

## Successful management of trypanosomiasis in a dog

Himanshu Agrawal, Manu Jaiswal and A.K. Tripathi

Department of Veterinary Medicine, College of Veterinary Science and Animal Husbandry, Pt. D. D. U. Pashu Chikitsa Vigyan Vishwavidyalay evam Go Anusandhan Sansthan (DUVASU), Mathura, U.P. - 281001

### Abstract

Canine trypanosomiasis, caused by protozoans of the genus *Trypanosoma*. It can either occur in the American form (Chagas disease), due to *Trypanosoma cruzi* infection, or the African form (sleeping sickness or surra), caused by *Trypanosoma evansi*. A male Labrador dog of three years age was brought to Veterinary clinical complex DUVASU, Mathura having markedly pale mucous membrane, corneal opacity and unable to stand. Confirmation of case was done by microscopic examination of *Trypanosome* organisms in thin blood smear stained with Giemsa Stain. The animal was successfully treated with single dose of diminazene aceturate at the dose rate of 3.5 mg/kg body weight, intramuscularly along with the supportive therapy.

**Keyword:** Trypanosoma, Dog, Corneal Opacity, Diminazine Aceturate

Trypanosomosis is a haemoprotozoan disease entity caused by various members of *Trypanosoma* sp. affecting different species of domestic and wild animals like horses, mule, donkey, camel, cattle, buffaloes, sheep, goat, dogs, pigs and various wild animals with chief clinical signs of high intermittent fever, anaemia, loss of weight, oedema of dependent parts, nervous symptoms, abortion and is responsible for major production losses (Barr *et al.*, 1991). The disease is transmitted by various biting flies like Tsetse, Tabanus, Stomaxys, Culicoides etc. (Green, 2006). Severity of canine trypanosomosis ranges from acute, subacute to chronic. Clinical signs are characterized by weight loss, progressive weakness, anorexia, anaemia, intermittent fever, conjunctivitis, swelling of limbs, enlarged superficial lymph nodes and corneal opacity which are characteristic findings in chronic Trypanosomosis (Thirunavukkarasuet *al.*2004). There are a number of effective trypanosomacidal agents for dogs including suramin, quinapyramine and diminazene

but single dose of diminazene aceturate is effective in eliminating the natural Trypanosomosis infection in canine (Rani and Suresh, 2007).

A male labrador dog of three years age was brought to Veterinary Clinical Complex DUVASU, MATHURA, India with history of anorexia, dullness and persistent recumbency for five days. On clinical examination, rectal temperature (104°F), markedly pale mucous membrane, unilateral corneal opacity (Fig. 2), oedematous swelling of hind legs and generalized debility was observed. The dog was tested for the presence of haemo-protozoa through blood smears (Coles, 1986). Microscopic examination revealed the presence of *Trypanosoma* organisms outside the RBCs (Fig. 1). Stomatocytes are the abnormal RBCs possessing a slit-like central pallor surrounded by a dense surrounding zone. This gives the cell the appearance of a human mouth. Stomatocytes result from red blood cell membrane defects found in haemolytic diseases (Carolyn *et al.*,

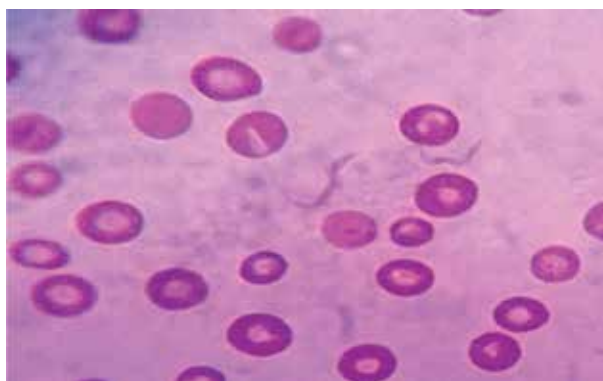


Fig. 1 Stained blood smear showing trypanosomes



Fig. 2 Unilateral Corneal Opacity

2003). The reported clinical signs were in agreement with the findings of Rani and Suresh (2007). Observed oedematous swelling of hind legs, subnormal temperature (98°F) and recumbency are characteristic findings in chronic Trypanosomosis (Thirunavukkarasu *et al.*, 2004).

Treatment of dog was carried out with diminazene aceturate at dose rate of 3.5 mg/kg body weight intramuscularly (Rani and Suresh, 2007). Injection of Berenil RTU (Diaminazine Aceturate, Intervet) was administered followed by administration of tablet Doxypet (Doxycyclin, Savavet) @ 5 mg/kg bid per orally. Supportive treatment like hepatic protectant, tablet Hepa-20 O.D. and syrup Immulyte @ 5 ml bid for platelet boost up was also given. To reduce the nervous sign, neurobion forte one tablet was given once a day, for seven days. The dog recovered clinically, within a week of time.

The clinical signs and symptoms along with the microscopic examination of *Trypanosoma* organisms through peripheral blood smear suggested the case to be of Trypanosomosis. However, it was difficult to distinguish the species of *Trypanosoma*. So there is need of serological and molecular tests for the diagnosis of species of *Trypanosoma*. Moreover, it can also be concluded that single dose of diminazene aceturate @ 3.5 mg/ Kg body weight had been successful in treating the dog with trypanosomosis (Ramesh *et al.*, 2016).

## References

- Barr, S.C., Gossett, K.A. and Klei, T.R., 1991. Clinical, clinicopathologic and parasitological observations of trypanosomiasis in dogs infected with North American *Trypanosoma cruzi* isolates. *Am. J. Vet. Res.* **52**: 954 - 60.
- Carolyn, A., Sink, M.S., Bernard, F. 2003. Laboratory urinalysis and haematology for the small animal practitioner. Teton New media Innovative Publishing, Jackson, Wyoming, USA. Chapter 5. 84.
- Coles, E.H. 1986. Veterinary Clinical Pathology. 4th edn. WB Saunder's Company, Philadelphia, USA. 53-56.
- Green, C.E. 2006. Infectious diseases of dogs and cats. 3rd. edn. Elsevier Inc. 676- 80.
- Ramesh, P., Chowdary, S.R.C.H., Chaitanya, Y. 2016. Diagnosis and treatment of canine Trypanosomiasis - a case study. *Int. J. Sci. Environm. Technol.* **5**: 3387-93
- Rani, N.L., Suresh, K. 2007. Canine trypanosomiasis. *India Vet. J.* **84**: 186-87.
- Thirunavukkarasu, P.S., Rao, V.V., Srinivasan, S.R., Nambi, A.P., Dhanapalan, P. 2004. Haematobiochemical findings in case of trypanosomiasis in dog: a clinical study. *Ind. J. Vet. Med.* **24**: 117.

Received : 19.08.2020

Accepted : 27.11.2020