GASTRO INTESTINAL PARASITISM IN LARGE RUMINANTS OF KHAMMAM DISTRICT, TELAGANA STATE

T. Chandravathi, B. Kiran Kumar

Animal Disease Diagnostic Laboratory
Khammam, Telangana State-507001

Received 9-10-2014 Accepted 22-12-2014

Corresponding Author : chandrakiran13209@gmail.com

ABSTACT

Total 3250 fecal samples from buffaloes and cattle of different villages in Khammam district of Telangana state were screened during April-2010 to March 2013 to evaluate gastrointestinal parasitic load. Out of 3250 screened, 1905(58.52%) were positive for gastrointestinal parasites comprising (1052) 32.37% of Buffaloes and (853) 26.25% of cattle. Among these positives the incidence of nematodes, trematodes, protozoa and mixed infections in buffaloes was 53.43%, 31.27%, 9.03%, 6.27 % respectively whereas in cattle the incidence was observed to be 46.43%, 36.46%, 10.67%, 6.44 % respectively indicating higher incidence of nematode infections in both buffaloes and cattle. The incidence with *Strongyloid* and *Amphistome* were independent of season, whereas seasonal incidence of all the parasitic infections were to be higher in rainy season. The estimation of EPG count for *strongyloides sps* of cattle range from 200-4000**,** buffaloes range from 200-2000.The faecal egg counts of flukes ranged from 50-400 in cattle and 50-600 in buffaloes.

KEYWORDS: Parasites, Cattle, Buffalo, faecal sample,incidence, Telangana

INTRODUCTION

Gastrointestinal parasitism, is one of the major health problem severely limiting the productivity of dairy animals. In heavy infections gastrointestinal parasites drastically decrease the economic returns from the animals like reduced milk yield in buffaloes and cattle due to parasites which also interfere by mal -absorption of essential minerals like calcium and vitamins for the milk production in mammary glands. In spite of production losses, the problem is neglected because of chronic insidious nature. The diverse agro climatic conditions, animal husbandry practices and pasture management largely determine the incidence and severity of parasitic diseases in a region. The present study evaluate the incidence of gastrointestinal parasites in Khammam district of Talangana state.

MATERIALS AND METHODS

Faecal samples of 3250 buffaloes(*Bubalus bubalis*) and cattle (*Bos taurus*) from different villages of Khammam district , Telangana state were screened for a period of 3 years from April 2010 to March 2013 and in 3 different seasons *viz.*, summer, winter and rainy season. The samples were collected in sterile sample containers and screened at Animal Disease Diagnostic Laboratory, Khammam. The samples were subjected to qualitative and quantitative examination for gastrointestinal parasites. The samples were screened by direct smear method, sedimentation techniques and flotation analysis (Willi's and Lane's method). Ova of parasites were identified from their morphological features (Soulsby, 1982). The faecal egg count of nematode eggs was determined by Modified McMasters technique (MAFF1984) while fluke egg count was determined by Soulsby, (1982). A representative number of faecal samples were pooled in equal quantities and used for coproculture at 27^0C. The infected larvae were harvested and used for larval identification (Soulsby, 1965). The quantum of infection among the animals was derived in terms of percentage(%).

RESULTS AND DISCUSSION

Out of 3250 samples collected 1722 were from buffaloes and 1528 were from cattle. A total of 1905(58.52%) samples (both buffaloes and cattle) were found positive for gastrointestinal parasites. 61.02 per cent (1052 out of 1722 buffaloes) and 55.82 per cent (853 out of 1528) were found positive for gastrointestinal parasites. The results of present study were in line with the findings of Jithendran and Bhat (1999) who also reported the higher % infection in buffaloes than cattle. Krishna *et al*. (1989), Pandit *et al.*(2004), Sreedhar *et al*. (2009) reported the incidence of gastrointestinal parasites in different regions of India.

Among the parasitic infections in buffaloes the incidence of nematodes, trematodes, protozoa and mixed infections were 53.43%, 31.27%, 9.03%, 6.27 % respectively where as in cattle the incidence rates were 46.43%, 36.46%, 10.67%, 6.44 % respectively. Shirale *et al*. (2008), Sreedhar *et al*. (2009) observed the higher incidence of nematodes followed by trematodes.

Variation has been observed on the occurrence of different types of gastrointestinal parasites in this study. *Strongyloid* infection was the predominant helminth infection. This observation corroborates with the earlier findings of Shirale *et al.*(2008) who reported the higher incidence of nematode in cattle of Western Vidharbha region and Godara *et al*. (2003) who reported higher incidence of nematodes in cattle of Rajasthan.

Toxocara vitulorum and coccidia (*Eimeria spp*) occyst were common in the gastrointestinal tract of calves. The results were in conformity with the Murthy and Rao (2014) who also reported the oocysts of Eimeria spp in cattle, more predominantly in younger cattle.

Seasonal **(Table)** incidence revealed higher in rainy season and lower in summer. Higher incidence of helminth parasitic infection during rainy season may be due to high moisture content and temperature which favours the growth and development of larvae on pasture resulting in increased contact between the host and parasites. *Strongyloid* and *Amphistome* were endemic throughout the year, with a higher percentage of infection. These findings were in agreement with Shirale *et al.* (2008) . Jithendran and Bhat (1999), Dhoot *et al*. (2002), Bhattacharya and Ahmed (2005) and Choubisa and Jaroli (2014) also recorded higher incidence of parasitic infection in rainy season.

Table. Seasonal incidence of gastrointestinal parasite in buffaloes and cattle

S.No	season	Buffalo		Cattle	
		No of samples found positive	% positive	No of samples found positive	% positive
1	Rainy season	454	43.15	404	47.36
2	Winter season	383	36.41	287	33.65
3	Summer season	215	20.44	162	18.99
	TOTAL	**1052**	**100**	**853**	**100**

The estimation of epg count for nematode of cattle range from 200-4000**,**buffaloes range from 200-2000.The faecal egg counts of flukes ranged from 50-400 in cattle and 50-600 in buffaloes. Jithendran and Bhat (1999) reported the eggs per gram of faeces in case of nematode parasites were ranged between 85 to 1720 in cattle and 90-1625 in buffaloes. The eggs per gram of faeces in case of flukes were ranged between 50 to 300 in cattle and 50-400 in buffaloes. Laha *et al*. (2013)also recorded the same results.

ACKNOWLEDGEMENTS

Authors are grateful to Animal Husbandry Department, Telangana state for providing opportunity and necessary support to carry out the research work.

REFERENCES :

Bhattacharya and Ahmed (2005) *Indian Vet. J.* **82** : 900-901.

Choubisa S.L and Jaroli V J (2013), *J Parasitic diseases* **37(2):** 271-275

Dhoot, V. M. Upadhya, S. V. and Kolte, S. W. (2002): *Ibid*. **79**: 225.

Godara, R.; Manohar, G. S. and Pathale, K. M. (2003): *J. of Vet. Parasitol*. **17**: 167-168

Jithendran K.P and Bhat T.K (1999) *Tropical animal health and production,* **31**:205-214.

Krishna.L, Jithedran K.P and Vaid J (1989) *International Jounal of Animal Sciences **4**:183-184.*

Laha R, Das and M and Goswami A (2013) *Vet World* **6(2)**: 109-112

MAFF (1984) *Mannual of Veterinary Investigation,* volume 2, HMSO,London,pp:161-187.

Murthy G S S and Rao P V (2014) *J Parasitic diseases* **38(2)**:190-192.

Pandit B. A, Sahardar R. A, Banday M. A. A and Darzi, M. M. (2004): *Ibid*. **18** :63-65.

Shirale S.Y, Meshram M.D, Khillarie K.P (2008) *Vet World* **1(2)**:45

Soulsby EJL (1965) In:*Textbook of veterinary clinical parasitology.* volume.1.Helminths ,Blackwell scientific,Oxford, pp: 279-305.

Soulsby EJL (1982) *Helminths, Arthropods and Protozoa of Domesticated Animals.*7th edition, CLBS and Bailliere Tindal .pp:760-778

Sreedhar S, Mohan E M, Babu E S (2009), *Indian Journal of Animal Research,***43(3):** 230-231.

❑

IMPORTANT ANNOUNCEMENT

On behalf of the editorial board, I am pleased to announce the title change of "The Indian Journal of Field Veterinarians (IJFV , ISSN : 0973 - 3175)" to "The Indian Journal of Veterinary Sciences and Biotechnology (IJVSB; ISSN : 2394-0 247)" with effect from 01.01.2015.

Editor -in- Chief

The Indian Journal of Veterinary Sciences and Biotechnology

83 Vandana Nagar Main, Indore 452 (M.P.)

Email; indianjfv@gmail.com