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Occurance of Haemoprotozoan Infection in Bovines

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Abstract

A study was carried out to determine the blood protozoan infection in cattle. Four hundred and nineteen blood smears received from Tiruchirapalli region was screened for blood protozoan infection in bovines in TANUVAS, Veterinary University Training and Research Centre, Tiruchirapalli laboratory. Peripheral blood smear examination was carried out as per standard protocols. Out of 419 samples tested 178 samples were positive for *Theileria sp.* (55.27%), 74 samples were positive for *Theileria and Anaplasma sp*. (22.98 %) and 70 samples were positive for *Anaplasma sp.(* 22.98%).

Key words: Blood samples, protozoan infection, cattle, *Theileria, Anaplasma*

Introduction

Theileriosis is tick transmitted haemoprotozoan infection and anaplasmosis is a tick transmitted haemorickettsial infection of cattle. Prevalence of blood protozoa such as babesia bigemina, Theileria annulata, Theileria mutans and blood rickettsia such as Anaplasma marginale, Anaplasma centrale has been reported in animals of Bangalesh (Ahmed, 1976; Samad and Gautam,1984). The spread of haemoprotozoan infection is largely determined by the sudden expansion of vector population and introduction of susceptible animals. Epidemiological surveillance is the important aspect to control both anaplasmosis and Theileriosis. The present report describes the occurrence of haemoprotozoan infection in cattle.

Materials and Methods

419 blood smears received from Tiruchirapalli region was screened for blood protozoan infection in bovines in TANUVAS, Veterinary University Training and Research Centre, Tiruchirapalli laboratory. The infected animals exhibited clinical symptoms such as anorexia, pyrexia, enlargement of superficial lymph nodes, pale conjunctival mucous membrane and sudden drop in the milk yield. The clinical signs observed in this study were similar to those previously described in bovines by Radostits *et al*., (1994). The peripheral blood smear examination was carried out as per standard protocols by Benjamin (1985). The identification of blood protista was based on description by Soulsby (1982).

Results and Discussion

Occurrence of haemoprotozoan infection in bovine was presented in the table. A total of 419 blood smear screened from bovine of which 322(76.85%) were positive for haemoprotozoan infection. Among the positive cases 55.27 percent Theileria sp. infection, 21.73 percent Anaplasma sp. infection and 22.98 percent mixed infection. Theileria sp. infection recorded in this study was 55.27 percent whereas Magona and Mayande, (2002) recorded as 33.7 percent. *Anaplasma* sp. infection recorded in this study was 21.73 percent. This finding supports the earlier repoprt of Anaplasma infection in Bangladesh (Talukdar *et al*., 2001) who recorded as 33 percent. Mixed sp. infection recorded in this study was 22.98 percent whereas Magna and Mayande (2002) recorded as 30 percent.

Conclusion

To conclude among the haemoprotozoan infection in bovine more than half of the cases 55.27 percent was positive for *Theileria sp.*, mixed infection was 22.98 percent followed by *Anaplasma sp.* 21.73 percent.

Table-1: Occurrence of haemoprotozoan infection in bovines

Year	Samples tested		*Theileria sp.*		*Anaplasma sp.*		Mixed (*Theileria*, and *Anaplasma* sp.)	
	Number examined	Number positive	Positive	%	Positive	%	Positive	%
2003	60	49	22	44.90	9	18.37	18	36.73
2004	89	64	30	46.88	17	26.56	17	26.56
2005	119	93	49	52.69	21	22.58	23	24.73
2006	82	69	44	63.77	18	26.09	7	10.14
2007	46	31	24	77.42	-	-	7	22.58
2008	23	16	9	56.25	5	31.25	2	12.5
Total	**419**	**322**	**178**	**55.27**	**70**	**21.73**	**74**	**22.98**

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