



Research Article

Study on Paramphistomiosis in Cattle at Sonatala Upazila, Bogra, Bangladesh

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ABSTRACT

The study aimed at investigating the occurrence of Paramphistomiosis in association with age, sex and breed of sick cattle brought for treatment at Upazila Veterinary Hospital, Sonatala, under Bogra district, Bangladesh. Coproscopy was conducted to monitor the occurrence of Paramphistomiosis. Out of total 107 examined cattle, 32 (29.90%) were found positive for Paramphistomiosis. It was also observed that, rate of infections in young cattle (younger than two years) were higher (34%) than adult (over two years) (26.31%). Higher infection was observed in male cattle (33.33%) than females (27.11%) and the frequency of Paramphistomiosis was lower in local-bred (24.28%) than cross-bred cattle (40.54%). So effective control measures should be taken to minimize this problem.

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INTRODUCTION Parasitic diseases are one of the major causes of hindering the livestock development around the globe including Bangladesh. It has been estimated that about 10% animals die annually due to parasitic diseases (Mia and Kibria, 1993). Gastrointestinal parasites are a major constraint to health and productivity in grazing livestock production systems (Fox, 1997). Various species of Paramphistomum cause a disease called Paramphistomosis which affects production, since these parasites provoke lower nutrition utilization, a loss of weight and a decrease in milk production, and ultimately causing great economic losses (Rangel-Ruiz et al., 2003). These parasites wander in the duodenal mucosa resulting in severe erosions. In heavy infection, they cause enteritis characterized by oedema, haemorrhages and ulceration whereas adult flukes in the fore-stomach are well tolerated. The immature fluke causes high degree of morbidity as well as mortality (Panda, 1985). Death due to immature Paramphistomes is very high and may be as high as 80–90% in domesticated ruminants (Juyal et al., 2003; Ilha et al., 2005).

Given the fact that the parasitic infection causes high economic losses of livestock in Bangladesh, the present study was undertaken to observe the frequency of Paramphistomiosis in cattle at Sonatala, under Bogra district.

MATERIALS AND METHODS

This study was carried out in 107 cattle brought for treatment at Upazila Veterinary Hospital, Sonatala, Bogra from 17 November, 2012 to 16 January, 2013. A prototype questionnaire regarding age, sex, breed, clinical history, presenting signs of study individual was designed to collect the objectives oriented data from each cattle. Faecal samples of cattles were collected in a clean plastic container and direct smear and sedimentation techniques were employed for faecal analysis. The egg of

Paramphistomum was identified on the basis of its characteristic morphological feature (Soulsby, 1982).

RESULTS AND DISCUSSION

Out of 107 cattle examined, 32(29.90%) were found positive with Paramphistomiosis. Uddin et al. (1994) reported higher infection rate (56.66%) than the results present here. It might be due to the variation in study place, feed, de-worming, and managements of animals.

The occurrence of Paramphistomiosis was slightly higher in male (33.33%) than females (27.11%) (Table-1). In contrast, Saifuzzaman (1996) reported that the infection rate in male was 45.54%, which was lower than in female 55.56%. The lower infection in female might be due to the social practice of keeping female under better management and feeding conditions in comparison to males, which are generally let loose to graze freely in pastures.

Table 1: Sex, Age and Breed wise frequency of Paramphistomiosis in cattle.

Parameters	Sub-parameters	Number of animal examined	Number of positive cases	%
Sex	Male	48	16	33.33%
	Female	59	16	27.11%
Age	Young (< 2 Years)	50	17	34%
	Adult (2 Years ≤)	57	15	26.31%
Breed	Local	70	17	24.28%
	Cross	37	15	40.54%

As presented in Table-1, Paramphistomiosis rate was higher in younger cattle (34%) than adult (26.31%). Similarly, Juyal et al. (2003) showed higher frequency in young (61.36%) than adult (49.36%), however, Sarder et al. (2006) reported that frequency of Paramphistomum increases with the age. This variation might be due to the high susceptibility and low resistance at young age.

The frequency of this parasitic infection was observed higher (40.54%) in cross-bred cattle than local-bred (24.28%). Sarder et al. (2006) reported that the frequency of Paramphistomiosis is 45.27% in native bred and 51.11% in cross bred cattle which is in line with the current findings.

CONCLUSION

The result of this study will give an overall idea about the prevalence of Paramphistomiosis in cattle at the study area. However, this study will provide foundations for further extensive studies related to these infections which are necessary to design preventive and control measures against Paramphistomiosis in Bangladesh.

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