

SEROPREVALENCE OF CONTAGIOUS CAPRINE PLEUROPNEUMONIA IN SMALL RUMINANTS IN MAHARASHTRA

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ABSTRACT

To study the seroprevalence of contagious caprine pleuro pneumonia (CCPP) in small ruminants in Maharashtra, a total of 165 (sheep-81 and goat-84) serum samples were collected from apparently healthy sheep and goats respectively of different age and sex from Nasik and Nagpur districts of Maharashtra. All the samples were screened for CCPP antibodies by slide agglutination test using colored CCPP antigen. An overall prevalence of 16.05 per cent and 20.24 per cent was observed in sheep and goats respectively. District wise highest prevalence of CCPP was observed (22.50 per cent) and (25 per cent) in sheep and goat respectively from Nashik. Age wise seroprevalence of CCPP in sheep and goats indicated higher prevalence of 25 per cent and 23.08 per cent, in 2-3 years age group. However, sex wise seroprevalence of CCPP was recorded highest (sheep-25 per cent and goat-35.71 per cent) in males than in females (sheep-15.07 per cent and goat-17.14 per cent)

The present finding indicates endemicity of the infection in various areas of Maharashtra State.

KEYWORDS : CCPP, Seroprevalence, Sheep and Goat

INTRODUCTION

The health conditions of small ruminants are adversely affected by various infectious diseases including contagious caprine pleura pneumonia (CCPP) throughout the world causing 100 per cent morbidity and an acute illness with mortality ranging between 60 to 100 per cent (Radostatis *et al.*, 2000). *Mycoplasma mycoides var. capri* is a normal inhabitant of respiratory tract in goats.

The occurrence of CCPP has been reported by several workers from many parts of our country (Singh *et al.*, 1999 and 2001; Barbudhe *et al.*, 2005; Jain *et al.*, 2006, and Mittal *et al.*, 2006, Ingle *et al.*, 2008). Serological investigation is considered to be faster means of studying the prevalence of infections. The seroprevalence of CCPP in sheep and goats has not been conducted in Maharashtra state. Due to paucity of information on prevalence of CCPP in sheep and goats, the present investigation was undertaken to determine the magnitude of occurrence of CCPP in sheep and goats in Nasik and Nagpur districts of Maharashtra.

MATERIALS AND METHODS

A total of 165 blood samples were collected from apparently healthy sheep (81) and goats (84) of different age and sex from Nasik and Nagpur districts of Maharashtra. The serum sample was stored at -20°C till screened. All the samples were screened for CCPP antibodies by slide agglutination test using colored CCPP antigen. CCPP colored antigen was obtained from Referral Centre for Mycoplasma, Division of Bacteriology and Mycology, IVRI, Izatnagar, Bareilly. Agglutination test was performed on glass slide and the reaction was read within one minute.

RESULTS AND DISCUSSION

Out of 81 sheep serum samples screened 13 were found to be positive indicating an overall 16.05 per cent seroprevalence of CCPP in sheep. The present findings are in less agreement with findings

of Singh *et al.* (2010) who reported lower prevalence in sheep from Jammu division.

Out of 84 goat serum samples screened 17 were found to be positive indicating an overall 20.24 per cent seroprevalence of CCPP in goats. The present findings are in close agreement with findings of Shaheen *et al.*, (2001), Barbuddhe *et al.* (2005) and Ingle *et al.*, (2008) . Higher seroprevalence of 42.50 per cent in goats from Gujarat has also been reported by Roy *et al.*, (2010). However, Srivastava and Singh (2000) and Singh *et al.* (2010) reported lower prevalence (4.97 and 5.00 per cent in goats by slide agglutination test for CCPP antibodies. The variation in prevalence of CCPP in goats in various region could be due to geographical locations.

District wise higher prevalence of CCPP in sheep (22.50 per cent) and goats (25 per cent) was recorded from Nasik. This could be due to presence of infective foci in that district , whereas in Nagpur district it was at lower level as compared to Nasik District .

Age wise seroprevalence of CCPP in sheep and goats indicated higher prevalence of (25 per cent) in 2-3 years age group and 23.81 per cent in 1-2 yr of age group in Goats. Similarly lower prevalence of 9.09 per cent and 14.29 per cent, respectively below 1 year age group was observed. Prolonged exposure might contribute for the higher prevalence in higher age group animals.

Sex wise seroprevalence of CCPP in sheep (25 per cent) and goats (35.71 per cent) indicated higher prevalence in males as compared to female where 15.07 and 17.14 per cent prevalence was reported. This indicates gender susceptibility for the variation in prevalence.

The occurrence of CCPP antibodies in goats is of significance. Environmental stress, particularly hot and humid climate of the study area favours precipitation of this disease. The present finding indicates that the appropriate steps are required for regular screening, therapeutics and prophylactic measures for containment of the disease.

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