

FATAL ATYPICAL CASE OF CANINE TRYPANOSOMOSIS

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Trypanosoma evansi is an exo-erythrocytic, intercellular haemoprotozoan parasite transmitted mechanically by biting flies and is a cause of fever, anaemia, myocarditis and corneal opacity in canines. In the present study, a three year old male Mongrel dog with the history of partial anorexia, reduced water intake, vomiting and pica was presented to Small Animal Veterinary Clinics, GADVASU, Ludhiana and was diagnosed for canine trypanosomosis by peripheral blood smear examination. The hematological findings revealed hypochromic anemia along with neutrophilic leucocytosis. Interestingly, the dog did not show the characteristic corneal opacity and despite the treatment could not survive thus proving to be a fatal atypical case of canine surra.

Key words: Atypical, canine, *Trypanosoma evansi*

Introduction

Trypanosomosis caused by *Trypanosoma evansi*, is a fly borne haemoprotozoan disease of domestic and wild animals, generally acute and fatal in canines (Soulsby, 1982). Clinically, the disease is characterized by intermittent fever, dullness, emaciation, anemia, conjunctivitis, corneal opacity, sexual excitement, staggering gait, change in voice due to laryngeal edema, difficult swallowing, posterior ataxia and impaired hearing (Krishnamurthy, 2005; Sonika *et al.*, 2007). In routine the disease is diagnosed by blood smear examination whilst few cases may be diagnosed by demonstration of the organism in aqueous fluid (Varshney *et al.*, 2003). The present report describes a case of atypical trypanosomosis in a Mongrel; its effect on some blood parameters and treatment with quinapyramine sulphate.

Case history and clinical observations

A three year old male Mongrel dog, weighing 10 kg, was presented at the Small Animal Veterinary Clinics, GADVASU, Ludhiana with the history of partial anorexia since 10 days, reduced water intake, vomiting and pica. When subjected to clinical examination the dog was found dull, lethargic, light pink mucus membrane indicating anemia and temperature as 100.4°F. The dog was tested for the presence of haemoprotozoan parasites through blood smears examination. For this purpose, peripheral blood was collected in EDTA from jugular vein under aseptic conditions.

Anemia is a cardinal feature observed in dogs naturally infected with *T. evansi*. Various mechanisms have been proposed to explain the

Thereafter, a drop of blood was placed on a clean grease free microscopic glass slide and smear was prepared and air-dried. The smear was stained with the Giemsa stain after fixation in methanol (Coles, 1986) and examined under light microscope by using the oil immersion objective.

Hematological and therapeutical study

After confirmation of *T. evansi* through blood smear, haematological examination including haemoglobin (Hb), total (TLC) and differential leukocyte count (DLC) was estimated as described by Benjamin (1978). After evaluation of the reports, the dog was treated with dextrose normal saline solution, antibiotics and metoclopramide to stabilize the condition of the animal and the following day same treatment was repeated in addition to one shot of quinapyramine sulphate @ 0.025 mg/kg.

Results and Discussion

Microscopic examination revealed the presence of heavy parasitaemia of *Trypanosoma evansi* (Fig.1). The hematological report of the dog revealed: Hb 9.2 g/dl; TLC 23700/ μ l and DLC (Neutrophils 94%, Lymphocytes 6%). This led to the conclusion that dog was suffering from hypochromic anemia with relative neutrophilic leucocytosis and was in concordance with the earlier findings of workers (Rani and Suresh, 2007, Rashid *et al.*, 2008). Also, the haemodynamic coagulopathies in the dog was due to the presence of trypanosomes in the blood circulation (Thirunavukkarasn *et al.*, 2004).

still incompletely elucidated origin of anemia in trypanosomosis; these include suppression of erythropoietic activity due to bone marrow

depression, haemodilution, hemolysis resulting from immunological factors, direct parasite

action, and the action of products released by the parasites (Eloy and Lucheis, 2009).

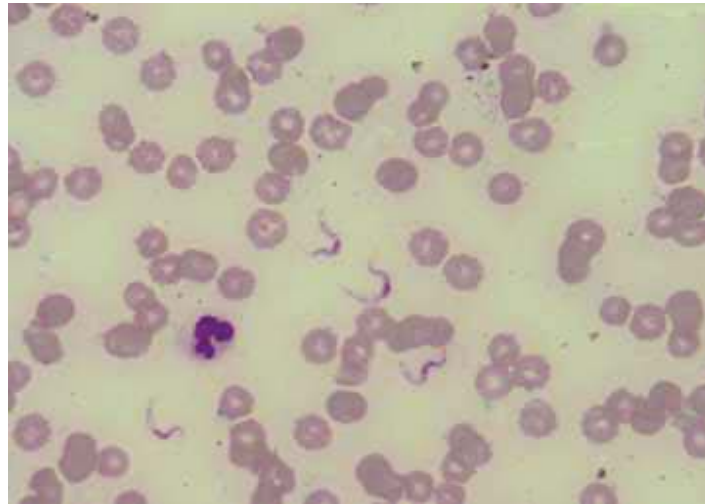


Fig 1: *Trypanosoma evansi* in blood smear of dog

The cases of canine surra are not unusual and are tentatively diagnosed clinically by history of intermittent fever, progressive anemia, anorexia, cachexia, edema of the head, pharynx, and limb, lymphadenopathy, rear limb paralysis, ataxia, a lack of coordination, tonic-clonic seizures, opisthotonus, and corneal opacity (Krishnamurthy, 2005; Rani and Suresh, 2007; Eloy and Lucheis 2009). But in the present study

the dog did not show the above mentioned clinical signs and was diagnosed for trypanosomiasis with the aid of laboratory interpretations. Further, despite the treatment with quinapyramine sulphate the dog did not survive post treatment thus proving the above case as that of fatal atypical canine trypanosomiasis.

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