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Seromonitoring of Peste Des Petits ruminants (PPR) in goats (Capra hircus) of Parbhani region of maharashtra

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Abstract

Investigations were carried out on seroprevalence of *peste des petits ruminants* (PPR) in goats (*Capra hircus*) of Parbhani region of Maharashtra. Seroprevalence of PPR in goats was determined by employing c-ELISA test on random sera samples collected from different places of Parbhani district of Maharashtra State. Among 854 sera samples collected from different places, 393 showed positive titres indicating an overall per cent seroprevalence as 46.01, with range of 42.30 to 52.94 at different places.

Key words: Peste des petits ruminants (PPR), c-ELISA, Seroprevalence.

Introduction

PPR is an acute highly contagious viral disease of goats and sheep caused by *Morbillivirus* of the family *Paramixoviridae*. Goats have been found more susceptible and suffer with more severe form than sheep (Dimri *et al*., 2002). The first report of PPR outbreak in goats from Latur district of Maharashtra has been recorded by Kulkarni *et al*. (1994). Subsequently, several outbreaks of PPR has been reported from Maharashtra, Karnataka, Andhra Pradesh, Tamil Nadu, West Bengal, Rajasthan, Orissa and Himachal Pradesh during 1994 (NPRE, 1995) and is now enzootic in several states of India. PPR is a major constrain in the development of goat industry due to high morbidity (50-90%) and case fatality (50-85%) rates. Kids over 4 months and under 1 year of age are at highest risk and cause huge economic loss (Venkataramanan *et al.*, 2005) per year. The present investigation was therefore undertaken to determine prevalence of PPR antibodies in goats of Parbhani region using c- ELISA.

Materials and Methods

Goat population randomly selected from eight taluka areas viz. Parbhani, Gangakhed, Manwat, Selu, Pathri, Jintur, Purna and Palam of Parbhani district of Marathwada region in Maharashtra state was screened for determining seroprevalence. Sera samples collected randomly were stored at -20°C and scanned for PPRV antibody titre. A total number of 854 sera samples (in duplicate) collected were analysed for PPRV antibodies using c-ELISA. The c-ELISA being recommended by OIE (2004) and less time consuming was employed for recording seroprevalence in the present study.

Results and Discussion

The details of goat sera samples collected for the present seromonitoring from different places of Parbhani region of Maharashtra state and their respective per cent seroprevalence is depicted in table 1.

A total 854 serum samples were screened using c-ELISA and per cent inhibition (PI) more than 40 were considered as positive reactions. Recently developed competitive or blocking enzyme linked immunosorbant assay (c-ELISA) using specific monoclonal antibodies against nucleocapsid (N) or haemagglutinin (H) proteins of PPRV, Sungri strain from Himachal Pradesh has been recommended for seroprevalance and seromonitoring of antibodies against PPRV by Singh *et al.* (2004), Dorairajan *et al.* (2006) and Amitha *et al.* (2007).

Among 854 goat sera samples, 393 showed positive antibody titre indicating the present seroprevalance as 46.01 per cent with range of 42.30 to 52.94 at different places. Similar range of PPR seroprevalance in goat has been recorded by Ekue *et al* (1992), Tiwari (2005) and Patel (2006) who recorded

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46.5%, 35.59% and 45.19% respectively. Variations in seroprevalance could be due to differences in sample size, age, prevailing managemental practices, humidity and season (Radostits *et al*., 2007).

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Table-1. Seroprevalence of PPR in goats from different places of Parbhani district of Maharashtra.

Sr. No.	Place	Number of sera samples	Number of positive sera samples	Seroprevalance (%)
1.	Parbhani	296	130	43.91
2.	Gangakhed	094	043	45.74
3.	Manwat	102	054	52.94
4.	Selu	057	028	49.12
5.	Pathri	052	022	42.30
6.	Jintur	130	056	43.07
7.	Purna	085	040	47.05
8.	Palam	038	020	52.63
	Total	854	393	46.01(%)

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