

Diagnosis and Management of Nasal Schistosomiasis in a Crossbred cow

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Abstract

A cow was reported with difficult breathing along with stridor like respiratory sounds and nasal discharge. Microscopic examination of nasal washing revealed *Schistosoma nasale* eggs. Treatment was undertaken with Inj. Lithium Antimony Thiomolate along with supportive therapy till recovery.

Keywords: Anthiomaline; cow; *schistosoma nasale*

Introduction

Schistosomiasis is a snail borne trematode infection caused by *Schistosoma nasale* and *S. spindale* in cattle, *S. indicum* in equines and sheep and *S. incognitum* in pigs. Nasal schistosomiasis (Snoring disease) is characterized by presence of cauliflower shaped granulomatous growth in nasal passage thereby producing a snoring like sound during inhalation and exhalation. Nasal schistosomiasis was identified first in India 1933 by Dr. M. Anant Narayanan Rao at Madras Veterinary College, Tamil Nadu. The parasite is transmitted by freshwater snail, *Indoplanorbis exustus* (Liu, 2010). Transmission of infection occurs by percutaneous penetration of cercaria of *S. nasale* from infected *Indoplanorbis* sp. of snails (Soulsby, 1982). The disease takes a chronic route causing rhinitis, profuse mucopurulent nasal discharge manifested clinically by sneezing, dyspnoea and snoring.

History and Observations

The investigation was carried out in a private dairy farm with animals were reared under semi-intensive system of rearing. It was noticed that a crossbred Holstein Friesian cow in her fourth calving was found with difficult breathing with to and fro movements and nasal discharges. On examination, stridor like respiratory sound was observed during respiration. The animal milked 2-4 lits/day and was let out for grazing every day. The animal was housed under tree shade. The case was diagnosed as nasal

schistosomiasis. Normal saline was infused into nasal cavity of cattle and then washing was collected into a sterile container. In laboratory, the contents were kept at room temperature for 20 minutes and allowed to settle. The supernatant was discarded and a drop of sediment was examined (Sumanth *et al.*, 2004). Boomerang/palanquin shaped eggs with terminal spines were noticed under microscopic examination of nasal washing as shown in Fig. 1. The eggs were identified as *S. nasale* as per standard taxonomic keys given by Soulsby (1982).



Fig. 1: *S. nasale* eggs recorded

Treatment and Discussion

Treatment was started with Inj. Lithium Antimony Thiomolate @ 15 ml intramuscularly on day 1. On day 3 also, same dose was followed. Injection was continued on day 5 but with dose reduced to 10 ml. The treatment was supplemented with Inj. Tribivet^a (Vitamin B₁, B₆ and B₁₂) 10 ml I/M. The cow responded after a week of treatment with reduction in breathing difficulties and significant reduction in snoring sound. Complete recovery was observed.

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Nasal schistosomiasis

Bedarkar *et al.* (2000) observed that prevalence of *Schistosoma* species was high during monsoon and lowest in summer season amongst ruminants. Vaidyanathan (1949) asserted that Anthiomaline was the drug of choice for nasal schistosomiasis. Yogeshpriya *et al.* (2017) also opined complete success rate in treatment of nasal schistosomiasis with Inj. Lithium Antimony Thiomalate. The disease could be controlled by regular deworming and by avoiding animals to graze near snail infected water bodies.

Summary

A crossbred Holstein Friesian cow was observed with difficulty breathing and nasal discharge. Stridor like sound was observed on examination which was diagnosed as Nasal Schistosomiasis. It was confirmed on microscopic examination based on the boomerang/ palanquin shaped eggs in nasal washing. Treatment was continued with Inj Lithium Antimony Thiomalate at 15 ml I/M for alternative days along with supportive therapy which expressed full recovery.

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Received on:30.03.2021
Accepted on:14.07.2021

Anocovax- COVID Vaccine for Animals



VACCINATION

India gets its first indigenous COVID vaccine for animals, Anocovax. The vaccine is safe for dogs, lions, leopards, mice and rabbits and effective against both the Delta and Omicron variants.

The vaccine is developed by ICAR-National Research Centre on Equines (NRC), Hisar and was released by Shri Narendra Singh Tomar, Agriculture Ministry, MoAFW. The vaccine contains inactivated SARS-CoV-2 Delta (COVID-19) strain with Aluminium hydrogel as an adjuvant.