

A Clinico-Pathological Report of Canine Ehrlichiosis in a Doberman pinscher

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Received: 08-03-2011, Accepted: 12-04-2011

Introduction

Canine Ehrlichiosis is also known as canine rickettsiosis, canine hemorrhagic fever, canine typhus, tracker dog disease, and tropical canine pancytopenia. It is a tick-borne disease (*important is Rhipicephalus sanguineus*, the brown dog tick) usually caused by the organism *Ehrlichia canis*. The Ehrlichiae are a group of small, gram-negative, pleiomorphic, obligate intracellular cocci that infect different blood cells in various animal species and in human (Lauren *et al.*, 2003). *Though it* is primarily the pathogen of animals but the zoonotic potential has also been reported. Humans can become infected by *E. canis* and other species after tick exposure (Ettinger and Feldman, 2000). Even though the zoonotic role of dogs as a reservoir for human infection has never been shown to be a threat, it is still a great concern for many canine patients. Veterinarians play a major role in the prevention, diagnosis and treatment of ehrlichia infections in dogs. There is a very fine line for creating awareness of tick-borne diseases without generating panic and concern in the pet-owning public.

Case History and Observations

A Doberman dog of three years of age was

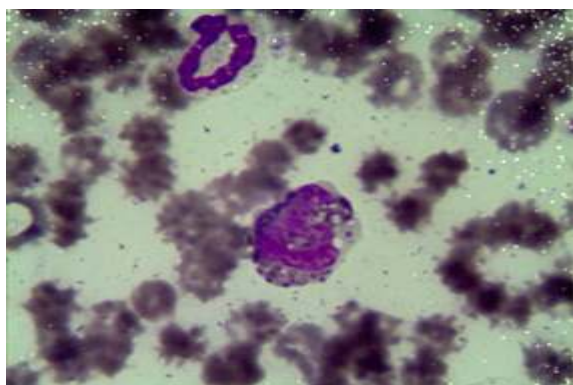


Figure-1. Monocyte showing membrane bound basophilic round to oval bodies were present

presented in the TVCSC (Teaching and Veterinary Clinical Complex) Mhow with the history of anorexia and weight loss since last 10 days. On clinical examination the dog was found to be dull and emaciated together with edema of hind limbs. The rectal temperature was recorded to be 105°C. The Condition suggested of blood protozoan infection. Blood was collected and sent for detailed hematological and blood protozoan examination to the Department of Veterinary Pathology.

Hematological Observations: The blood was subjected for TLC, DLC TEC, Hb and Total Platelet Count. The blood picture revealed macrocytic hypochromic anemia along with increased number of hypersegmented neutrophils. There was marked leucopenia (4500/*ul*) which indicated bone marrow suppression. The monocytes, were increased in number and in their cytoplasm membrane bound basophilic round to oval bodies were present (Fig 1).

Platelet Count, Hb, TEC and PCV were considerably reduced to the value of 1,50,000/*ul*, 6.0g/dl, $4.8 \times 10^{12}/L$ and 25% respectively. Erythrocyte indices as calculated were found to be MCH 12.5pg, MCHC 24 grams/dl and MCV 52.08 fl. Albumin was 4.0g/dl and globulin 2.2 g/dl. The A/G ratio was reversed

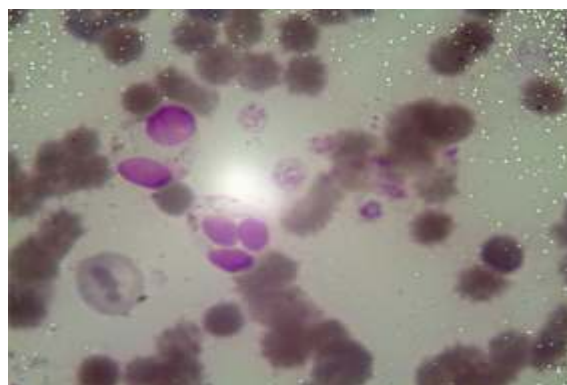


Figure-2. Lymphocytes showing mitotic nuclei suggested of regenerative anemia

(1.375). Similar findings were reported by Varela *et al.* 1997 and Neer, 1998 in dogs suffering from Ehrlichiosis. The results were suggestive of Ehrlichiosis and treatment was prescribed accordingly.

Treatment and Discussion

The treatment prescribed was doxycycline orally @ of 1 tab o.d for 15 days together with supportive treatment for anaemia (inj inferon @ of 1ml o.d for 7 days) and hepatocellular damage (inj belamyl @ of 1.5ml o.d for 7 days). Doxycycline hyclate is an effective treatment for acute *E. canis* infection (Breitschwerdt *et al.* 1998). 15 days after treatment the blood was again collected and examined. Brilliant Cresyl blue staining revealed an increase in reticulocyte number upto 1.2% along with several lymphocytes showing mitotic nuclei suggested of regenerative anemia (Fig 2) and recovery phase. The Platelets count (3, 50,000 *ul*) and Hb (8.4g/dl) was markedly improved. TLC count increased to a value of 8500*ul* and DLC was in normal range with normally segmented neutrophils and monocytes. The condition of the dog was better

and it started taking the normal diet. The dog completely recovered within the month and is presently in a healthy status.

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