

STATUS OF BOVINE FASCIOLIASIS IN MEGHALAYA

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ABSTRACT : Survey conducted at all the major slaughter houses in the four district headquarters namely, Shillong, Nongstoin, Jowai and Tura of Meghalaya during the period of 1985 to 1987 showed a considerable prevalence of *Fasciola gigantica* in beef cattle it was highest in Jowai and lowest in Shillong with an overall rate of infection 52.25 %. Studies on the seasonal incidence of parasite in Shillong indicate a high rate of infection during winter and low in summer.

INTRODUCTION

Though fascioliasis caused by *Fasciola gigantica* is wide spread among livestock in India (Bhalerao, 1935; Verma, 1953; Thapar, 1956; Khajuria, 1981; Gill et al., 1983; Sharma and Lal, 1983; Kulkarni, 1984; Rao, 1985) data on the distribution of infection in North -East India is scanty (Borkakoty et al., 1984).

Beef cattle are an important livestock of North-East India having more cattle per hundred of population than the rest of the country. In Meghalaya there are atleast 4 lakh of cattle which form a major food item for the local tribes of the state. During the extensive survey of helminth parasites in meat giving animals in Meghalaya, *F. gigantica* was found to be one of the frequently occurring parasites among slaughtered cattle. The presence of suitable intermediate snail host (i.e. *Lymnaea auricularia*) for *F. gigantica* in the region (Rajkhowa, 1982) indicates the risk to which the livestock of the state could be exposed. Because of the economic importance coupled with public health significance of the parasite, the present study was undertaken to ascertain the prevalence of fascioliasis in beef cattle (*Bos indicus* L.) in Meghalaya.

MATERIALS AND METHODS

The study area is a hilly region of North-East India surrounded by Assam in the north-east and Bangladesh in south-west. The four localities of the study of the study area include Shilong, Nongstoin, Jowai and Tura. The slaughter stock of cattle is not exclusively indigenous in origin; a considerable part of it is imported in the state from the neighbouring Assam and Bihar states.

The observations were made on a sample of 23331 cattle, one year old, slaughtered at the mentioned four district headquarters between November, 1985 and October 1987. Livers were examined as a part of the normal slaughter inspection process. Each liver was palpated and the common hepatic duct and its main branches were incised and examined visually. Fascioliasis was diagnosed if flukes were found in the bile ducts. Sex specific prevalence was calculated for the entire survey area. The evaluated the seasonal variation if any, monthly inspection of slaughter houses in Shillong was conducted for two annual cycles.

RESULTS

Of the 2331 cattle examined, 1218 were found infected with *F. gigantica*. The sex wise prevalence and seasonal incidence of fascioliasis in four district headquarters of Meghalaya and Shillong, respectively, are presented in Table 1 & 2. The highest rate of infection was observed in Jowai and the lowest in Shillong. Male hosts were found to be more infected than females in all localities explored excepting Tura where the reverse was recorded.

A more or less uniform rate of infection was observed through out the year though the prevalence showed a slightly rising trend from summer to the following winter months.

Discussion : A considerably high prevalence (i.e., 52.25%) of *F. gigantica* infection as recorded herein reflects upon the general health condition of the slaughter animals as well as upon the poor quality of the consumable meat. Even though the majority of the slaughtered cattle are not locally raised, yet the infected animals along with the occurrence of the required intermediate molluscan host in the region (Rajkhowa, 1982) become a potential source of infection to the indigenous stock of milch cattle as well as other live stock like sheep and goat.

Although there is no data at present regarding cases of human fascioliasis in the study area, the zoonotic potential of *F. gigantica* cannot be ignored (Hoeden, 1964).

Table - 1. Sex specific prevalence of *F. gigantica* among beef cattle in four district headquarters of Meghalaya.

Locality	Male		Female		Total	
	Examined (No.infected)	% infected	Examined (No.infected)	% infected	Examined (No.infected)	%infected
Shillong	242 (128)	52.89	1803 (913)	50.63	2045 (1041)	50.90
Nongstoin	14 (9)	64.28	110 (65)	59.09	124 (74)	59.67
Jowai	16 (11)	68.75	90 (59)	65.55	106(70)	66.03
Tura	6 (3)	50.0 0	51(30)	58.82	57(33)	57.89
Total	278 (151)	54.31	2054 (1067)	51.94	2331(1218)	52.25

Table - 2. Seasonal incidence of Fascioliasis among beef cattle in Shillong.

Season	Number of animals		% of hosts infected
	examined	indected	
Winter(November to January)	597	323	54.10
Spring(February to April)	446	233	52.24
Summer(May to July)	542	250	46.12
Autumn (August to October)	460	235	51.08

The sample size of male hosts in the present study was considerably smaller than that of female; as a usual practice prevailing in the region, mostly the cows are slaughtered for beef while the bulls are kept for other purposes. However, the data obtained indicated towards a higher rate of infection among male hosts.

A slight increase in the prevalence rate from summer to winter months as recorded herein is in agreement with the observations of Sharma and Lal(1983).

The present study provides the base line data for future study relating to distribution and prevalence of fascioliasis in the region.

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