

Incidence of Nasal Schistosoma Infection in Holstein-Friesian (HF) Cross breeding bull: A Clinical Case Report

Vinod Shende*, Amit Kalyankar, Hemant Kadam, Shivaji Sontakke, Vinod Potdar and Jayant Khadse

BAIF Development Research Foundation
Central Research Station, A/p- Uruli Kanchan, Tal- Haveli
Dist-Pune (Maharashtra)

*Corresponding Author E-mail: vinod.shende@baif.org.in

Received: 25.03.2021 | Revised: 29.04.2021 | Accepted: 6.05.2021

ABSTRACT

Incidence of parasitic diseases is persistent vital bottle neck in livestock development in developing countries. Nasal schistosoma is one of the snail-born parasitic diseases. A six year HF cross bred bull was investigated with typical sings, proliferated nasal membrane with sessile, cauliflower like growth, mucopurulent discharge, dyspnoea, snoring during respiration. Main focus of this case study was on investigation and effectual treatment of nasal schistosomiasis. Three doses of Anthomaline @ 20 ml intramuscular according to the body weight of bull at weekly intervals was given. Significant recovery of clinical signs with regression of the growth and general improvement of health condition was observed within three weeks.

Keywords: Nasal Schistosoma, HF crossbreed bull, Anthiomaline.

INTRODUCTION

Schistosomiasis, a trematode infection mostly occurs in three different clinical forms nasal, hepatic & urinary forms. It is an economically & clinically important parasitic disease affecting either humans, animals or both, according to the species concerned in tropical and sub-tropical countries (Lefevre et al., 2010 & ODARC DRAAF, 2018). This disease is accountable for substantial economic losses in livestock industry, mainly through reduced fertility, productivity, stunted growth and

ultimately mortality. It is estimated that at least 165 million cattle are infected with schistosomes worldwide causing serious socio-economic damages.

The major Schistosome species of veterinary importance include *Schistosoma spindale*, *S. nasalis*, *S. indicum* are major causes in Asia (Bont 1995, & Srivastava, 1972) while *S. bovis* the commonest species infecting livestock (cattle, sheep, goats, pigs, equines, and dromedaries) wild ruminants,

Cite this article: Shende, V., Kalyankar, A., Kadam, H., Sontakke, S., Potdar, V., & Khadse, J. (2021). Incidence of Nasal Schistosoma Infection in Holstein-Friesian (HF) Cross breeding bull: A Clinical Case Report, *Ind. J. Pure App. Biosci.* 9(3), 73-75. doi: <http://dx.doi.org/10.18782/2582-2845.8672>

This article is published under the terms of the [Creative Commons Attribution License 4.0](https://creativecommons.org/licenses/by/4.0/).

and rodents in Africa and Mediterranean Europe (Shibru et al., 1989, & Engles et al., 2002) other includes *S. mattheei*, *S. intercalatum*, *S. hippopotami* and *S. rohhaini* (Bont 1995, & De Bent et al., 1997, & Srivastava, 1972). Additionally, in India prevalence of *Orientobilharzia turkestanicum* in Srinagar confirmed by Dutt et al. 1964, while *O. harinasutai* in buffaloes had been suspected (Srivastava, 1972). Trematode parasites are found in immense water lodged and swampy grazing fields (Fromsa et al., 2011). The fresh water snails, serve as intermediate hosts of bovine schistosomes. Nasal schistosomosis or snoring disease caused by *Schistosomanasale*, trematode infection widely distributed & adversely affects the health and production of domestic livestock in various parts of India and Indian subcontinent (Latchumikanthan et al., 2014, Agrawal & Southgate 2000, Ramchandra Rao & Indra Devi 1971, Agrawal & Alwar 1992, & Basu & Bhattacharya, 2018). Snoring disease associated with rhinitis, cauliflower-like growths on the nasal mucosa, causing partial obstruction of the nasal cavity and snoring sounds when breathing. Hemorrhagic and/or mucopurulent nasal discharge is a common feature. Large granulomatous growth causes dyspnoea. The present case study reports diagnosis & treatment of nasal schistosomosis affected HF cross bred bull.

Case History & Observations:

A six year old HF cross breeding bull weighing 635 kg maintained at BAIF bull station at Urulikanchan, Pune, Maharashtra was presented with history of sneezing with profuse unilateral right side mucopurulent nasal discharge and rhinorrhoea, since four days animal with difficulties in breathing during the month of August 2019.

Clinical examination of nasal mucosa revealed congestion of the nasal mucus membrane, rhinitis, sneezing, and restlessness with mucopurulent discharges with

cauliflower-like unilateral growth in right side nostril obstructing the air passage accompanied by a snoring sound during respiration. Snoring was pronounced at late evening and early morning. Body temperature was not elevated in affected animal even though reduced water intake. Feed intake was normal. Redness of granuloma due to animal often rubbing its nares against the ground & wall.

TREATMENT AND DISCUSSION

Inj. Anthomaline (Lithium Antimony Thiomalate 60 mg/ml, Novartis India Ltd.) @ 20 ml i/m was administered consecutive three times on weekly intervals. Simultaneously the growth was irritated with potassium permanganate (1:1000) solution, and anti-inflammatory inj. Megludyne @ 2mg/kg body weight was given to reduce inflammation.

On the basis clinical investigation cauliflower like growth with snoring sound especially during during late evening and early morning with rhinitis and mucopurulent nasal discharge are clear indication of nasal schistosomosis.

With first dose of Anthomaline the animal responded well. There was reduction in the size of nasal granuloma with the second dose after a week there was significant regression of granulomatous growth followed by reduction in snoring. Animal was breathing normally. After the administration of third dose there was complete recovery and the snoring was completely eliminated.

The several reports of prevalence and intensity of Nasal schistosomosis in cattle and buffalo in different part of areas of India and Indian subcontinent had been documented. The overall prevalence of *S. nasale* was highest during rainy season followed by winter and least during summer season (Basu et al., 2018). This might be because damp moist climatic condition which are more favorable for the growth of intermediate host (snail).



Fig. 1 & 2: Nasal schistosomiasis of affected bull

SUMMARY

The present study has indicated that use of the drug of choice Inj. Anthomaline at 30 ml intramuscularly consecutively for three weeks was very effective against nasal schistosoma and progressive relief from the clinical signs with regression of the growth and general improvement of the bull was noticed.

REFERENCES

- Agrawal, Alwar (1992). Nasal schistosomiasis: a review. *Helm Abstr.* 61, 373–383.
- Agrawal, Southgate (2000). Schistosomaspindale and bovine schistosomiasis. *Journal of Veterinary Parasitology*, 14, 95-107.
- Basu & Bhattacharyya (2018). Schistosoma nasale Rao, 1933 (Trematoda: Schistosomatidae) causative agent of nasal schistosomiasis of animals in the Indian subcontinent – an overview. *CAB Reviews*, 13, No. 053. doi: 10.1079/PAVSNNR201813053.
- Bont (1995). Cattle Schistosomosis: host-parasitic interactions. Ph. D. Thesis in veterinary medicine, University of Gent, Belgium.
- De Bent & Vercruyssen (1997). The epidemiology and control of cattle schistosomiasis. *Parasitology Today*, 13(7), 255-262.
- Engels, D., Chitsulo, Montresor, Savioli (2002). The global epidemiological situation of schistosomiasis and new

approaches to control and research. *Acta Trop*; 82(2), 139–46.

- Fromsa, Behabtom, Mekibib (2011). Major Trematode infections of cattle slaughtered at Jimma municipality abattoir and the occurrence of the intermediate hosts in selected water bodies of the zone. *J Ani and Vet Adv* 7, 108-113.
- Latchumikanthan, Pothiappan, Ilayabharathi, Das, Kumar & Ilangoan, C. (2014). Occurrence of Schistosomanasale infection in bullocks of Puducherry. *J. Parasitic Dis.* 38(2), 238-240.
- Mone, Mouahid, Morand (1999). The distribution of Schistosomabovis Sonsino, 1876 in relation to intermediate host mollusc-parasite relationships. *Adv Parasitol.* 44, 99-138.
- Lefevre, Blancou, Chermette, Uilenberg. (2010). Infectious disease of livestock. 1st ed. Paris: Lavoizer.
- ODARC, DRAAF. Chambred'agriculture de la Corse (2018). Chiffres clés de l'agriculturecorse.
- Pichford, Visser (1982). *Schistosoma mattheei* Veglia & LE roux. Egg output from cattle in a highly endemic area in the eastern Transvaal. *Onderstepoort J Vet Res.* 49, 233–5.
- Shibru, Getachew, Hailu (1989). In: Parasitology (Shibru, Getachew, Kloos, Eds.), Schistosomosis in Ethiopia, Addis Ababa: Addis Ababa printing press; p. 18–26.