

Toxocara vitulorum Infection of Calves in and Around Barmer District of Rajasthan

Durga Bai Sodha^{1*}, Phool Kanwar² and P.K. Pilonia¹

¹Department of Veterinary Parasitology, College of Veterinary and Animal Science, Bikaner (Rajasthan), India.

²Department of Livestock Production Technology, Rajasthan University of Veterinary and Animal Science, Bikaner (Rajasthan), India.

(Corresponding author: Durga Bai Sodha*)

(Received: 13 November 2023; Revised: 29 November 2023; Accepted: 20 December 2023; Published: 05 January 2024)

(Published by Research Trend)

ABSTRACT: One of the most prevalent and dangerous parasites of calves in and around the Barmer area of Rajasthan is *Toxocara vitulorum*, which causes parasitic illnesses. Through the use of *T. vitulorum*'s flotation technique, 200 faecal samples in total were collected and analysed. *Toxocara vitulorum* was discovered to be present in 25.50% of populations. Compared to male calves, which had a prevalence of 21.00%, female calves had a greater sex-specific prevalence of 30.00%.

Keywords: *Toxocara vitulorum*, infection, calves, Barmer district, Rajasthan.

INTRODUCTION

T. vitulorum, an asciridae family member, is one of the economically damaging digesting worms. Its types include *T. canis*, *T. cati*, *T. leonine*, *T. malaysiensis*, and *T. vitulorum*, and the genus *Toxocara* includes nematodes that attack both people and animals. Dogs, cats, cows, buffaloes, cattle, and cows can all develop toxocarasis. Even though *T. vitulorum* is widespread, the world's climatic circumstances have a strong influence on its occurrence. Prevalence is greater in hot, humid regions than in cold, dry ones, such as subtropical nations. If no action is taken to control the worm infection, it will have a significant negative economic impact on animal productivity.

In accordance with Urquhart *et al.* (1996), clinical symptoms start to show 10 to 15 days after delivery and last for six months. Clinical symptoms include anorexia, constipation, greasy, foul-smelling diarrhea, and dehydration. Infected animals also exhibit digestive disorders and intestinal mucosa injury, which can lead to diarrhea that is difficult to pass and dehydration. further clinical signs include pyrexia, neurological symptoms, anemia, a tangled and lifeless appearance to the haircoat, a cough, further respiratory symptoms, and a butyric acid odor (similar to garlic) on the breath. According to Urquhart *et al.*, (1996); Devi *et al.* (2000), intestinal perforation can lead to peritonitis-related death in cases of severe illnesses.

MATERIALS AND METHODS

Collection of faecal samples. 100 female and 100 male dairy calf feces samples out of a total of 200 were randomly collected. The samples were packed into sterile polythene bags, labeled carefully with the host's information, the location, and the season of collection, preserved in a refrigerated transport box, and transported to the laboratory for additional analysis.

Coprological examination. By using the flotation method outlined by Soulsby, fecal samples were checked for the presence of *Toxocara vitulorum* eggs.

RESULTS AND DISCUSSION

100 of the total samples tested came from male calves, whereas 100 came from female calves. More female calves (30.00%) than male calves (21.00%) were found to have *Toxocara vitulorum* infection. Table 1 and Fig. 1 show the prevalence by sex. While Islam *et al.*, 2005 observed higher incidence in male calves than female calves, Devi *et al.* (2000) showed a similar higher frequency in female calves than male calves. It is generally accepted that because female calves are permitted to suckle more frequently and produce more milk than male calves, they are more exposed to the risk of infection through the trans-mammary route, even though the exact cause of the higher infection in females has not been adequately explained by previous researchers. The preceding fact and variations in the amount of faeces samples investigated during the current investigation may also be responsible for the reason why there was a little higher prevalence in female calves than male calves.

Table 1: Sex-wise Prevalence of *Toxocara vitulorum* infection in calves.

Sex	No. of samples	Positive	Prevalence
Male	100	21	21%
Female	100	30	30%
Total	200	51	25.50%



Fig. 1. Microphotograph of *Toxocara vitulorum*.

CONCLUSION

According to the study's findings, 25.50% of people in Rajasthan's Barmer district had *Toxocara vitulorum* infections overall. Compared to male calves (21.00%), female calves had a greater sex-specific prevalence (30.00%) calves

Acknowledgments. The College of Veterinary and Animal Science in Bikaner, Rajasthan, provided funding for this work. Bikaner campus of the Rajasthan University of Veterinary and Animal Sciences. The

personnel of the department of veterinary parasitology at the college of veterinary and animal science in Bikaner, Rajasthan, is gratefully acknowledged by the authors

REFERENCES

- Devi, H. U., Ansari, M. Z., Singh, S. K., and Devi, K. B. (2000). Prevalence and epidemiology of *Toxocara vitulorum* in cow and buffalo calve in and around Ranchi, Bihar. *Indian Journal of Animal Sciences* (India). 70(8), 817-819.
- Islam, K.B.M.S., Shil, N. K., Islam, M. T. and Das, S. K. (2005). Incidence of ascariasis in calves reared under rural condition. *Bangladesh Journal of Veterinary Medicine*, 3(1), 21-23.
- The faecal samples were qualitatively examined by using centrifugal flotation and sedimentation techniques for detection of helminths eggs (Soulsby, 1982).
- Urquhart, G. M., Armour, J., Duncan, J. L., Dunn, A. M. and Jennings, F. W. (1996). *Veterinary Parasitology*. Ed: Urquhart GM, 2nd Ed., *Blackwell Scientific Publications*, Oxford, pp. 270.

How to cite this article: Durga Bai Sodha, Phool Kanwar and P.K. Pilonia (2024). *Toxocara vitulorum* Infection of Calves in and Around Barmer District of Rajasthan. *Biological Forum – An International Journal*, 16(1): 26-27.