

OCCURRENCE OF *SCHISTOSOMA SPINDALE* IN BOVINE CALVES IN THANJAVUR DISTRICT OF TAMIL NADU

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ABSTRACT

Eight numbers of dung samples were collected from bovine calves aged between 6-9 months in Thalayamangalam village, Orathanadu Taluk, Thanjavur district with the history of chronic watery diarrhoea and jowl oedema. Gross examination of dung samples revealed foul smelling with absence of segments of tapeworms. Dung samples were screened by using sedimentation technique for the presence of parasitic eggs/ova. Microscopical examination revealed the presence of spindle shaped eggs having anterior spine and active miracidium inside the eggs. Based on the morphological features of the parasitic egg, it was diagnosed as *Schistosoma spindale* infection in calves.

Key words: Bovine calves, *Schistosoma spindale*, Thanjavur district, Tamil Nadu

Received : 05.05.2023

Revised : 12.10.2023

Accepted : 12.10.2023

INTRODUCTION

Schistosoma spindale is a unisexual blood fluke which causes visceral schistosomiasis in bovine and characterized by frequent diarrhoea with blood and mucous,

colic, weight loss and weakness in animals (Vaidyanathan, 1949; Mohanty *et al.*, 1984). It also causes reduced milk yield, severe mortality with outbreaks leading to high death rates in cattle (Agrawal, 2012). The disease is chronic in nature and symptoms in majority of the animals are insufficient to distinguish the illness from other debilitating infections (De Bont and Vercruysse, 1998). In this study, visceral schistosomiasis has been conventionally diagnosed in bovine calves.

MATERIALS AND METHODS

Eight numbers of dung samples from bovine calves were collected from

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Thalayamangalam village of Orathanadu Taluk, Thanjavur district. Dung samples were processed by the standard centrifugal sedimentation technique for parasitological examination (Soulsby, 1982).

RESULTS AND DISCUSSION

Faecal examination revealed numerous spindle shaped eggs with actively motile miracidium inside and the presence of anterior spine (Fig 1). In some of the samples, the miracidium was hatched out from the egg and freely moving in the microscopic field. Based on the standard morphological features and micrometry of the eggs, it was diagnosed as *Schistosoma spindale*. They measure about 110-130 μm in length and 35-40 μm in width. The eggs are slightly curved and had a prominent terminal spine at one end, which is characteristic of the *Schistosoma* genus. The spine is typically short and slightly curved, measuring about 25-30 μm in length.

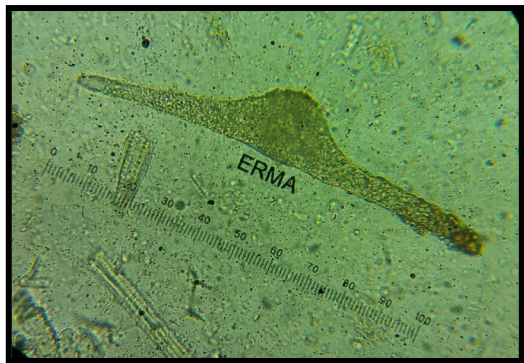


Fig. 1. Napoleon hat shaped *Schistosoma spindale* egg (400X)

High incidence of *S. spindale* was documented in Thanjavur region of Tamil Nadu based on the presence of eggs in dung samples in bovines. Jeyathilakan *et al.* (2008) and Bedarkar *et al.* (2000) reported that the seasonal prevalence of *S. spindale* in cattle was high in monsoon season. A similar trend was also reported in various states of India including Karnataka, (Rao, 1934), Maharashtra (Kulkarni *et al.*, 1954), Andhra Pradesh (Christoper and Sudarshan, 1975), Madhya Pradesh (Banerjee and Agrawal, 1992) and Assam (Rajkhowa *et al.*, 1992). Incidence of visceral schistosomiasis in bovines in Cauvery delta zone of Tamil Nadu might be due to running of river water throughout the year which favours the high population of fresh water snail such as *Indoplanorbis exustus* which act as intermediate host. Epizootiology of *S. spindale* in farm animals and cercarial bionomics in snail are required for better understanding of *S. spindale* and disease logistics in Tamil Nadu need to be studied.

ACKNOWLEDGEMENT

The authors are grateful to the Dean, Veterinary College and Research Institute, Orathanadu, TANUVAS for providing necessary facilities.

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