

Prevalence of rabbit coccidiosis in Thrissur*

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Abstract

A detailed study on the prevalence of coccidial infections in domestic rabbits belonging to various age groups, sex, breed, season and management was undertaken at Thrissur during the period from October 2001 to September 2002. The prevalence of coccidial infection in rabbits was found to be 18.54 per cent. The infection was found to be high in rabbits below three months of age. Females harboured the infection more than the males. Among various breeds New Zealand White had the highest infection rate. Coccidiosis was seen more in the months of heavy rainfall during cold wet South-West monsoon. Disease was more common in breeding and rearing establishments where sanitation was poor. Six eimerian species causing coccidial infections in rabbits were identified and they were *Eimeria magna*, *E. media*, *E. perforans*, *E. coecicola*, *E. flavescens* and *E. piriformis*.

Keywords: Coccidiosis, Rabbit, Prevalence

Introduction

Coccidiosis is a major protozoan disease of young rabbits caused by members of the genus *Eimeria*. Earlier reports on *Eimeria* spp. infecting rabbits in India are of Gill and Ray (1960). In commercially reared rabbits the infection mostly occurs as a subclinical disease causing growth retardation and alteration of feed conversion (Peeters *et al.*, 1981). The present communication reports the effect of age, sex, breed, season and management on the prevalence of coccidiosis and the different species of *Eimeria* in domestic rabbits in and around Thrissur.

Materials and Methods

Data on the prevalence of coccidiosis in rabbits were collected by random screening of faecal samples of rabbits of the Rabbit Research Station, Mannuthy and those of different rabbit farms in and around Thrissur District and also from rabbits brought for post-mortem at the Centre of Excellence in Pathology, College of Veterinary and Animal Sciences, Mannuthy during the period from October 2001 to September 2002. The faecal samples were examined by standard laboratory techniques *viz.*, sedimentation to identify

the coccidial species. A portion of the screened faecal suspensions were made to sporulate in shallow layers of 2 per cent potassium dichromate solution in petridishes for subsequent differentiation of various species (Catchpole and Norton, 1979). The oocyst sporulation time and the morphological characters of both unsporulated and sporulated oocysts (Pellerdy, 1965) were taken as criteria for identification of species of *Eimeria*. Micrometry was carried out to measure the size of oocysts and a minimum of 30 to 50 oocysts of each type was studied and the average was determined (Catchpole and Norton, 1979).

Results and Discussion

During present study, 550 faecal samples were examined out of which 102 animals were found to harbour coccidial infection indicating a prevalence of 18.54 per cent. Coccidiosis was found to occur more in young rabbits below three months of age (76.47 per cent) which might be due to a lower resistance and also due to the fact that the adult female rabbits usually act as carriers in the farm and transmit the infection to young ones (Table 1). This is in accordance with the studies of Mykytowycz (1962), Rajkhowa (1996) and Suchitrasena *et al.* (1998). In the present study, more number of female rabbits harboured the infection (63.72 per cent) than the males (36.27 per cent) which might be attributed to lesser number of male animals that were available for screening. Breed-wise prevalence studies

* Part of M.V.Sc. thesis submitted by first author to Kerala Agricultural University, Kerala, India

Table 1. Age-wise and season-wise prevalence of coccidiosis

| Parameter | Group | Per cent positive |
|-----------|--|-------------------|
| Age | < 3 months | 76.47 |
| | 3-6 months | 19.60 |
| | >6 months | 3.92 |
| Season | Cold wet South west Monsoon (June to August) | 46.07 |
| | Warm wet North east Monsoon (September to November) | 10.66 |
| | Dry (December to May) | 12.27 |
| | | |

revealed highest infection in New Zealand White (10.9 per cent) followed by Grey Giant (3.63 per cent) which concurred with the observations made by Sanyal and Srivastava (1986). The prevalence of infection was highest in August 2002 (81.81 per cent) indicating that favourable humidity and temperature levels hastened sporulation and it corroborates with the result of Rajkhowa (1996), who reported rise of infection in areas of high humidity and rainfall. The cold wet South-West monsoon season recorded higher occurrence (46.07 per cent) of coccidiosis in rabbits denoting the significance of rainfall and dampness for the population of oocysts (Table 1). This was in accordance with the observations of Meitei *et al.* (1988), Rajkhowa (1996) and Gurpartap and Khahra (1997). In the present study, rabbits maintained in commercial farms where coccidiostats were regularly given were free from the disease. Whereas non-medicated domestic rabbits housed in humid and damp atmosphere developed coccidial infection instantly which corroborated well with the observations of Peeters *et al.* (1981).

Six species of intestinal coccidia were observed and identified as *Eimeria magna*, *E. media*, *E. perforans*, *E.*

coecicola, *E. flavescens* and *E. piriformis*. No oocysts of *E. stiedai* were encountered throughout the survey. Majority of the positive cases had mixed infection. *Eimeria magna* (86%), *E. media* (80%) and *E. perforans* (86%) occurred most frequently. *E. coecicola* (50%) and *E. flavescens* (15%) were common and *E. piriformis* (8%) was relatively rare.

Acknowledgements

The authors are thankful to the Dean, College of Veterinary and Animal Sciences, Mannuthy for providing facilities for the work.

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