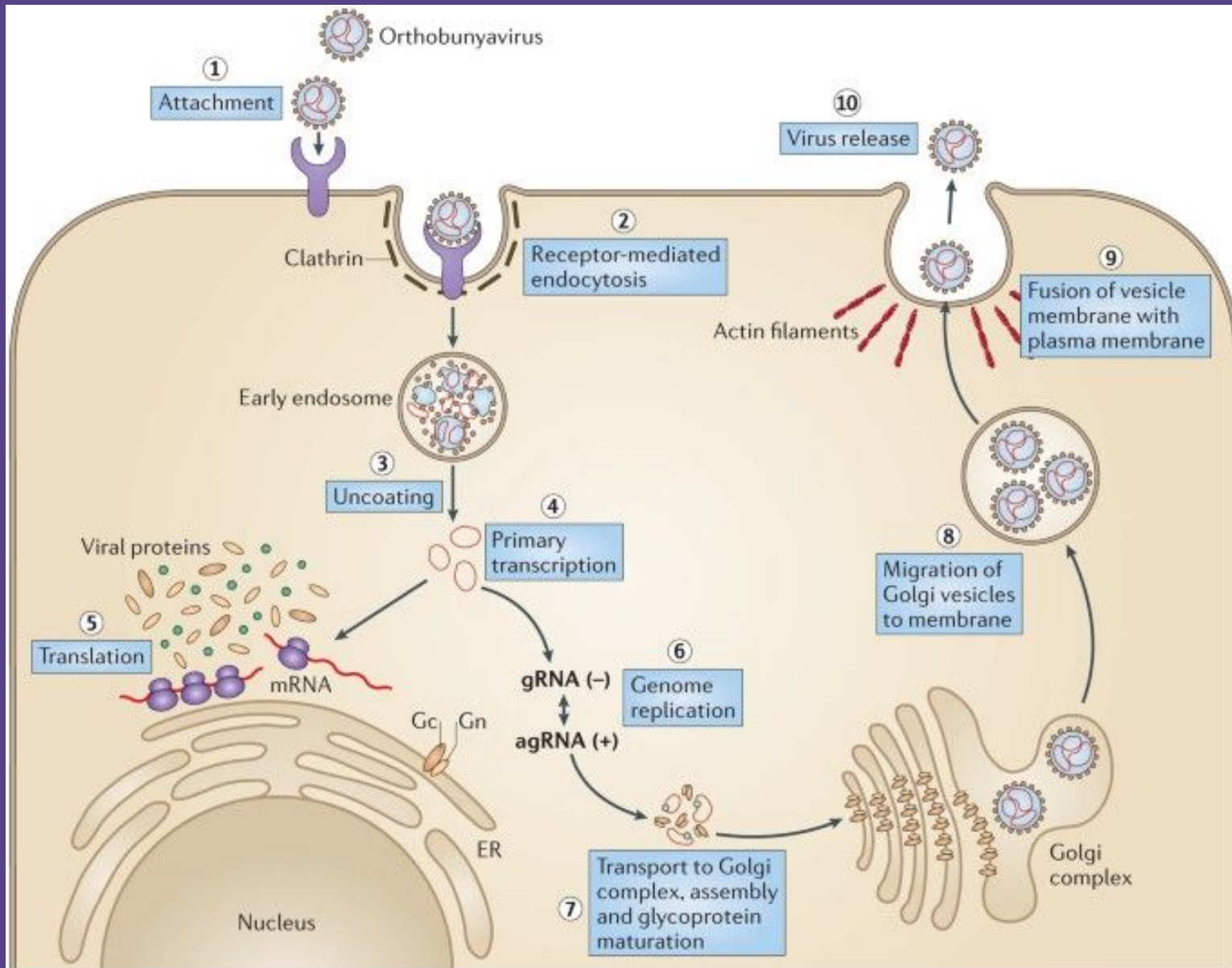




# MORPHOLOGICAL CHARACTERISTICS



# REPLICATION





# BUNYAVIRUS

- 1-California EV
- 2-La crosse EV
- 3-Chittor virus

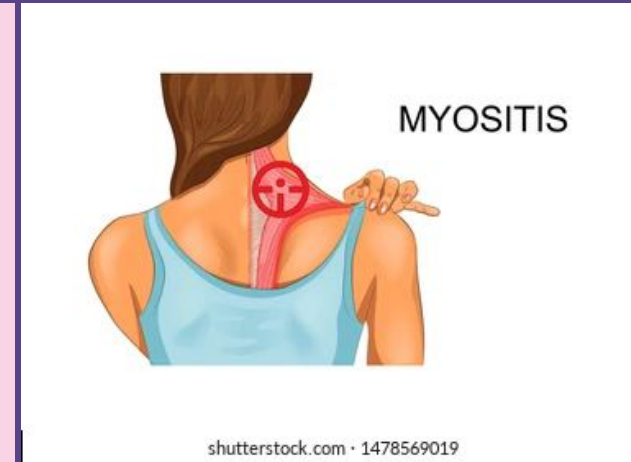
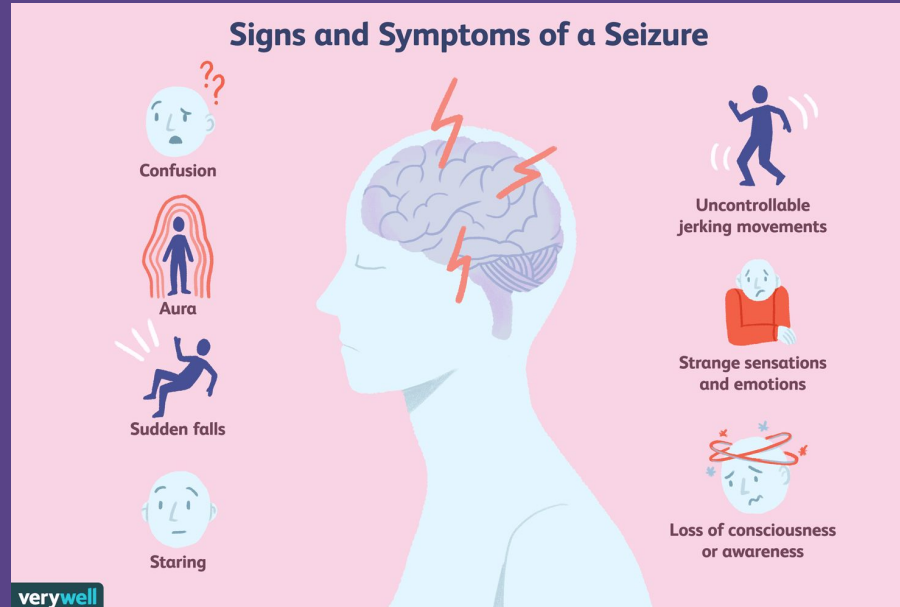
- **VECTOR-** Mosquito
- **HOST-** Rodents, primates or birds.
- **Way of transmission-** Bite of vector.
- **Diseases-** Febrile illness, Encephalitis, febrile rashes.
- **Vaccine-** available (Live attenuated)



# PHLEBOVIRUS

1- Sandfly FV  
2-Rift valley FV

- **VECTOR-** Mosquito / Phlebotomus
- **HOST-** Sheep, cattle, Domestic animals
- **Way of transmission-** Bite of vector.
- **Diseases-** Febrile illness, seizure, Encephalitis, conjunctivitis, myositis.
- **Vaccine-** available (Live attenuated)

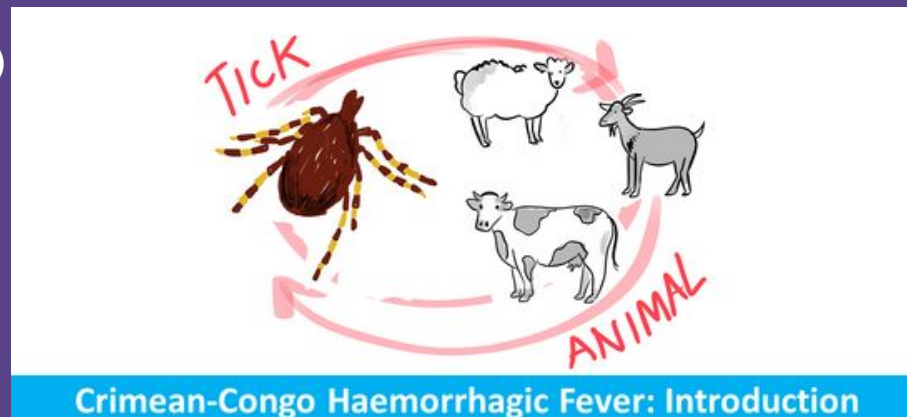
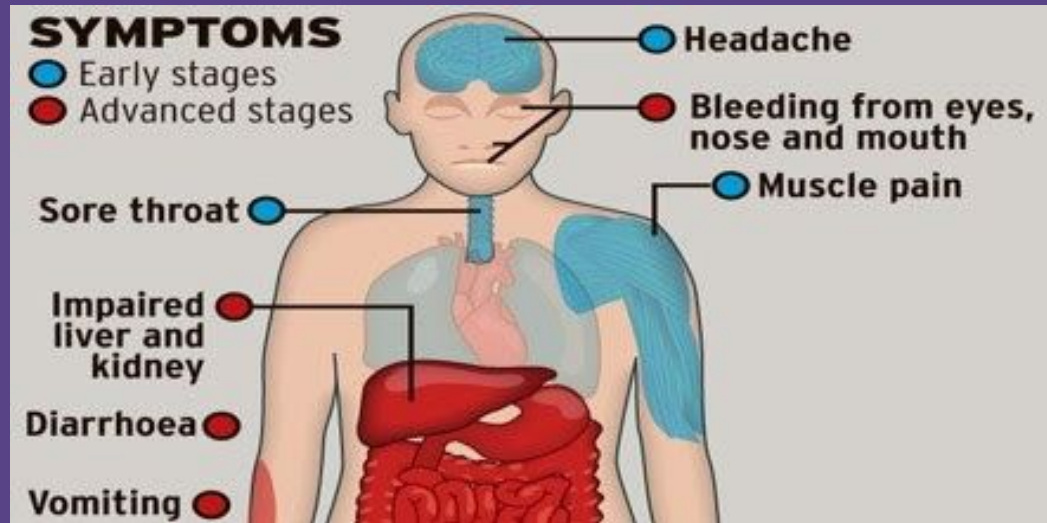


# NAIROVIRUS

1-Crimean-Congo HFV

2-Ganjam Virus

- **VECTOR-** Ticks
- **HOST-** Hares, cattle, goats.
- **Way of transmission-** Bite of vector.
- **Diseases-** Hemorrhagic fever.
- **Vaccine-** available (Killed)





# NAIROVIRUS

## CRIMEAN-CONGO HEMORRHAGIC FEVER

Viral hemorrhagic fever transmitted by ticks



First described in the Crimea in 1944. Later recognized in 1969 as the cause of illness in Congo.



Crimean Congo Hemorrhagic virus (Nairovirus) in the family Bunyaviridae



Headache, high fever, back pain, joint pain, vomiting



Ixodid (hard) ticks are reservoir and vector for the virus



Amplifying hosts



#royopath



Liver, renal & pulmonary failure



Mortality rate - 30%



Red eye, flushed face, nosebleeds, petechial rash, ecchymosis, hematemesis, melaena



histopathology-india.net



# HANTAVIRUS

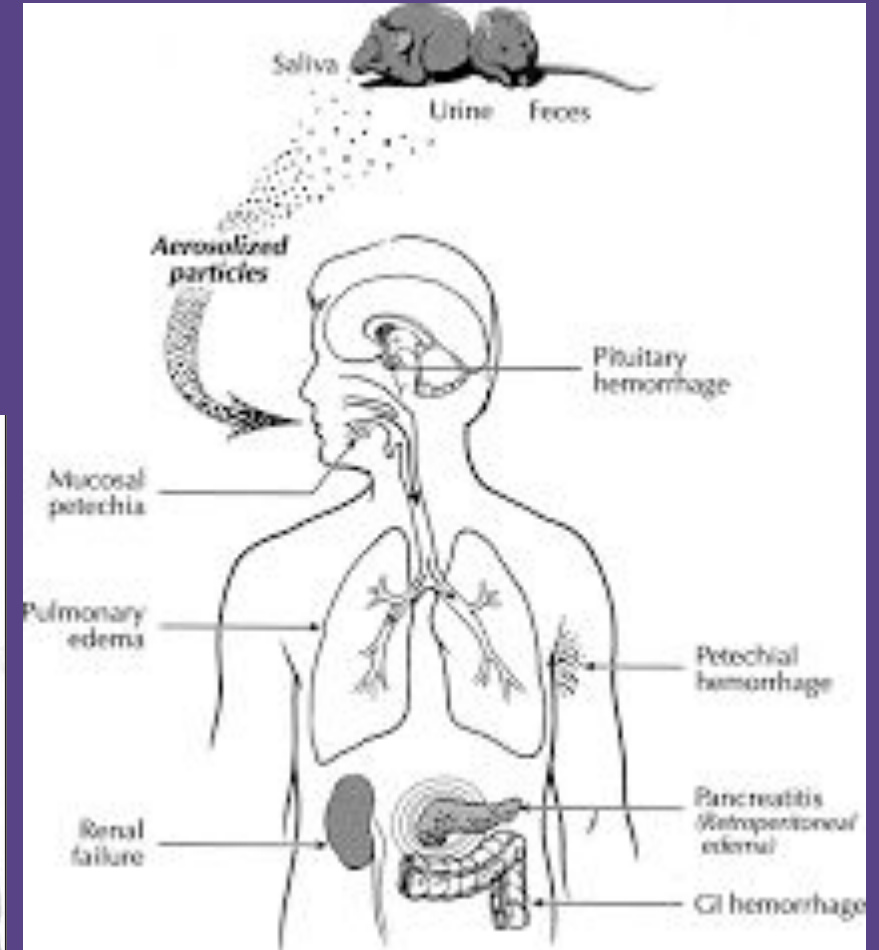
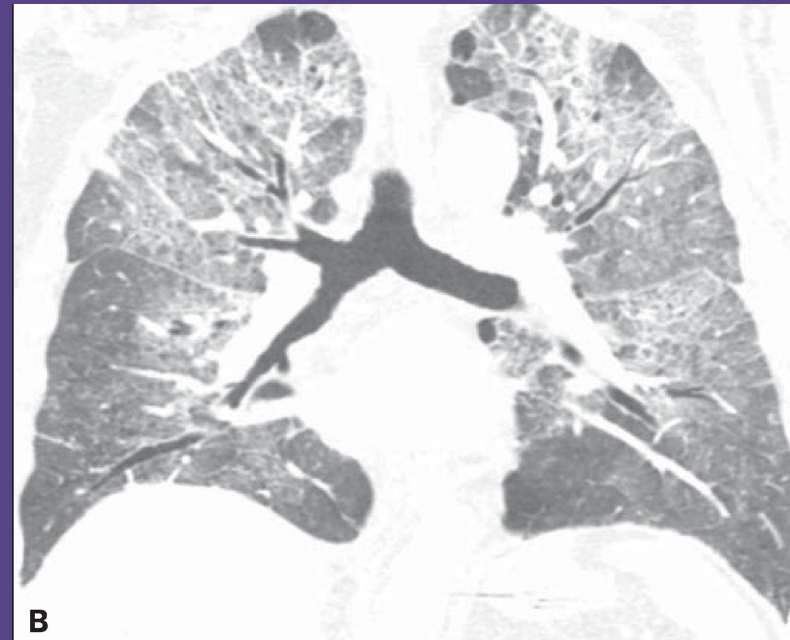
- 1- Hantaan Virus
- 2- Korean HFV

- **VECTOR-** None
- **HOST-** Rodents

- **Way of transmission-** by the inhalation of aerosols generated from the urine or feces of the infected rodents.

- **Diseases-** HFRS, Pulmonary edema, Respiratory failure.

- **Vaccine-** available (Killed)  
(Developed in Russia)

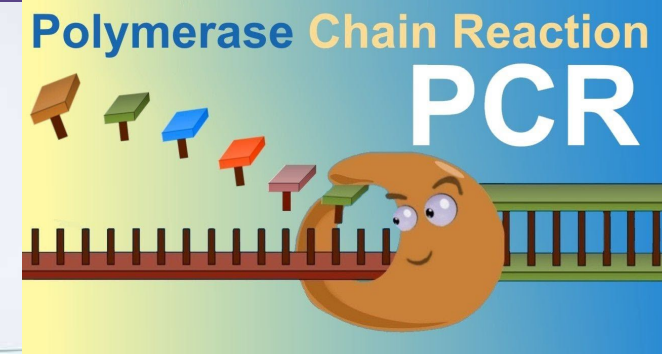


# LABORATORY DIAGNOSIS AND TREATMENT

- **ELISA**- for Ab (IgM and IgG) and Ag detection.
- **RT-PCR**

## Prevention and Treatment

- No specific antiviral therapy. The 'Ribavirin' and interferons are given for post-exposure prophylaxis.
- Avoidance and control of vectors
- Using the insect repellent
- By using active immunization with vaccine.







**Thank you  
for your attention!**