

# CANINE BABESIOSIS – A CASE STUDY

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## Introduction

Canine babesiosis is a clinically significant and geographically widespread hemoprotozoan disease of domesticated dogs and wild canids (Irwin, 2010). It is a parasitic infection caused by haemotropic protozoa of the genus *Babesia*, family Babesiidae, order Piroplasmida, within the phylum Apicomplexa. This malaria-like protozoan parasitizes the erythrocytes of wild and domestic animals. It is a well-recognised disease of veterinary importance in cattle, horses and dogs, which has gained increasing attention as an emerging zoonotic disease problem. This organism may cause a malaria-like syndrome, including fever, haemolysis and hemoglobinuria (Vial and Gorenflot, 2006).

## Case history and Clinical observation

A male German shepherd dog and a male Labrador dog aged between seven to eight years were presented at the Teaching Veterinary Clinical Complex, with the history of weakness, inappetence. On clinical examination, the animal had temperature of 104.5<sup>o</sup> and 104.2<sup>o</sup>F respectively and pallor of conjunctival and oral mucus membranes. Both the dog were kept in a kennel for 15 days and affected with severe tick infestation. Infection with haemoprotozoan parasite was suspected and the following samples were collected; thin blood smears prepared from ear tip for Leishman staining and whole blood in EDTA @1mg/ml of blood for haematological evaluation.

Peripheral blood smears from ear tip (Pershing *et. al.*, 1995) stained with Leishman stain revealed small, single, signet ring shaped trophozoites of the parasite in more than 40 per cent of erythrocytes confirmed as babesiosis.

Haematological investigation revealed haemoglobin 4.2 gm% in German shepherd dog and 6.8 gm % in Labrador dog.

## Treatment

Both the dog were treated with fluid therapy, Inj. Oxytetracycline @20mg/kg BW

slow intravenously for 5 days and then maintained on Tab. Doxycycline @ 5 mg/kg BW orally for 7 days. The dogs were also maintained on oral Haematinics (Syp. Bestiron 1tsp BID) and a single dose of Dimenazine acetate @ 10 mg/kg BW i/m. Antipyretic drug analgin was administered on first 3 days when dogs showed fever. Owner was advised to come after one week for further investigation.

After a week Labrador dog showed maximum improvement where as German shepherd collapsed in spite of all efforts. Peripheral blood smear was negative for haemoprotozoan infection. Haemoglobin percentage was also improved (7.4 gm%). Owner was advised to continue the haematinics for one month.

## Result and Discussion

Effective management of dogs with babesiosis involves both specific and supportive strategies. Supportive treatment is aimed at restoring adequate tissue oxygenation by correction of the anemia, especially if severe, and correction of dehydration and electrolyte disturbances.

Two main syndromes are produced by *Babesia* which includes hemolytic anemia and multiple organ dysfunction syndrome (MODS) due to systemic inflammatory response syndrome (Jadhav *et al.*, 2011). In dogs with two organ involvement, survival was 45%, in dogs with three organ involvement survival was 10%, while in the group with four organ dysfunction mortality was 100% (Matijatko *et al.*, 2010).

Dimenazine acetate and Imidocarb Dipropionate are two most commonly used babesiacides used worldwide where as Oxytetracycline reduces the severity of infection (Karunakaran *et al.*, 2011). Whereas, Dimenazine acetate is most frequently used in higher doses than accurate dosage of 3.5 mg/kg BW (Dakshinkar and Bhojne, 2002).

## References

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