**BABESIA GIBSONI – AN EMERGING CHALLENGE IN CANINE PEDIATRIC PRACTICE IN CHENNAI**

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**ABSTRACT**

Canine Babesiosis caused by Babesia gibsoni was more prevalent in canine pediatric population of Chennai. In puppies it causes a fatal disease with complicating signs. Though Diminazene aceturate was used in successful management of babesiosis, in some cases it fails to effect cure in puppies. In such cases Clindamycin was found to be successful in the clinical management of pediatric babesiosis.

**Key words:** Canine babesiosis – Babesia gibsoni - Clindamycin

**INTRODUCTION**

Canine Babesiosis is a major clinical challenge. In the past, the incidence of clinical disease by Babesia gibsoni was rare (Sundar et al., 2004). In recent years, the incidence of fatal babesiosis is on the increase and remains a therapeutic challenge to the Practicing Veterinarians. This paper reports the incidence of Babesia gibsoni in puppies in Chennai and their clinical management

**MATERIALS AND METHODS**

The clinical, clinico-pathological records of 4896 dogs presented to the Madras Veterinary College Hospital during the period of October 2007 to September 2008 were analyzed for the status of Babesiosis. The incidence, clinical presentation, clinico-pathological findings, diagnostic strategies, treatment provided and their outcomes were analyzed. The clinical presentations of Babesia gibsoni were categorized as per Soulsby (1982).

The cases were treated with Diaminizine aceturate at the dose rate of 5 mg /kg body weight (Birkenheuer et al.,1999). Clindamycin was used as a combinatory protocol at the dose rate of 25 mg / kg body weight orally for every 12 hours for 14 days (Wulansari et al., 2003). Blood transfusion was carried out in peracute cases.

**RESULTS AND DISCUSSION**

Babesiosis was diagnosed based on the clinical signs and demonstration of parasites within the RBCs. Among 4896 samples screened for blood parasites, 575 were found to have hemoprotezoal infections. Among this 426 cases were found to be positive for Babesia infection. Among Babesiosis, 398 (69%) cases were found to be caused by Babesia gibsoni and the remaining (31%) were due to Babesia canis. The incidence of Babesiosis in this study was in accordance with the
findings of Samradhni et al (2005), who reported an incidence of 64 % of Babesiosis among the hemoprotozoal infections in dogs. Among the 398 positive cases of Babesia gibsoni, 18% were found to be less than one year old and 58% of this pediatric population were less than three months old. The incidence levels in this study were in agreement with Samradhni et al (2005), who reported that 75 % of the haemoprotozoal infections occurred below the age of one year. It could possibly due to the underdeveloped immune system in young dogs as compared to adults (Tizard, 2004). The record of prevalence of babesiosis in different breeds of dogs showed that Non-descript dogs were found to be most commonly affected with an incidence of 20% followed by spitz 12%. Bansal et al., (1985) also reported high incidence of Babesia infection in indigenous and exotic dogs from Hissar and Delhi.

Clinical presentations in this study ranged from peracute to subclinical and chronic forms. The fatal cases had exhibited less commonly observed signs like melena, local erythma of the skin and bleeding from venepuncture site. Bleeding tendencies were the result of intravascular and extra vascular haemolysis and the cause of which could be thrombocytopenia. Similar were the findings observed by Johan Schoeman and Andrew Leisewitz (2006). Acute forms in this study were characterized by fever, lethargy, hemolytic anemia, lymphadenopathy and spleenomegaly, all of which were in accordance with the reports of Johnn Schoeman and Andrew Leisewitz (2006). Coagulopathy was found to be the major presenting sign as well as the complicating factor in many cases.

Clinico-pathological examinations revealed decreased values of Haemoglobin (8.75 ± 0.15 g/dl) and Packed cell volume (22.6 ±0.18 %). There was an increased leukocyte count (20.2 ± 1.12 x10³/ cmm). Neutrophils were found to be significantly increased (78%) and lymphocytes were reduced (18%). Similar findings were reported by Samradhni et al (2005).

Current chemotherapeutic agents used to treat canine babesiosis are incapable in completely eliminating the disease. They are only capable of limiting the mortality and severity of clinical signs. (Wulansari et al., 2003). Though Imidocarb dipropionate was effective, due to its non-availability, other therapeutic agents such as Diaminizine aceturate and Clindamycin were used in the present study. The Diminazene aceturate based treatment was found to be successful in 401(94%) cases. Though this modality of treatment was the commonly practised by veterinarians in this part of the country, it failed to effect a cure in 25 (6%) cases. There was no clinical improvement in those 25 cases which could be due to the fact that Diminezene was incapable of sterilizing the infection, due to its low therapeutic index and the individual propensity to develop the disease especially, puppies in some times(Johan Schoeman and Andrew Leisewitz, 2006). This necessitates the use of alternative therapeutic agents.

Clindamycin combination protocol in this study showed a rapid recovery rate than that of Diaminazine aceturate and such cases made uneventful recovery. Clindamycin protocols alleviated the complications such as coagulopathy, where as the same was found to persist in Diaminazine aceturate treated cases. Similar state of recoveries and complications were reported by Wulansari et al (2003).
REFERENCES


