PESTE DES PETITS RUMINANTS: A THREAT

Priya Khandelwal1*, Kuldeep Gurjar2, Naveen Kumar3
[1,2]Assistant Professor, [3]Professor and Head, Veterinary Clinical Complex, Apollo College of Veterinary Medicine, Jaipur-302031
*Corresponding author's email - *priyakhandelwal601@gmail.com*
DOI: https://doi.org/10.5281/zenodo.15703237

ABSTRACT

Peste des petits ruminants (PPR) is acute contagious viral disease of goat and sheep which is characterized by fever, erosions in mouth cavity, oculo-nasal discharge, diarrhoea, pneumonia. Etiological agent of PPR is morbilli virus genus. It is transmitted by close contact, inhalation, nasal and oral secretions. High mortality rates in naive population up to 90-100% and 20% in endemic areas. Control measures include strict quarantine and restricted movement control, vaccination in high-risk populations. PPR is a significant illness that threatens the livelihood of struggling farmers because of the large number of small ruminants that are raised in endemic areas.

KEYWORDS: Peste des Petits Ruminants (PPR), Goat Plague, Morbillivirus, Small Ruminants, Vaccination Strategy, Transboundary Animal Disease

INTRODUCTION

Peste des petits ruminants (PPR) is one of priority disease which affects goats and sheep. It is also known as Goat plague. Other synonyms include Ovine rinderpest/KATA/Goat Catarrhal Fever/Erosive Stomatitis and Enteritis of goats. The disease was called plague because of heavy mortality.

The *Morbillivirus* genus, which belongs to the family Paramyxoviridae, is the cause of the PPR, an acute, highly contagious, and infectious viral disease that affects small ruminants, such as goats and sheep. The condition, which resembles rinderpest, is extremely deadly to goats but less so to sheep. Because of the high rates of sickness and mortality, it causes significant losses in sheep and goats each year.

According to world organization for animal health (OIE), it is notifiable A disease. The PPR outbreaks occur all season of the year but mostly in winter season. The small ruminants are known as "poor man cow" because they are the "Any Time Money-ATM" of poor landless farmers and because they additionally generate jobs, increase income, and enhance household nutrition.

EPIDEMIOLOGY

The disease was initially identified in 1942 at Ivory Coast, French West Africa. In India, it was initially recorded in 1987 in native sheep herds in Tamil Nadu's Villupuram district, and it has since spread throughout the country. In recent past, several outbreaks have been reported from Tamil Nadu, Andhra Pradesh, Uttar Pradesh, Rajasthan, Karnataka, Jammu and Kashmir, Bihar, West Bengal and Himachal Pradesh.

Andhra Pradesh, West Bengal, and Karnataka states were the top three states on the reported outbreaks during 1995-2010, whereas, during 2011-15 and 2015-2019, Jharkhand and West Bengal states reported more PPR outbreaks.

According to NADRES data from the ICAR-NIVEDI, there were 8168 PPR outbreaks in India between 1995 and 2019, with the greatest number occurring in goats (3844), followed by sheep (3473), and flocks that raised sheep and goats jointly (851).

TRANSMISSION

- Close contact between infected and susceptible animal
- Mainly by inhalation of infectious material
- By conjunctiva and oral mucosa
- Large amount of virus presents in all secretions and excretions
- Contaminated fomites
- Vertical transmission

CLINICAL SIGNS

The PPR could be characterized by "3Ds", i.e. discharge, diarrhoea, and death, with an additional fourth component, bronchopneumonia.

- Sudden onset of high fever (above 104°F)
- Dullness, sneezing and oculo-nasal discharge
- Erosive stomatitis (Diphtheritic plaques in mouth)
- Gums become hyperaemic
- Animal is unable to eat
- Gastroenteritis
- Diarrhoea after 3-4 days of onset of fever
- Broncho-pneumonia
- Difficult noisy breathing

POSTMORTEM LESION

- Dehydrated carcass with faecal soiling
- Congestion of the ileocecal valve
- Enlarged spleen
- Blackening of the folds of large intestine (Zebra Markings)

DIFFERENTIAL DIAGNOSIS

PPR is similar to Rinderpest, FMD, Blue tongue, pneumonia pasteurellosis, CCPP in goats, contagious ecthyma, so differential diagnosis is very important

CONTROL

In accordance with the PPR Global Control and Eradication Strategy, the Government of India initiated a centrally sponsored PPR control program in India to control and eradicate PPR by 2030, taking into account the significance of sheep and goats for food security and socioeconomic development, as well as the availability of safe and effective live attenuated cell culture PPR vaccines and diagnostics.

- The successful management of PPR isolation and flock migration depends critically on the substantial support of precise diagnostics for mass screening, prompt vaccine availability, and vaccination of all susceptible communities.
- Effective preventive measures, such as mass vaccination and the adoption of quarantine/biosecurity measures, are the only ways to guarantee the control of PPR.
- All animals in the impacted flock should be placed under quarantine for at least one month following the last clinical case.
- Compulsory slaughter of affected animals and movement control.

PROPHYLAXIS MEASURES

Three live vaccines developed in India

a. Sungri 96
b. Arasur 87
c. Coimbtore 97

- Effective cleaning and disinfection of contaminated areas, equipment and clothing with lipid solvent solutions of high or low pH and disinfectants.
- Dead animals/carcasses should be burnt/ buried deeply.
- Vaccination is a recommended tool to support control and eradication efforts and thus to limit the economic loss due to PPR.
- In India, currently, the PPR vaccine (Sungri 96 strain), developed by Indian

Veterinary Research Institute (IVRI), Mukteswar has undergone extensive field trials and is being used in the PPR-Control Programme of Government of India.

- To prevent a window of vulnerability in kids to PPRV infection and to eradicate PPR infection from susceptible populations, the strategic vaccination of the control program entails mass vaccination of the entire population within a designated area, followed by "vaccinations on younger animals" at roughly >6 months of age.

CONCLUSION

In endemic India, PPR is one of the top priorities for controlling transboundary animal viral diseases of sheep and goats, which are thought to be crucial for reducing poverty. Disease is more prone in young animals and mostly occurs in winters. For effective control and eradication strategic vaccination is only method

REFERENCES

Balamurugan, V., Kumar, K. V., Govindaraj, G., Suresh, K. P., Shome, B. R., and Gulati, B. R. (2023). Status Paper on Peste des petits ruminants Indian Perspective, ICAR-National Institute of Veterinary Epidemiology and Disease Informatics (NIVEDI), pp: 1-47.

Bhateshwar, V. and Muwal, H. (2021). PPR: Current Status and Future Perspectives. Times of Agriculture **17**, pp: 88-90.

Leylabadlo, H. E., Kafil, H. S., and Asgharzadeh, M. (2016). Peste des petits ruminants (PPR): a serious threat for wild life. *Advances in Bioscience and Clinical Medicine*, *4*(2), 49-50.

Cite this article:

Priya Khandelwal1*, Kuldeep Gurjar2, Naveen Kumar3. (2025). Peste des petits ruminants: a threat. Vet Farm Frontier, 02(05), 42–44. https://doi.org/10.5281/zenodo.15703237