

PESTE DES PETITS RUMINANTS

PESTE DES PETITS RUMINANTS (**Erosive stomatitis , goat catarrhal fever , goat plague , pseudo Rinderpest)**

This is a contagious viral disease of goats and less commonly sheep and it is characterised by fever, erosive stomatitis, enteritis, pneumonia and death. The disease is caused by a PPR virus of the genus *Morbillivirus* and family Paramyxoviridae which closely resembles the rinderpest virus.

Etiology

- PPR is caused by Morbillivirus ,
- Family paramyxoviridae
- closely related to the Rinderpest virus as well as the viruses of Canine distemper and measles .

Epidemiology

PPR is endemic and is considered to be the most serious infection of small ruminants .heavy mortalities associated with the disease have been reported.

-uncontrolled movement of livestock between countries is a potential danger to the spread of the disease.

The source of infection is the sick or sub-clinically infected animal and the virus is discharged in milk, saliva, urine or faeces.

The disease spreads primarily by inhalation but the virus can also be acquired by ingestion and penetration through the conjunctival mucosa.

Animals may acquire the infection by licking or muzzling each other. Bedding, feed and water troughs can be sources of infection.

Goats are highly susceptible to PPR compared to sheep, and kids under one year are most susceptible.

- -Case fatality rates are also much higher in goats (55 85 %) than in sheep (less than 10 %)
- Kids over 4 months and under one year of age most susceptible to the disease .

Presence of other diseases and other stress factors precipitate the occurrence of the disease. Severe outbreaks can occur when naive animals are moved into an endemic area.

Pathogenesis

After infection, the PPR virus multiplies in the regional lymph nodes which is followed by viraemia. The virus then infects and causes cytopathic changes in epithelial cells which are associated with the clinical signs and lesions observed.

Clinical features

Acute and subacute forms of PPR occur.

The disease can be acute or subacute :

- ◆ **The acute form** is seen mainly in goats and is similar to Rinderpest in cattle except that severe respiratory distress is not an uncommon feature of PPR .The signs generally appear 3 – 6 days after being in contact with an infected animals .

The signs include :

- High fever (above 40 C°) is accompanied dullness , sneezing and serous discharge from eyes and nostrils .
- A day or two later , discrete necrotic lesions develop in the mouth and extend over entire the oral mucosa , forming diphtheritic plaques .

There is profound halitosis and the animal is unable to eat because of the sore mouth and swollen lips .

- Nasal and ocular discharges become mucopurulent and the exudates dries up , matting the eyelids and partially occluding the external nares.
- Diarrhea develop 3 – 4 days after the onset of fever . It is profuse and feces may be mucoid and blob tinged .
- Dyspnea and coughing occur later and the respiratory signs are aggravated when there is secondary bacterial pneumonia
- Erosions have been described in the vulva and prepuce .
- Death usually occurs within one week of the onset of illness .

Subacute form

is more common in sheep but they also occurs in goats .

-The signs and lesions are less marked and few animals may die within two weeks but most recover .

Contagious ecthyma (Orf) may complicate the labial lesions or develop in survival animals .

Pathological features

The gross pathological picture include an emaciated and dehydrated carcass, soiled hind quarters, matted eyelids and nostrils are blocked with exudate.

Focal necrotic lesions in the oral mucosa, pharynx, upper oesophagus, abomasum and small intestines are evident.

Zebra striping of the large intestinal mucosa, oedema and congestion of mesenteric lymph nodes occur.

The nasal cavity and larynx are filled with mucopurulent exudate and presence of froth in the trachea and pulmonary oedema are common features.

- Secondary bacterial infection results in bronchitis, tracheitis, atelectasis and interstitial pneumonia.

Diagnosis

A tentative diagnosis of PPR is based on the epidemiology, clinical and pathological features.

- The virus in swabs from tissue excretions, buffy coat or tissue suspensions can be isolated by inoculation in primary kid or goat kidney cells.

Serological test .

differential diagnosis of PPR include

- 1- rinderpest,
- 2- contagious ecthyma,
- 3- goat/sheep pox
- 4- Nairobi sheep disease,
- 5- blue tongue,

- 6- CCPP,
- 7- pneumonic pasteurellosis,
- 8- salmonellosis,
- 9- colibacillosis and
- 10- parasitic gastro-enteritis.

Treatment

-Treatment of secondary bacterial pneumonia using broad spectrum antibiotics may be effective in the early stages of the disease.

-A hyperimmune serum produced from cattle hyperimmunised against rinderpest can be used.

- Fluid therapy is recommended to alleviate the effects of diarrhoea/dysentery.

Good nursing of the sick animals may facilitate recovery.

Control

1- of the disease can be achieved by preventing the contact between susceptible animals and clinically or sub-clinically affected ones.

2- Affected animals should be isolated and infected premises disinfected.

3- If an outbreak occurs, quarantine measures should be imposed and supported by vaccination of the population at risk.

5- Vaccination using tissue culture rinderpest vaccine starting at 3-4 months of age is the commonest method of control of PPR in endemic areas. .

Although the PPR homologous vaccine and attenuated tissue culture vaccines are not widely, used they are showing promising results.