

# Infectious Bovine Rhinotracheitis (IBR)


## “Rednose”

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- IBR is caused by bovine herpes virus -1 and it is characterized fever, rhinotracheitis and conjunctivitis.
  - Encephalitis the systemic form of the disease in new born calves. Infectious pustular vulvogenitis in cows.

## *Etiology*

Bovine herpes virus 1 (BHV-1) is associated with several diseases in cattle:

1. Infectious bovine rhinotracheitis (IBR)
2. infectious pustular vulvovaginitis (IPV)
3. balanoposthitis
4. conjunctivitis
5. Abortion
6. Encephalomyelitis
7. Mastitis

## *Transmission*

- BHV-1 infections are widespread in the cattle population all over the world and well documented in India
- In feedlot cattle, the respiratory form is most common
- In breeding cattle, abortion or genital infections are common
- Transmission occur in absence of visible lesions and through artificial insemination with semen from sub-clinically infected bulls

# *Pathogenesis*

- Incubation period – 4 to 6 days
- Virus replicates in nasal cavities and upper respiratory tract resulting in rhinitis and tracheitis
- Virus spreads to eye via lachrymal duct, cause conjunctivitis
- Virus spreads from nasal mucosa to trigeminal ganglion via trigeminal nerve and cause suppurative encephalitis

- Virus reaches placenta and foetus through peripheral leucocytes and cause abortions in late gestation
- Abortion: The Virus of IBR has recently been recognized as an important cause of abortion in cattle. Although abortion may occur at any stage of pregnancy. The critical period for exposure appears to be 6 & half month after conception

## *Symptoms*

- Fever 106F
- Nasal Discharge.
- Abortion in late gestation
- Conjunctivitis.
- Drop in milk Production.

## *Gross lesions*

- Rhinitis, tracheitis, bronchitis, pneumonia
- Muco / fibrino-purulent exudate in trachea
- Pustules / ulcers on male and female genitalia
- Necrotic foci in liver of aborted foetus
- Aborted foetus putrify fast on expulsion



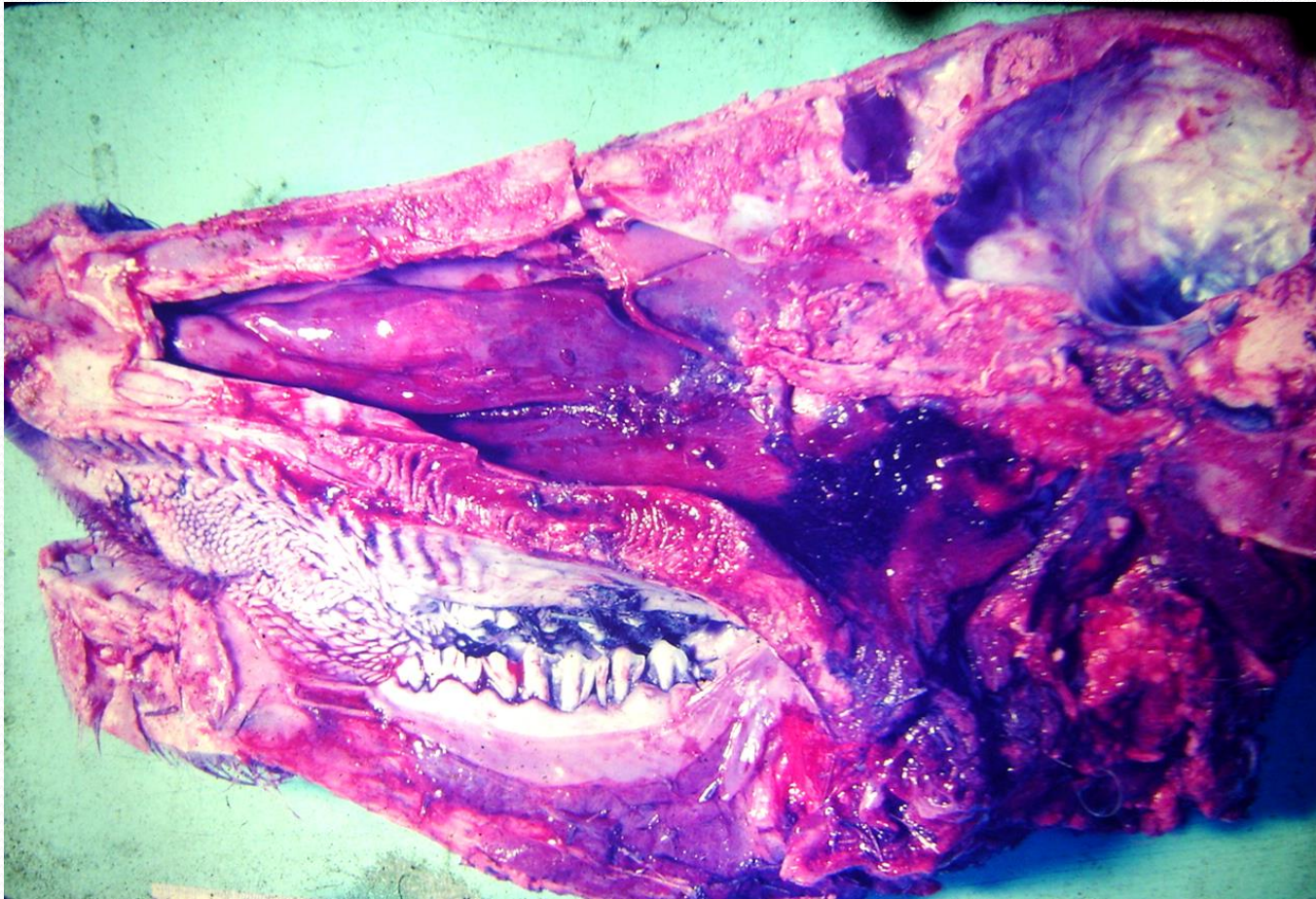
## *Histopathology*

- Catarrhal inflammation of mucosa of upper respiratory tract.
- Necrotic lesions are seen in Pharynx, larynx, and associated lymph nodes.

# *Diagnosis*

- Virus isolation from nasal swab.
- Serum neutralization test for detection of antibodies.
- Differential diagnosis with other respiratory infection of calves.
- Presence of characteristics intra nuclear inclusion bodies
- Gross and microscopic lesions detected shortly after death may help to establish a diagnosis.
- PCR methods can be used to identify antigen in a variety of tissues or exudates.

# Rhinitis with congested nasal chambers



# Tracheitis IBR

