

SEASONAL VARIATION OF MONIEZIA, IN CAPRA HIRCUS FROM AURANGABAD DISTRICT (MS) INDIA

Kalim Shaikh, Nirmale Manoranjana* and Dhanraj Bhure**

AKI'S Poona College of Arts, Science and Commerce, Camp. Pune-411001

*Chatrapati Shivaji College, Omerga

**Yeshvant College, Nanded

Email: drkalimshaikh@yahoo.in

Received: 22 March 2011, Revised 24 April 2011

ABSTRACT

As a part of study, we examined total 404 samples for cestode infection in the period of June-2005 to May-2007 from Aurangabad district (M.S), out of total samples 163 (40.34%) samples were positive for infection of *Moniezia* (Cestoda). The seasonal variation of gastro-intestinal cestode *Moniezia* shows the higher prevalence which occurs in winter (56.55%) followed by summer (51.05%) and low prevalence found in Monsoon (13.53%). The environmental factors, feeding habitat and availability of intermediate hosts are responsible for seasonal variation of cestode infection in *Capra hircus*.

Key Words: - Seasonal variation, *Capra hircus*, *Moniezia*, Aurangabad

INTRODUCTOON

Aurangabad district is located between latitude N 19° 53' 47" - E 75° 23' 54" and altitude range from sea level is 515 meter above. Agro-climatically, the district is divided into 9 Tahsils (Aurangabad, Kannad, Khultabad, Gagapur, Paithan, Phulambri, Vaijapur, Sillod and Soygaon). The mean monthly temperature are vary from 12 ± 3 °C in Winter to 42 ± 4 °C in Summer respectively and the average annual rainfall is 750mm and climate of district is hot and humid. The 65% population in rural directly depends on Agriculture and Animal husbandry. The parasitic infection affecting the gastrointestinal tract of domesticated small ruminants like Sheep and Goat, often without clinical manifestation are major causes of loss in production (Arora 1967). The incidence of cestode infection varies with age, sex, season and agro-climatic conditions. Epidemiological survey of cestode infection is an important work for controlling losses due to cestode by using effective control measures like deworming the herd by selecting proper broad spectrum and helminthic drug (Singh 2001). The present study is the seasonal prevalence of *Moniezia* (Cestoda) in *Capra hircus*.

MATERIALS AND METHODS

The total 404 intestines of *Capra hircus* were collected from slaughter houses of different locations of Aurangabad district during June, 2005 to May 2007 the intestines were examined for cestode infection. The genus *Moniezia* was identified by taxonomically and recorded data seasonally means collected and counted the population of cestode parasites and preserved in Formalin for further study. Calculations are based on following formula.

Prevalence of infection= Infected host /Total hosts examined x 100

RESULTS AND DISCUSSION

The present result indicates out of 404 samples about 163 (40.34%) are infected with cestode parasites. The seasonal variation of gastrointestinal cestode infection shows the higher prevalence of parasites in winter (56.55%) followed by Summer (51.00%) and low in Monsoon (13.53%).

The infection of cestode parasites in *Capra hircus* is an important because they cause economic losses due to condemnation of infection (Bekele *et al.* 1992). Sissay *et al.* (2007) described same results in *Capra hircus* and *Ovis bharal* from Eastern, Ethiopia. Experimental studies by Kennedy (1976) shown the cestode *Caryophyllaceus lattices* can establish in fish and survive for longer period at low temperature is a major controlling factor of seasonal periodicity of infection. The seasonal variation of parasite population dynamics has been described in a number of studies in many African countries (Assoku 1981, Vercruysse 1983, Van Wyk 1985, Pandey *et al.* 1994, Nginyi *et al.* 2001). The rapid translation of eggs occurs throughout most of the rainy season and grazing animals acquires the highest infection during this time and parasite come at maturity in winter season. The seasonal fluctuation in number and availability of the infective larval stages are also influenced by level of contamination. The latter is controlled by biotic potential (fecundity) of adult parasite in host, the density of stocking and immune status. Soulsby 1982, Hansen and Perry 1994, Urquhart *et al.*, 1996 reported helminthes infections in small ruminants depends on many variables including the presence of suitable intermediate host as

Table 1: Showing the seasonal variation of *Moniezia* (Cestoda) in *Capra hircus* during June, 2005 to May, 2007 from Aurangabad district.

Name of seasons	Total no. of sample examined	No. of infected samples	Prevalence (%)
Monsoon	133	18	13.53
Winter	122	69	56.55
Summer	149	76	51.006

well as favorable climatic and ecological conditions for them. The present result correlates with the result of Sissay Menkir Mekonnen (2007) they reported that the worm burdens during the wet seasons were significantly higher than during the dry season.

CONCLUSION

After the analysis of data the present study shows the high infection of *Moniezia* in *Capra hircus* is occurring in

winter seasons followed by summer and low in monsoon. The high infection in winter due to in this season parasites attain maturity and grazing period of that host and favorable conditions like temperature, moisture and humidity of development of parasites.

ACKNOWLEDGEMENT

The authors are thankful to Dr. Sayyed Iliyas, Department of Botany, Poona College, Camp Pune, for continuous encouragement during the study.

LITERATURE CITED

- Amundsen PA, Khudsen R, Kuris AM And Kristoffersen R. 2003. Seasonal and ontogenic dynamics in tropic transmission of parasites. *Oikos*,102:285-293
- Anderson RM. 1974. Seasonal variation in the population dynamics of *Caryollaeus lattices*. *J. Parasit* .12:281-305
- Arora RG. 1967. Studies on the pathology of sheep and goats liver showing microscopic lesions collected from the slaughter houses. *M.Sc, Thesis, Agri University, Agra*.
- Assoku. RK. 1981. Studies of parasitic helminthes of sheep and goat in Ghana, *Bulletin of animal health and production in Africa*. 29:1-10
- Bekele T, Woldeab T, Lahlok Kassi A and Sherington J. 1992. Factors affecting morbidity and mortality on farm and on station in the Ethiopian highland sheep, *Acta Tropica*. 52:99-109
- Hansen J and Perry B. 1994. The epidemiology, diagnosis and control of helminth parasites of ruminants. *A handbook 2nd ed. ILRAD (International Laboratory for research on animal diseases)*, Nairobi, Kenya. 171 pp
- Kenndy CR. 1976. Ecological aspects of parasitology. North Holland publishing company, Amsterdam 10x food.
- Menkir M, Sissay Arvid Ugglä and Peter J Waller. 2007. Prevalence and seasonal incidence of larval and adult cestode infection of Sheep and Goats in Eastern Ethopia. *Trop. Anim. Health Prod.* 1
- Nginyi JM, Duncan JL, Mellor DJ, Stear MJ, Wanyangu SW, Bain RK and Gatongi PM. 2001. Epidemiology of parasitic gastrointestinal nematode infections of ruminants on small holders farms in central Keniya. *Research in veterinary sciences*. 70: 33-39
- Pandey VS, Ndao M and Kumar V. 1994. Seasonal prevalence of gastrointestinal nematodes in communal land goats from the Highveld of Zimbabwe, *Veterinary parasitology*. 51: 241-248
- Sissay MM. 2007. Prevalence and seasonal incidence of Nematode parasites and fluke infections of Sheep and Goats in Eastern Ethopia. *Trop. Anim. Health Prod*. 39: 521-531
- Singh BP. 2001. Parasitic infection in form of animals in different climates in relation to livestock production and health. *CAS in Vet. Physio, IVRI, Izatnagar, Bareilly U.P.* PP 36-37
- Soulsby E.J.L. 1982. Referred from *Taenia hydatigena* Helminth Arthropods and Protozoa of domesticated animals. 7th ed. The English language book Society and Bailliere Tindell. London .pp. 113-114
- Urquhart GM, Armour J, Duncan JL, Dunn AM and Jennings FW. 1996. *Veterinary parasitology, 2nd ed. Blackwell Science*, United Kingdom. p 307
- Van Wyk JA. 1985. The epidemiology and control of gastrointestinal nematode infestation of sheep and cattle in South Africa, The historic role of onderstepoort and a short discussion of present research priorities onderstepoort. *Journal of veterinary research*. 52: 215-219
- Vercruysse J. 1983. A survey of seasonal changes in nematode faecal egg count levels of Sheep and Goats in Senegal. *Vetrinary Parasitology*. 13: 239-244
- Yamaguti S. 1959. The cestodes of vertebrates. *Interscience Publ.* Newyork and London 1-860.