

# **Infectious Bovine Rhinotracheitis (Red nose )**

## **Infectious pastular vulvovaginitis ( IPV )**

### **Etiology :**

An Alpha herpes V. known as bovid herpes virus .

### **Epidemiology :**

- All age and breed of cattle are susceptible on experimental challenge but the disease occur naturally in animal over a month of age .
- Wild ruminant are infected , the disease occur in goat naturally .
- The disease in cattle is not highly fatal most losses being due to secondary bacterial bronchopneumonia .
- The morbidity and mortality rate in dairy cattle about 3, 8% respectively .
- The main sources of infection are nasal exudate and cough-of droplet ,genital secretion ,semen and fetal fluid and tissue .
- Aerosol infection is the method of spread of disease ,venereal transmission is the method of spread of genital disease .

### **Pathogenesis :**

In the respiratory disease the V. multiply in the nasal cavities and upper respiratory tract , resulting in rhinitis ,laryngitis and tracheitis .

- Loss of cilia in the trachea ,result in complete denudation of tracheal columner cell, its has adverse effect on the defense mechanism of RT.
- Infection of ocular tissue :
- Conjunctivitis with edema .
- Trigeminal ganglion , non suppurative encephalitis .
- Placental ,abortion .infection in the last gestation may result in mummification abortion ,stillbirth or weak calves .

### **Clinical Finding**

- After expermental infection the incubation period 3-7 day .

- The clinical disease in dairy cattle the is mild ,sever form of disease occur in feed lot where crowding .
- Anorexia ,fever ,sever hyperemia of the nasal mucosa with numerous clusters of grayish foci of necrosis on mucous membrane of the nasal septum . fall in milk production .
- Serous discharge from the eye and nose ,salivation .
- Increase respiratory rate and are shallow ,ashort explosive cough.
- Sudden death within 24 hr. can result from extensive obstructive bronchiolitis .
- Conjunctivitis is common ,conjunctiva is red and swollen ,there is profuse serous ,ocular discharge .
- Calves less 6 month of age may develop encephalitis which is marked by incooordention ,excitement ,depression,salivation and blindness .
- In newborn calves : the sytemic form of disease is sever and highly fatal,anorexia ,fever,salivation and rhinitis with unilateral or bilateral conjunctivitis ,oral mucous membrane hyperemic erosion of soft palate,pharygitis covered with tenacious mucopurulent exudates ,bronchopneumonia ,some affected calves will have diarrhea and moderate dehydration .
- Abortion is common sequelafter clinical illness or vaccination of non immune pregnant .

### **Clinical Pathology :**

- isolation of the virus
- serological test .

### **Necropsy Finding :**

- gross lesion restricted to the muzzle ,nasal cavities ,pharynx, larynx and trachea .- Pulmonary emphysemia .secondary bronchopneumonia .
- swelling and congestion of mucosa ,petechiae may present .
- lymph node in throat and neck are swollen and edematous

### **Differential Diagnosis**

- 1- Pneumonia pasteurellosis
- 2- Bovine viral diarrhea
- 3- Bovine malignant catarrhal fever

4- Calve diphtheria

5- Shipping fever

6- Allergic rhinitis

**Treatment :**

Broad spectrum antibiotic .

**Control**

1- Following weaning the calve were raised in isolation separate from the cows

2- Vaccination : cattle which recovered from natural infection with the BHV-1 virus are protected against clinical disease after experimental infection with virulent V.

3- Modified live virus and inactivated vaccine have been available

- Intramuscular vaccine .

-intra nasal vaccine .