

Canine babesiosis in a Doberman Dog - Successive Therapeutic Management

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Article Received on 29.11.2016

Article Published on 05.01.2017

Abstract

A two and half year old, male Doberman dog presented with the history of anorectic, blockish brown vomiting, unilateral epistaxis, high fever, pale mucous membrane and haemoglobinuria for the past two days. The general examination revealed that all other parameters were normal except dull and depressed behaviour, pale mucous membrane, temperature 40.4°C and superficial and popliteal lymphnodes were enlarged. The hematology report revealed that thrombocytopenia, leucocytosis and neutrophilia. On routine conventional smear examination, small intra erythrocytic *Babesia gibsoni* was noted. Based on smear and clinical examination the case was diagnosed as canine babesiosis and animal was treated by standard protocol as described in methodology. After treatment the animal was showed an uneventful recovery.

Keywords: Dobermann – Babesiosis – Imidocarb – Clindamycin

India has a diversified variation in the climatic temperament with different regions, which make it convenient for a wide list of vectors and pathogens of human and veterinary importance (Abd rani et al., 2010). Generally, canines are highly susceptible to tick borne diseases like babesiosis, ehrlichiosis, anaplasmosis, hepatozonosis and haematropic

mycoplasmal infections. In India canine babesiosis or biliary fever or malignant jaundice is caused by *B. gibsoni* and *B. canis* are co-endemic in nature (Caspulla, 1998).

They are transmitted by *Rhipicephalus sanguineus* and *Haemophysalis bispinosa*. In general, clinical signs of canine babesiosis are vary depending on species, breed, age, immune status of animal and concurrent disease. The disease can be further categorized into complicated and uncomplicated forms (Yogeshpriya et, al., 2014). Uncomplicated form mainly characterized by haemolytic anaemia and complicated form characterized by development Systemic Inflammatory Response Syndrome (SIRS) and Multiple Organ Dysfunction Syndrome (MODS) (Schoeman, 2009). The most common clinical signs of babesiosis are anorexia, fever, depression, pale mucous membrane, haemoglobinuria, bilirubinuria (Furlanello et, al., 2005). The canine babesiosis can be diagnosed by blood smear examination. In general, canine babesiosis affected animal having haematological picture includes thrombocytopenia, leukopenia (especially neutropenia and lymphopenia) noticed

initially after infection, followed by leucocytosis and neutrophilia with a shift to left as few days after infection (Mathe et, al., 2006).

Case History and Observation

A two and half year old, male Doberman dog was presented with the history of reduced feed intake, anorectic, blockish brown vomiting, unilateral epistaxis, high fever, pale mucous membrane and haemoglobinuria for the past two days. The animal is properly immunized and high tick infestation was

noticed over the hair coat especially of body surface and between the interdigital spaces of all legs.

On general clinical examination, all parameters were found to be normal except dull and depressed behaviour, pale mucous membrane; temperature 40.4°C, haemoglobinuria and enlarged superficial and popliteal lymphnodes.

The haematology profile was as follows:

Sl. No	Blood Parameters	'0' day (Before treatment)	14th day (After treatment)	Reference value (Merck Manual, 2005)
1	Haemoglobin (g/dl)	5.9	13.2	11.9-18.9
2	PCV (%)	19.1	42.4	35-57
3	RBC X 10 ⁶ / μ l	3.15	6.20	4.95-7.87
4	WBC X 10 ⁶ / μ l	21,800	14,200	5.0 – 14.1
5	MCV (fl)	60.63	68.38	66-77
6	MCH (pg)	18.73	21.29	21-26.2
7	MCHC (g/dl)	30.89	31.13	32-36.3
8	Platelets X 10 ³ / μ l	42	227	211-621
9	Neutrophils %	78	69	58-85
10	Lymphocytes %	14	22	8-21
11	Monocytes %	6	5	2-10
12	Eosinophil %	2	4	0-9
13	Basophils %	0	0	0-1

Diagnosis

The haemogram revealed anaemic changes, thrombocytopenia, leucocytosis and neutrophilia (Table 1) which may be due to severe parasitemia and immune mediated responses (Schoeman, 2009). On microscopic examinations of blood smear, small intra erythrocytic *Babesia gibsoni* was identified. Based on clinical, haematological and conventional smear

examinations revealed that the case diagnosed as canine babesiosis.



Fig. 1: Babesia infected dog

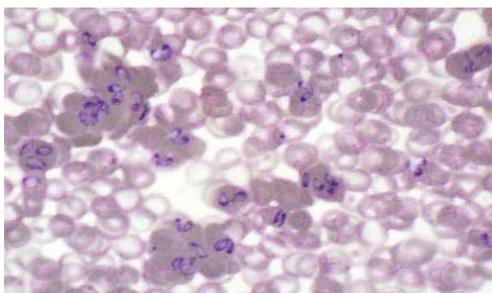


Fig. 2: *Babesia gibsoni* (100X) in blood Smear under under oil immersion

Treatment

After the confirmation of babesiosis the dog was treated with Inj. Imidocarb@ 5mg/kg b.wt i/m (Repeated on 14th day), Inj. Penta Starch (6%) @ 200 ml i/v for 3 days, Inj. Ringers Lactate @ 500 ml I/V for 7 days, Inj. Metrogyl @ 100 ml i/v for 7 days, Inj. Prednisolone @ 0.2 mg/kg i/v b.wt/ day for 3 days, and Tab. Clindamycin @ 2mg/kg P/O for 14 days. Animal was showed an uneventful recovery from the fourth days of treatment and after 14 days, the animal was re-examined with conventional smear and hemogram which shows a complete recovery of animal.

Summary

A two and half year old, male Doberman with canine babesiosis due to *Babesia gibsoni* was successfully treated and revived to normal health.

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