Scholars Journal of Agriculture and Veterinary Sciences **e-ISSN 2348–1854**
Sch J Agric Vet Sci 2016; 3(2):123-125 **p-ISSN 2348–8883**

(An International Publisher for Academic and Scientific Resources) DOI: 10.36347/sjavs.2016.v03i02.010

Toxocara infestation in a suckling buffalo calf: A Case report

Satyasamparna Raut[1], Rajesh Kumar Sahu[2*], Akhya Mahalik[3]
[1]Department of Microbiology, C.V.Sc, Rajendra nagar, Hyderabad, Telengana State, India
[2]Mobile Veterinary Unit V.A.S., Tihidi Block, Bhadrak, Odisha, India
[3]Block Veterinary Officer, Tihidi Block, Bhadrak, Odisha, India

***Corresponding Authors**
Name: Rajesh Kumar Sahu
Email: rajeshwarrior32@gmail.com

Abstract: The present clinical case reports Toxocara infestation in a suckling buffalo calf and its management. A 20 days old female buffalo calf was brought to Mobile Veterinary Unit of Tihidi Block, Bhadrak, and Odisha with the history of passing mucoid faeces with heavy straining since 8 days. The direct faecal sample examination was found highly positive for Toxocariosis. The quantitative estimation by the McMaster counting has indicated the presence of 3.6 x 10^4 number of *Toxocara vitulorum* eggs per gram (EPG). Oral suspension of Albendazole with supportive therapy treatment was done. The parasitic eggs were not found in faecal sample examination after 20th days.
Keywords: *Toxocara vitulorum*, infestation, EPG, albendazole, transmammary

INTRODUCTION

Toxocara vitulorum is a large roundworm commonly found in the small intestines of bovid calves living in tropical and subtropical regions of the world [1, 2]. Hosts most often infected are Asian water buffalo (*Bubalis bubalis*) and cattle (*Bos taurus*, *Bos indicus*) [3, 4, 5]. It has a unique life cycle shown in Figure-1. The calves of host species are considered as the parasite's eggs shedder. These young animals ingest infective larvae found in the colostrum and milk from infected dams [6, 7, 8]. The larvae mature in the small intestine and begin shedding in the faeces. It is also possible that calves might ingest embryonated eggs from the environment and after an extensive migration through the liver and lungs of the calf the larvae return to the small intestine, mature, and begin shedding eggs in the faeces [9]. Adult animals ingest embryonated infective eggs from the environment; theeggs hatch in the gastrointestinal tract and the released larvaemigrate to somatic tissue in the host. Adult animals are generally thought to be free of mature adult worms and therefore lack any diagnostic evidence of infection such as eggs in faeces. Larvae that have entered the somatic tissue assume dormancy or hypobiosis until, in adult host females, reproductive hormone levels near parturition cause activation and migration of the larvae to the mammary glands where they are shed through colostrum and milk. Males and non-breeding females' appear to be dead-end hosts. Intestinal toxocariasis is associated with diarrohea, poor performance, intestinal and biliary obstruction, and death [10, 11].

CASE REPORT

A female buffalo calf of 20 day old was presented with the history of passing mucoid faeces with heavy straining. The animal was examined for general appearance, integument, musculo-skeletal, circulatory, respiratory, digestive, eyes, genito-urinary, ears, nerves and lymphatic system. All the systems were normal except digestive. The animal was having a maggoted wound near the anal opening. The body temperature recorded was 100.1^{0}F. Animal was dull. The conjunctival mucous membrane was congested. The faecal sample was sent for direct examination.

Lab Diagnosis

Methods

The faecal sample was processed by direct smear method. Then quantitative analysis was done by McMaster egg counting technique [12, 13]. 4 g of faeces was transferred to a container, 56 ml of tap water was added, and them aterial was mixed thoroughly with a stirring device. The faecal suspension was left for 30 min to rest at laboratory temperature (22°C) and then mixed again. The suspension was poured through a tea strainer into a clean new container, and a 10-ml tube was filled to capacity with the filtered suspension. The tube was centrifuged for 5 min at 1,200 RPM and the supernatant was removed. Shortly before commencing the egg count, 4 ml of flotation fluid (saturated NaCl with 500 g glucose per litre of water) was added to a centrifuge tube. The sediment was then carefully re-suspended and both sides of the McMaster counting chamber were filled. The filled McMaster chamber was left for 3–5 min to rest before counting. The numbers of eggs in both fields were then counted. The EPG was calculated by multiplying the total number of eggs by a coefficient of 20.

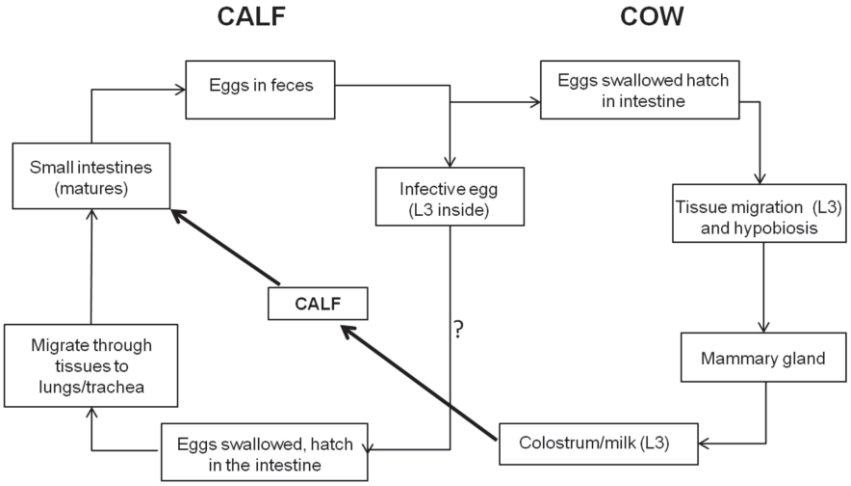

Fig-1: The life cycle of *Toxocara vitulorum* in Asian water buffalo (*Bubalis bubalis*) (Starke-Buzetti, 2006)

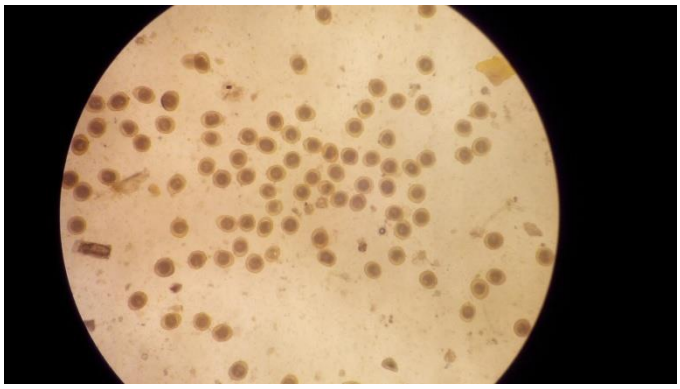

Fig-2: *Toxocara vitulorum* eggs in McMaster counting chamber

DISCUSSION

Eggs recovered were consistent in morphology to *T. Vitulorum* which is sub-spherical, rough-shelled. There was presence of 6-8 no. of Toxocara eggs per field of microscope. In quantitative estimation the egg count has shown 3.6 x 10^4 eggs per gram (Figure-2). The treatment was started with i.m. tribivet 5ml for three times alternate days with oral suspension Albendazole (5%) – 10 ml P.O which was repeated after 15 days. After treatment again the faecal sample was examined after 10^{th} and 20th days. The condition was found improving upto 10^{th} day and the counts were decreasing. The parasitic eggs were not found on the day of 20^{th} in faecal sample examination. The prognosis was good for the case. The *Toxocara vitulorum* are exclusively found in calves and prenatal and transmammary infections constitute the major routes for the parasite [14].

CONCLUSION

Toxocara vitulorum occurs in the small intestine of buffalo calf, and is found in many places of world. These young animals ingest infective larvae found in the colostrum and milk from infected mother. Routine faecal sample examination and deworming should be done for the buffalo calf regularly to avoid the infestation.

REFERENCES

1. Starke WA, Machado RZ, Bechara GH, Zocoller MC; Skin hypersensitivity tests in buffaloes parasitized with *Toxocara vitulorum*. Vet. Parasitol. 1996; 63: 283–290.
2. Davila G, Irsik M, Greiner EC; *Toxocara vitulorum* in beef calves in north Central Florida. Veterinary Parasitology, 2010; 168:261–263.
3. Roberts JA; The extra parasitic life cycle of *Toxocara vitulorum* inthe village environment of Sri Lanka. Vet. Res. Commun. 1989; 13: 377–388.
4. Warren EG; Observations on the migration and development of *Toxocara vitulorum* in natural and experimental hosts. Int. J. Parasitol. 1979; 1: 85–99.
5. Woodbury MR, Copeland S, Wagner B, Fernando C, Hill JE, Clemence C; *Toxocara vitulorum* in a bison (Bison bison) herd from western Canada. Can Vet J 2012; 53:791–794.
6. Mia S, Dewan ML, Uddin M, Cowdhury M.U.A; The route of infection of buffalo calves by Toxocara (Neoascaris) vitulorum. Trop. Anim. Health Prod. 1975; 7: 153–156.

7. Roberts J.A, Fernando S.T, Sivanathan S; *Toxocara vitulorum* inthe milk of buffalo (Bubalusbubalis) cows. Res. Vet. Sci. 1990; 49(3): 289–291.
8. Starke WA, Machado R.Z, Zocoller M.C; Transmammary passage of gastrointestinal nematode larvae to buffalo calves. II. *Toxocara vitulorum* larvae. Arq. Bras. Med. Vet. Zoo. 1992; 44: 97–103.
9. Starke-Buzetti WA; *Toxocara vitulorum* in livestock. In: Holland CV, Smith HV, eds. Toxocara: The Enigmatic Parasite. Cambridge, UK: CAB International, 2006; 260–277.
10. Refuerzo P.G, Albis-Jimenez F.S; Studies on Neoascaris vitulorum.II. The resistance of the ova to certain chemical agents and physical factors under tropical conditions. Am. J. Vet. Res. 1954; 15: 440–443.
11. Srivastava A.K.; Neoascaris vitulorum (Goeze, 1782 e Travassos, 1907) in intestinal perforation with its localization in liver of buffalo calves. Indian Vet. J. 1963; 40: 758–762.
12. Foreyt W.J; Ames, Iowa: Iowa State University Press, Veterinary Parasitology Reference Manual. 5th ed., 2001; 5.
13. Vadlejch J, Petrtýl M, Zaichenko I, Cadková Z, Jankovská I, Langrová I *et al.;* Which McMaster egg counting technique is the most reliable? Parasitol Res., 2011; 109(5):1387-94.
14. Samal AK, Patra PB, Biswa Ranjan Maharana; Simultaneous Infestation of a Buffalo calf with Ascaris and strogyloides: A case study**.** Veterinary World. 2011; 4(7): 322-323.