The Pharma Innovation Journal 2022; SP-11(3): 01-03

www.ThePharmaJournal.com

The Pharma Innovation

ISSN (E): 2277- 7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2022; SP-11(3): 01-03

www.thepharmajournal.com
Received: 01-01-2022
Accepted: 04-02-2022

BP Shukla
Professor & Head, Department of Surgery and Radiology, College of Veterinary Science and Animal Husbandry, Mhow, Nanaji Deshmukh Veterinary Science University, Madhya Pradesh, India

R Jain
Associate Professor, Department of Surgery and Radiology, College of Veterinary Science and Animal Husbandry, Mhow, Nanaji Deshmukh Veterinary Science University, Madhya Pradesh, India

V Agrawal
Associate Professor, Department of Parasitology, College of Veterinary Science and Animal Husbandry, Mhow, Nanaji Deshmukh Veterinary Science University, Madhya Pradesh, India

A Parihar
Assistant Professor, Department of Surgery and Radiology, College of Veterinary Science and Animal Husbandry, Mhow, Nanaji Deshmukh Veterinary Science University, Madhya Pradesh, India

A Chaurasia
Teaching Associate, Department of Surgery and Radiology, College of Veterinary Science and Animal Husbandry, Mhow, Nanaji Deshmukh Veterinary Science University, Madhya Pradesh, India

Corresponding Author
R Jain
Associate Professor, Department of Surgery and Radiology, College of Veterinary Science and Animal Husbandry, Mhow, Nanaji Deshmukh Veterinary Science University, Madhya Pradesh, India

Management of eye worm disease in two horses: Case report

BP Shukla, R Jain, V Agrawal, A Parihar and A Chaurasia

Abstract
Two horses with a primary complaint of corneal opacity, lacrimation and moving object inside the eye since 05 days presented to Veterinary Clinical Complex (V.CC.), Veterinary College, Mhow. Ophthalmic examination revealed movement of worm inside anterior chamber of eye. In the present study, surgery was performed to retrieve eye worms in horses under general anaesthesia. Gradual reduction in lacrimation and corneal opacity was recorded with return of vision in 20-30 days without eye ball shrinkage in both the cases.

Keywords: Anesthesia, horse, Setaria *digitata*, eye worm

Introduction
Eye worm is a vision threatening condition in equines resulting from aberrant migration of Setaria spp, a filaroid worms (Gangwar *et al*., 2008; Radwan *et al*., 2016) [3, 7]. The parasite is transmitted by mosquitoes through the blood stream and can be found in various organs such as heart, lung, spleen, kidney, uterus, oviduct, ovary and urinary bladder. The parasite exhibits migratory behavior in unusual hosts such as horses, donkeys or human beings and immature worm can invade the eye (Sreedevi *et al*., 2002; Tuntivanich *et al*., 2011) [11, 14] through the long and short posterior ciliary vessels, cerebrospinal fluid or the optic nerve sheath (Townsend, 2013; Tamilmahan *et al*., 2013) [12, 13].
The worm within the anterior chamber (AC) of the eye may cause lacrimation, photophobia, corneal opacity and conjunctivitis (Verma *et al*., 2019) [16] which usually ensues in blindness if the treatment is delayed (Verma *et al*., 2019) [16]. Since horses are mainly raised for riding and sports activities, cloudiness of the cornea, decreased vision or blindness due to ocular setariosis. Surgical removal of the parasite under general anesthesia or regional nerve blocks is considered as the best treatment of ocular setariosis (Tuntivanich *et al*., 2011) [14]. Hence present study reports the successful surgical removable of worm the eye of two horses.

Materials and Methods
Two horses with a primary complaint of corneal opacity and lacrimation since 05 to 10 days presented to Veterinary Clinical Complex (V.CC.), Veterinary College, Mhow at different time interval. Clinical examination of affected eye revealed thread like worm swimming continuously in aqueous humor of anterior chamber and affected vision since one week in both the cases (Fig.1 & 2).
The surgical intervention was planned and horses were kept off feed for 24 hours and water was withheld for 6 hours before the general anaesthesia. The Diazepam was given i/m @0.2mg/kg b.wt., after 20 minutes followed by xylazine @1mg/kg b.wt. i/v and ketamine @ 2mg/kg b.wt., i/v immediately after xylazine. After proper restraining the animals, an eye speculum was placed in the affected eye. A small stab incision was given on corneo-scleral junctions at 3 to 6 O'clock position using B.P. blade no.11.The worm ejected out with the flow of aqueous humor. The retrieved worms were collected and sent for parasitological examination. The incision was left unsutured and subconjunctival injection of Dexamethasone (2mg), Gentamicin (20 mg) was given to reduce opacity and inflammation. The animal was administered with injection of strepto-penicillin 5g for 5 days and Meloxicaim @0.5 mg/kg b.wt. intramuscularly for three days.
Post-operatively local application of Neosporin eye ointment twice a day for 5 days, artificial tear drops (Refresh Tear) every four hours for 10 days, analgesic eye drop (flurbiprofen) 4 times daily for 5 days was advised.

Result and Discussion

Gradual reduction in lacrimation and conjunctivitis was noticed on 7th day after the surgery. Corneal opacity decreased about 20-30 days. It is considered that the erratic movement of the worm within the eye cause severe irritation to the corneal endothelium leading to corneal oedema (steamy eye), kerato-uveitis and even blindness (Ansari and Buchoo, 2005) [1].

Similar findings also reported by Patil *et al*. (2016) [4]; Rafee and Amarpal (2016) [8] in eye worm infestation in horses. Corneal opacity at the site of stab incision is the most common postoperative complications reported. Sometimes it diffuses to involve the whole upper quadrant (Patil *et al*., 2012) [5]. Which takes days to 3 to 8 weeks to get resolved (Buchoo *et al*., 2005; Patil *et al*., 2012) [2, 5]. Surgical interventions include incision at 3 O'clock (Sreedevi *et al*., 2002; Vadalia, 2013) [11, 15] or at 6-8 O'clock (Verma*et al*., 2019) [16] and at 12 O'clock position (Buchoo *et al*., 2005) [2]. Patil *et al*. (2012) [5] has tried both medical and surgical treatment, while (Verma *et al*., 2019) [16] reported needle aspiration of the worm by inserting 18 gauze needle successfully. However, in present two cases stab incision under general anaesthesia was found effective without any complications. The worm was identified as *Setaria digitata* based on the morphology. The length of the worm was 61 mm and the width was about 0.45 mm. The tail end (Fig. 3) was spirally rolled with two lateral appendages (Fig. 4). The morphological features concurred with reports of Peng *et al*. (2019) [6].

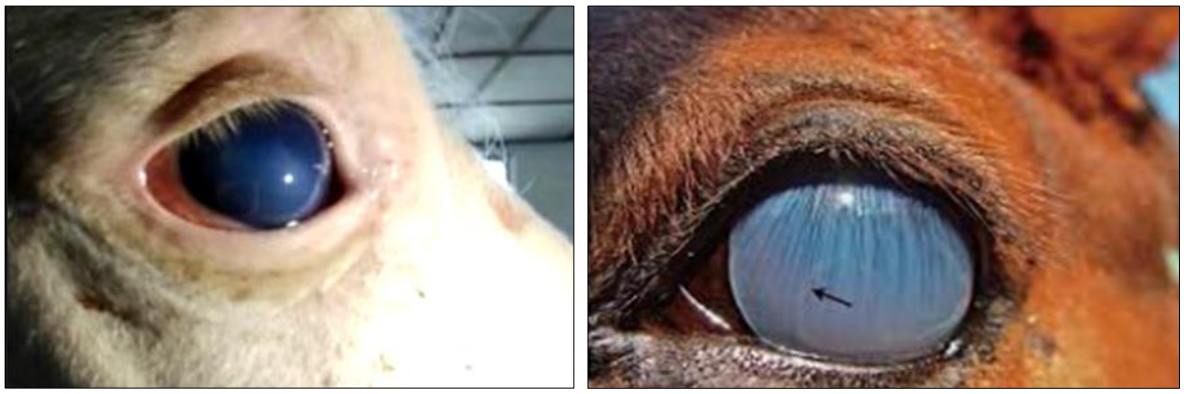

Fig.1 & 2: Showing worm swimming continuously in aqueous humor of anterior chamber of eye

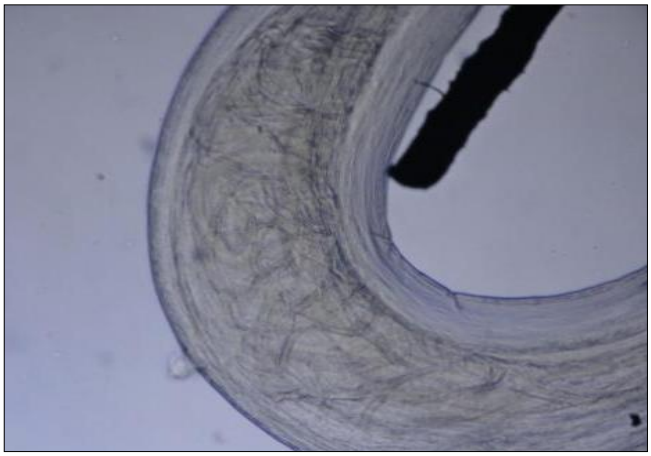

Fig 3: Body of S. Digitata showing microfilaria

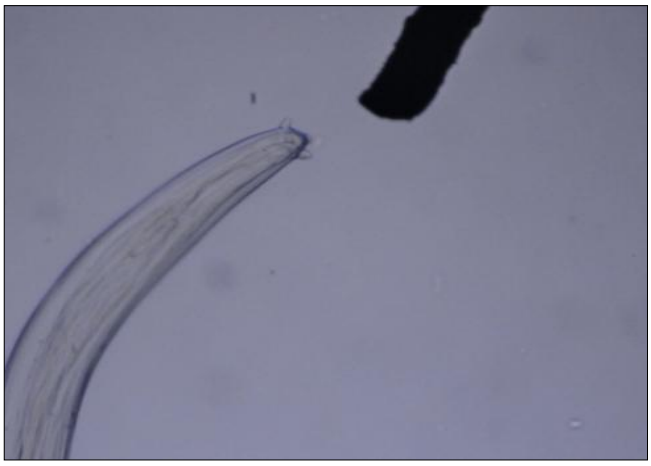

Fig 4: Caudal end of S.digitata with a pair of lateral appendages

References

1. Ansari MM, Buchoo BA. Surgical technique for removal of intraocular parasitein horse. Intas Polivet. 2005;6(2):256
2. Buchoo BA, Pandit BA, Shahardar RA, Parrah JD, Darzi MM. Surgical management and prevalence of ocular filariasis in equines. Indian Vet J. 2005;82:81-82
3. Gangwar AK, Devi S, Singh HN, Singh A. Evaluation of two techniques for management of ocular setariasis in horses, Research opinion in animal and veterinary Sciences. 2008;3:407-411.
4. Patil DB, Kelawala DN, Parikh PV, Sheth MJ, Sini KR, *et al*. Surgical management of ocular setariasis in horses, Indian J Vet Surg. 2016;41:13-17
5. Patil DB, Parikh PV, Nisha J, Jhala SK, Din DMU TD. Equine eye worm, Indian JVet Surg. 2012;33:61-62.
6. Peng TL, Armiladiana MM, Ruhil HH, Maizan M, Choong SS. First report of equine *Setaria digitata* (von Linstow 1906) infestation in Malaysia: Case Report: Vet Parasitol Regional Studies Reports. 2019;17:100310, doi: 10.1016/j.vprsr.2019.100310
7. Radwan AM, Ahmed NE, Elakabawy LM, Ramadan MY, Elmadawy RS. Prevalence and pathogenesis of some filarial nematodes infecting donkeys in Egypt. Vet World. 2016;9(8):888-892. doi: 10.14202/vetworld.2016.888-892
8. Rafee MA, Amanpal A. Equine ocular setariasis and its management, J Expt Biol Agric Sci. 2016;75:33-34, doi: 10.18006/2016.4(Spl-4-EHIDZ).S139.S143
9. Rahman M, Eftelakhar AR, Mohanimul IT, Abdulla AI, Momen SH, *et al*. A case study on needling technique as a treatment for ocular setariasis in eye of a horse. Asian J Med Biol Res. 2017;3(3):398-404,

doi: 10.3329/ajmbr.v3i3.34530
10. Sellon DC, Long MT. Equine infectious diseases 2nd Edn., Science direct Publication ist Louis, 2013, 664.
11. Sreedavi C, Sudhakar K, Murthy PR, Prasad V. Clinical microfilariasis in a horse: A case report. Indian Vet J. 2002;79(5):487-488
12. Tamilmahan P, Zama MMS, Pathak R, Muneeswaran NS, Karthik K. A retrospective study of ocular occurrence in domestic animals: 799 cases. Vet World. 2013;6(5):274-276, doi: 10.5455/vetworld.2013.274-276
13. Townsend WM. Food and fiber-producing animal ophthalmology. In: Essentials of veterinary ophthalmology, Gelatt, K.N. (editors). 2nd ed., Wiley-Blackwell, 2013, 532
14. Tuntivanich N, Tiawsirisup S, Tuntivanich P. Success of Anterior Chamber Paracentesis as a treatment for Ocular Setariasis in Equine Eye: Case Report. J Equine Vet Sci. 2011;31(1):8-12, doi: 10.1016/j.jevs.2010.11.017
15. Vadalia JV. Surgical Treatment of Ocular Setariosis in a Stallion. The Indian Journal of Vet Sci 2013;13:11.
16. Verma NK, Reetu, Raghuvanshi PDS, Gautam D, Saxena A. Surgical management of equine ocular setariosis: A review of 10 cases. Indian J Vet Surg. 2019;40(1):62-63