CASE REPORT

Clinical Management of an Outbreak of Visceral Schistosomosis in Sheep in Rewa, Madhya Pradesh

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Keywords: Clinical management, Outbreak, Sheep, Visceral Schistosomosis.
Ind J Vet Sci and Biotech (2020): 10.21887/ijvsbt.16.(2,3,&4).26

Schistosomosis is an economically important disease of domestic animals and human being, mainly in the tropical and subtropical zones of the world. Schistosomosis is now recognized as the fifth major helminthosis of domestic animals in the Indian sub-continent. The disease has been reported in small ruminants by many workers (Cherian and D'Souza, 2009; Bhoyar *et al.*, 2012). The species which commonly occur in India are *Schistosoma nasale* and *S. spindale* in cattle, *S. indicum* in horses and sheep and *S. incognitum* in pigs (D'Souza, 2006). *S. indicum* and *S. spindale* are the most prevalent causative agents of visceral schistosomosis. The disease is characterized by acute gastrointestinal symptoms in small ruminants where diarrhoea is the main clinical sign. Sometimes the disease is acute enough to cause death of the animal due to fluid and electrolyte losses or due to emboli formation by the parasite. The disease seems to be highly prevalent, but is under-diagnosed and has not received due attention. Visceral schistosomosis is diagnosed only in 30% positive cases, while the others go undetected. Lack of proper diagnosis leads to normal antibiotic treatment as in bacterial diarrhoea and this is unresponsive in these cases. Faecal examination can be of great importance for the diagnosis and treatment of the disease. The present study reports an outbreak and clinical management of visceral schistosomosis in sheep.

Case History and Clinical Observations

A nomad came with the complaint of diarrhoea and sudden mortality in his sheep flock. He also reported that the diarrhoeic sheep stands alone, become totally anorectic and starts laboured breathing approximately one hour before death. The history was recorded and the herd was clinically examined. The flock size was approximately 45-50 sheep and death in the flock started 15 days before the presentation. As per the owner four sheep died. Temperature, pulse and respiration rates were within the normal range. Faecal samples were collected from remaining 18 sheep in the flock and examined by standard coprological methods (Zajac and Conboy, 2012).

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How to cite this article: Chaurasiya, R., Dixit, A.K., Dixit, P. (2020). Clinical Management of an Outbreak of Visceral Schistosomosis in Sheep in Rewa, Madhya Pradesh. Ind J Vet Sci and Biotech, 16(2,3,&4): 106-107.

Source of support: Nil

Conflict of interest: None.

Submitted: 20/08/2020 **Accepted:** 30/11/2020 **Published:** 25/12/2020

Treatment and Discussion

Faecal examination of affected sheep using saturated salt solution revealed 44.45% (8/18) prevalence of *Schistosoma indicum,* 5.55% (1/18) Oocyst of coccidia, 16.66% (3/18) *Trichuris* spp. and 5.55% (1/18) *Moniezia expansa* (Fig. 1). Treatment of infected sheep flock was done with Triclabendazole @ 24 mg/kg b. wt. orally once along with fluid and electrolyte therapy. Improvement in clinical symptoms was observed and mortality stopped in the flock. There have been reports of *S. indicum* schistosomosis in sheep from some states (Chandra *et al.*, 2003; Agrawal *et al.*, 2004) of our country. Snail *Indoplanorbis exustus* has been reported to be the intermediate host of *Schistosoma indicum*. Snail habitat,

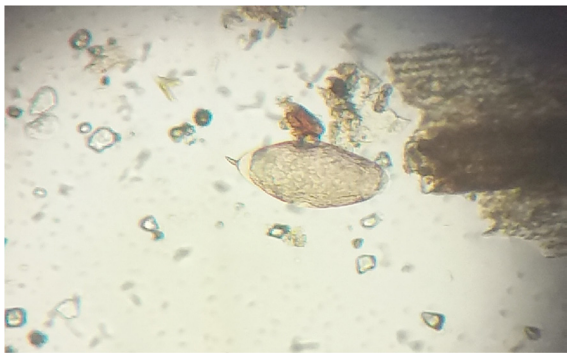

Fig. 1 : *Schistosoma indicum* egg

indirect life cycle, immunity to infection, water loggings are the factors which play important role in epidemiology of the disease outbreak. Occurrence of flood in and around Rewa (MP) in the previous year (2016) might also be the predisposing factor for the outbreak of the disease.

In the present case, Triclabendazole was used due to its high flukicidal activity based on high and prolonged drug exposure to blood flukes. The possible mechanism of action of Triclabendazole might be the disruption of transport process in the tegument (upon binding to β-tubulin molecule) in the trematodes. This would prevent the movement of secretory bodies from the cell bodies to the tegumental surface (Brennan *et al*., 2007). Bhoyar *et al*. (2012) successfully used Triclabendazole (10 mg/kg) for the treatment of visceral schistosomosis caused by *Schistosoma spindale* in goats. Some authors have reported that Praziquantel is more effective in treatment of visceral schistosomosis than Triclabendazole (Garg *et al*., 2009; Biswas and Chatterjee, 2014).

Acknowledgement

The authors are thankful to Dean, Veterinary College, Rewa for providing necessary facilities.

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