PREVALENCE OF COCCIDIA IN RABBIT IN MIDDLE GUJARAT

N.D. Hirani And J.B. Solanki

Department of Veterinary Parasitology,
College of Veterinary Science and Animal Husbandry, Anand, Gujarat-388001

ABSTRACT

A detailed study on the prevalence of coccidial infection in domestic rabbits belonging to various age groups, sex and season was undertaken at Vadodara and Surat district over a period of one year. The prevalence of coccidial infection in rabbits, based on 431 faecal samples examined, was found to be 29.00 per cent, predominantly in young stock below three months of age. Females harboured more infection than the males. Prevalence was seen more in monsoon followed by winter and summer season. Five species of coccidia identified were *Eimeria magna, E. media, E. intestinalis, E. coecicola, and E. piriformis.*

KEYWORDS: Coccidia, Rabbit, Prevalence, Season, Age.

INTRODUCTION

Coccidia are the major disease causing protozoa of young rabbits in breeding and rearing establishments where sanitation is poor (Shameem and Devada, 2005). Earlier Meitei et al. (1988) and Gurpartap and Khahra (1997) reported *Eimeria spp* . infecting rabbits in India. The infection mostly occurs as a subclinical disease causing retardation of growth and alteration of feed conversion efficiency in rabbits (Peeters et al., 1981). The present study reports the effect of age, sex and season on the prevalence of coccidia and the different species of *Eimeria* in domestic rabbits in and around Middle Gujarat.

MATERIAL AND METHODS

A total of 431 fecal samples were screened to investigate the prevalence of coccidia during the period from January 1998 Dec. 1998. The faecal samples were examined by standard laboratory technique of sedimentation. A portion of the screened faecal suspension was made to sporulate in shallow layer of 2 per cent potassium dichromate solution in petridish for subsequent differentiation of various species (Soulsby, 1982). The oocyst sporulation time and the morphological characteristics of both unsporulated and sporulated oocysts were taken as criteria for identification of species of *Eimeria.* Micrometry was carried out to measure the size of oocysts and a minimum of 35 to 50 oocysts of each type was studied and the average was determined (Catchpole and Norton, 1979).

RESULT AND DISCUSSION

In the present study, 431 faecal samples were examined, out of which 125 rabbits were found to harbour coccidial infection indicating a prevalence of 29.00 per cent. Coccidia were found to occur more in young rabbits below three months of age (73.60 per cent) which might be due to a lower resistance and the fact that adult female rabbits usually act as carriers transmiting infection to young ones (Margi Sirois, 2005). This observation is in accordance with the reports of Rajkhowa (1996), Suchitra Sen et al. (1998) and Shameem and Devada, (2005).

In the present study, more number of female rabbits harboured coccidial infection (87.20 per cent) as compared to males (12.80 per cent), which might be attributed to lesser number of male animals that were available for screening. The prevalence of infection was highest in monsoon season (32.30 %), particularly during heavy rainfall months, followed by winter (29.22 %) and least in summer (25.85 %)(Table 1). This indicated that favourable humidity and temperature hastened sporulation. Rajkhowa (1996) also reported rise of infection in areas of high humidity and rainfall. The results are comparable with the observations of Meitei et al. (1988) and Gurpartap and Khahra (1997). Oocysts survive best in shaded moist condition with proper moisture and warmth condition (Soulsby, 1982). Insignificant seasonal difference observed might be due to uniform feeding and housing management offered to rabbits under study.

Five species of intestinal coccidia were observed. They were identified as *Eimeria magna, E. media, E. intestinalis, E coecicola, and E. piriformis.* No oocysts of E. stiedai was encountered throughout the study. Majority of the positive cases had mixed infection. These findings are in accordance with the report of Shameem and Devada, (2005).

Table 1: Seasonal and Sex-wise Prevalence of Coccidia in Rabbits of organized farm

Season	Total Samples			Positive Samples			Per cent Prevalence		
	Male	Female	Overall	Male	Female	Overall	Male	Female	Overall
Monsoon	20	110	130	3	39	42	15.00	35.46	32.31
Winter	30	124	154	6	39	45	20.00	31.45	29.22
Summer	29	118	147	7	31	38	24.14	25.85	25.85
Overall	**79**	**352**	**431**	**16**	**109**	**125**	**20.25**	**30.97**	**29.00**

ACKNOWLEDGEMENT

The authors are thankful to the Officer Incharge Sarabhai Research Centre, Vadodara and Govt. Rabbit Farm, Mandvi, Surat for kind support and regular supply of samples. We are also highly thankful to Dr. A.I. Patel, H.O.D and all staff of the Department of Veterinary Parasitology for providing facilities and necessary guidance for laboratory work.

REFERENCES

Catchpole, J. and Norton, C. C. (1979). Parasitology, **79**: 249-257.

Gurpartap, S. and Khahra, S. S. (1997). J. Vet. Parasitol., **11**: 7-10.

Margi Sirois (2005). Laboratory Animal Medicine, Principles and Procedures, Elsevier Mosby, St. Louis, pp. 167-194.

Meitei, H.M.; Prasad, K. D.; Sahai, B. N. and Ansari, M. Z. (1988). J. Vet. Parasitol., **2**: 145-148.

Peeters, J. E.; Geeroms, R.; Froyman, R. and Hals, P. (1981). Res. Vet. Sci., **30**: 328-334.

Rajkhowa, C. (1996). J. Vet. Parasitol., **10**: 175-178.

Shameem, H. and Devada, K. (2005). J. Vet. Parasitol., **19**(1): 69-70.

Soulsby, E.J.L. (1982). Helminths, Arthropods and Protozoa of Domesticated Animals. 7th Ed. ELBS, London, pp. 594-665.

Suchitra Sen, D.; Suryanarayana, C.and Rao, D. S. T. (1998). Indian J. Vet. Med., **18**: 48-49.

❑