TRYPANOSOMIASIS IN NON-DESCRIPT DOG: A CASE REPORT

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Introduction
Trypanosomes are extra-erythrocytic, protozoan parasites of domestic and wild animals. This disease is generally acute and fatal in canines (Soulsby, 1982). It is characterized by fever, anemia, myocarditis, hemorrhages on the mucosal and serosal surfaces and less commonly corneal opacity (Urquhart et al. 2002). It is generally spread by biting tabinid flies (Barr et al. 1991; Urquhart et al. 2002). Trypomastigote constantly changes its surface glycoprotein hence, there is persistent parasitemia and hence the parasites continue to multiply sub clinically and spread to other parts of the body primarily through macrophages (Urquhart et al. 2002; Barr et al. 2002). Anemia is an important feature of this disease, in which red blood cells are lysed and removed by the phagocytic cells (Urquhart et al. 2002). This paper reports the occurrence of trypanosomiasis in a dog and its effect on some blood parameters.

Case History
A non-descript male dog of 12 years age was brought to Teaching Veterinary Clinical Complex (TVCC), Mumbai with the history of inappetance and respiratory distress. On clinical examination, there was tachycardia, anaemia, edematous swelling on hind legs, pale mucous membranes and normal temperature (102°F). Physical examination by abdominal palpation revealed splenomegaly and hepatomegaly. Electrocardiograph (ECG) was carried out. Blood was collected for CBC (Complete blood count) and serum for biochemical analysis for liver function and kidney function test (Coles, 1986).

Result and Discussion
Confirmation of trypanosomiasis was done on the basis of finding numerous trypanosomes in blood smear by staining with Leishman stain (Fig.1). Clinical sign such as inappetence, fever anaemia and pale mucous membranes, etc. observed in the present investigation has also been reported by various authors in canine trypanosomiasis (Rashid et al., 2008; Rani and Suresh, 2007; Singh, 2012). Some authors have reported corneal opacity in chronic trypanosomiasis (Thirunavukkarasu et al. 2004), however, we did not observe corneal opacity. The total trypanosomes were 160 per hundred red blood cells in direct blood smear. Furthermore, their effect on certain hematological parameters was studied. The haematological (CBC) finding revealed 3.8, 12, and 2.1 of Hb, PCV, and TEC, respectively. Anemia was characterized microcytic hypochromic type. The erythrocyte sedimentation rate was increased (51mm/hr). Total leucocyte count revealed leucocytosis (30.5 thousand/ cumm), and differential leucocyte count neutrophilia (74%) with shift to left. The lymphocytes (17%), monocytes (05%), eosinophils (04) were within normal physiological range. Platelet count was decreased (0.2 lakhs/cu mm) and as well as on DLC smears.

Biochemical analysis of liver function test revealed increased serum levels of SGPT (194 IU/ L), SGOT (179.6 IU/ L) indicating liver damage. The endotoxins are set free by lysis of red blood cells resulting in anaemia (Singh, 2012), and sometimes death in unattended and per acute cases. Decrease in Hb, PCV and TEC values observed in the present investigation are in accordance with the previous observation recorded by various authors (Rashid et al., 2008; Rani and Suresh, 2007). Increased ESR observed in the present investigation may be due to anaemia (Coles, 1986).

Biochemical analysis of liver function test revealed increased serum levels of SGPT (194 IU/ L), SGOT (179.6 IU/ L) indicating liver damage. The endotoxins are set free by lysis of RBCs due to parasite and these toxin causes dysfunction of liver (Singh, 2012). The present observation is in accordance with the observation of Singh, (2012). Serum Urea, BUN
and creatinine was 125.6 (mg/dl), 58.69 (mg/dl) and 1.67 (mg/dl), respectively. KFT analysis indicate elevated level of Urea and BUN however, creatinine level were within normal level. This could be because of toxaemia causing hepatic dysfunction. The ura utilization may be hampered and lead to elevated level of urea and BUN in blood. The transmission

of trypanosomiasis to dog in the present case is unknown, however, mechanical transmission through hematophagus flies (Tabanus spp., Stomaxys spp., Haematopota spp, Hippobusca spp, etc.) has been suggested (Singh, 2012). ECG finding did not reveal any significant abnormality. The dog was treated with single dose of triquin at the rate of 5 mg/kg body weight subcutaneously along with iron dextron injection, antihistaminic, for one week.

Summary

Trypanosomiasis infection was diagnosed in a 12 years old non-descript dog. Haematological and biochemical parameters and therapeutic management of trypanosomiasis in dog was discussed.

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References


