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Therapeutic management of Canine Trypanosomiasis: A case report

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Abstract

Trypanosomiasis in dogs is caused by protozoans of the genus *Trypanosoma*. It may be caused by *Trypanosoma cruzi* infection or *Trypanosoma evansi* infection. The 2 year old Indian dog was brought to Pet Well Soon Clinic and Surgery Center in Powai with complaints of purulent mucous membranes, blurred vision, loss of appetite and fever that had been going on for 45 days and could not stand. The information was confirmed by microscopic examination of trypanosome infection in Giemsa stained thin blood smears. It is administered to the animal with a single injection. The dose of diamidiazepine acetate is 3.5 mg/kg body weight and is given intramuscularly simultaneously with support.

Keywords: Dogs, trypanosomiasis, Indian dogs

Introduction

It is a blood protozoal disease caused by many members of the genus. It affects many domestic and wild animals such as horses, mules, rabbits, camels, cattle, sheep, goats, dogs, pigs, and many wild animals. Its main symptoms are fever, high blood pressure, and weight loss. and dependency edema, neurological symptoms, abortion, and loss of production (Barr *et al.*, 1991) ^[1]. This disease is transmitted by various biting flies such as tsetse, tabanids, and *Culicoides* (Green, 2006) ^[2]. The severity of trypanosomiasis in dogs varies between acute, subacute and chronic. Severe and fatal symptoms occur in dogs and death occurs within 2-4 weeks (Soulsby 1982) ^[6]. Lakshmi Prasad *et al.* (2015) ^[3] reported a prevalence of 2.28% in male dogs and 2.40% in female dogs, with the highest prevalence in puppies under 2 years of age. Symptoms include weight loss, fatigue, anorexia, anemia, fever, conjunctivitis, limb swelling, superficial lymphadenopathy, and corneal opacification, which are characteristic findings of trypanosomiasis (Thirunavukkarasu *et al.*, 2004) ^[7]. Many trypanosomacides are available for dogs, including Suramin, Quinapyramine, and diamidamidine, but a single dose of diamidamidine acetate is effective in eradicating trypanosomiasis in dogs (Rani and Suresh 2007) ^[5].

Medical history

A two-year-old female Indian (ND) dog was brought to Pet Well Soon Clinic and Surgery Center in Powai with symptoms of mucous membrane blanching, corneal opacity, anorexia. Fever and inability to wake up for 4 to 5 days. Clinical examination revealed rectal fever (104 °C), marked thickening of the mucosal membrane, unilateral corneal opacity, and weakness. Blood was sent for analysis. Routine blood report is as follows

Table 1: Preliminary blood report

Parameter	Values
Hb	3 gm%
PCV	8.9%
WBC	48652 cells/cumm
Neutrophil	32694 cells/cumm
Lymphocyte	8952 cells/cumm
Monocyte	4865 cells/cumm
Parasite	Trypanosoma spp.

Microscopic examination showed the presence of trypanosome bacteria outside the red blood cells (Figure 1). Stomatocytes are abnormal red blood cells that have the appearance of a yellow center surrounded by a dense area. This makes the cells similar to a human mouth. Stomatocytes are caused by defects in blood cell membranes found in hemolytic diseases.

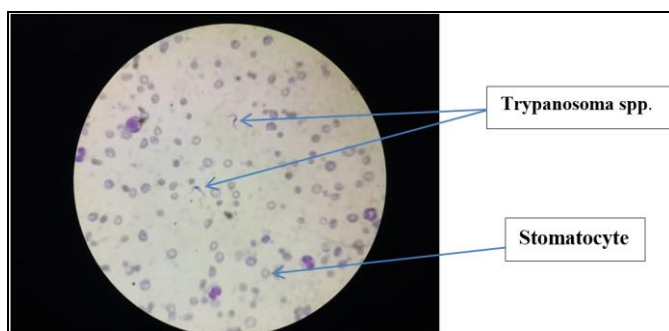


Fig 1: Microscopic examination showed the presence of trypanosome bacteria outside the red blood cells

Treatment is carried out with Diaminozine acetate @ 3.5 mg/kg body weight IM (Rani and Suresh, 2007) [5]. Inject Berenyl RTU (Diamizine Aceturate, Intervet), then apply Tab. Doxicon -L 200mg (doxycycline, Canicon) @ 8 mg/kg orally. Supportive treatment such as antacid tablets. Also offer Pantohat 40mg 1/2tab and Syrup RUBIRISE @ 5ml to increase Hb for 14 days. The dog recovered within a week.

Signs and symptoms of trypanosomiasis infection in peripheral blood smears and microscopic examination indicate trypanosomiasis in this case. However, it is difficult to distinguish the type of trypanosome. Therefore, serological and molecular tests are needed to diagnose trypanosome infection. Additionally, it can be concluded that dogs with trypanosomiasis were successfully treated with a single dose of diaminodiazepine acetate @ 3.5 mg/kg body weight (Ramesh *et al.*, 2016) [4].

In Andhra Pradesh, the incidence of *Trypanosoma evansi* infection in mixed breed dogs is higher than in Pomeranians, mixed breed dogs, German Shepherds, Doberman Pinschers and Labradors (Lakshmi Prasad *et al.*, 2017) [3]. In a study conducted in Ludhiana, 4.68% (3/64) of dogs were found to be subclinically infected through blood smears. These dogs are often kept in areas with large cattle herds. Reported that 7.69% (2/26) of healthy dogs were positive for trypanosomiasis by PCR analysis in Gwalior, Madhya Pradesh, India. Signs and symptoms and microscopic examination of trypanosomiasis microorganisms in peripheral blood smears indicate trypanosomiasis. However, it is difficult to distinguish the type of trypanosome. Therefore, serological and molecular tests are needed to diagnose trypanosome infection. Additionally, it can be concluded that dogs with trypanosomiasis have been successfully treated with a single dose of diaminodiazepine acetate at 3.5 mg/kg body weight (Ramesh *et al.* 2016) [4].

Table 2: Blood report After Treatment

Parameter	Values
Hb	10.8 gm %
PCV	47%
WBC	15652 cells/cumm
Parasite	Not detected

Concussion

Trypanosomiasis, a blood protozoal disease affecting various domestic and wild animals, presents with diverse symptoms ranging from fever to neurological manifestations. Dogs, among other species, are susceptible, with severe cases often proving fatal within weeks. Prompt diagnosis through serological and molecular tests is crucial due to the challenge of distinguishing trypanosome types microscopically. Effective treatment, such as diamidamide acetate administration, facilitates recovery, as evidenced by successful cases. Epidemiological studies underscore the disease's prevalence, with certain regions and breeds exhibiting higher susceptibility. Continued surveillance and preventive measures are imperative to mitigate the spread of trypanosomiasis and safeguard animal health.

References

1. Barr SC, Gossett KA, Klei TR. Clinical, clinicopathologic and parasitological observations of trypanosomiasis in dogs infected with North American *Trypanosoma cruzi* isolates. *Am. J. Vet. Res.* 1991;52:954-60.
2. Green CE. Infectious diseases of dogs and cats. 3rd. Edn. Elsevier Inc; c2006. p. 676-80.
3. Lakshmi Prasad KL, Kondaiah PM, Rayulu VC, Srilatha C. Prevalence of canine trypanosomiasis in certain areas of Andhra Pradesh. *J Parasitic Dis.* 2015;39(2):238-240.
4. Ramesh P, Chowdary SRCH, Chaitanya Y. Diagnosis and treatment of canine Trypanosomiasis - a case study. *Int. J. Sci. Environm. Technol.* 2016;5:3387-93.
5. Rani NL, Suresh K. Canine trypanosomiasis. *India Vet. J.* 2007;84:186-87
6. Soulsby E.J.L. Helminths, Arthropods and protozoa of domesticated animals. 7th.edn. Bailliere Tindall, London. 1982, 533.
7. Thirunavukkarasu PS, Rao VV, Srinivasan SR, Nambi AP, Dhanapalan P. Haematobiochemical findings in case of trypanosomiasis in dog: a clinical study. *Ind. J. Vet. Med.* 2004;24:117.

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