PERSPECTIVE STUDIES ON CANINE HEPATOZOOONOSIS IN CHENNAI

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ABSTRACT

Screening of dogs over 21 months period of time for the prevalence of Hepatozoonosis in and around Chennai was carried out. In general 15.68% of dogs examined showed infection by any one of the two major haemotozoan parasites viz H.canis 11.76% (most prevalent) followed by E.canis by 3.92%. There was vast difference between the rates of infection for local dogs and exotic breeds. H.cais appears to affect dogs of either sex over a wide age range. During April to September dogs exhibited an unexplained fever, anaemia, petechiae, decubital sores, resistance to antibiotics, anaemia, epitasis and debility. In conclusion, as a result of this study a subcutaneous injection of imidocarb does not cause any untoward reaction such as post injection shock and was well tolerated by the dog in this study.

Key words: H.canis, Ticks, Imidocarb

The increase in the number of cases of Hepatozoonosis leads to the conclusion that the geographic range of disease may be expanding. H.canis exists throughout the world wherever the tick vector Rhipicephalus sanguineus is found (Craig, 1984). This protozoan parasite of genus Hepatozoan has been reported from a wide variety of vertebrate and invertebrate animals including carnivores (Lane and Kocan, 1983). The organism exists in the peripheral blood as gametocytes in the neutrophils or monocytes (Fig 1). Dogs got infection by ingesting infected ticks (Soulsby, 1968). In this paper 4 clinical cases of H.canis seen at Emergency and Critical Care Unit (ECCU) of Madras Veterinary College Teaching Hospital have been reported. As our observations revealed that clinical hepatozoonosis may be more prevalent and may be often confused with other haematozoan diseases. The present study was under taken to elucidate the epidemiological and clinical picture of hepatozoonosis.

The study was designed for a period of 2 months from April 2004 to December 2005 during which random blood samples from dogs presented at ECCU (Casualty) were examined for the presence of haematozoan parasites.

Case 1

An 18 month old male spitz dog was presented with complaint of weakness. Physical examination showed pale mucous membrane and mild fever (39.4 C) and tender abdomen. A presumptive diagnosis of Ehrlichiosis was made and the dog was treated with Oxytetracycline @ 200mg/kg body weight (I.V) for 3 days. Subsequent blood analysis showed border line anaemia, polychromasia and neutropenia.
Case 2
A 24 month old female German shepherd was brought on 21st December 2004 with a complaint of anorexia and bilateral epitasis. Physical examination showed depression, fever (39.8°C), dehydration, pale mucous membrane with the blood smear reading revealed anaemic changes and presence of *H. canis*. Though there was an apparent cure with dogs treated Oxytetracycline @ 200mg/kg body weight (I.V), Vitamin K-20mg i.m and Imidocarb 5mg subcutaneously. The symptoms recurred again and dog died later in 2 months time.

Case 3
A one year old Alsatian male dog was brought to ECCU with signs of epitasis. Blood examination revealed presence of *H. canis*, treated with Vitamin-K 20mg I.V (Anticoagulant), Dexorange syrup 5ml p/o (Anti-haematinic) and Oxytetracycline @ 200mg/kg body weight (I.V) for 3 day, and drastically caused excellent recovery with 5 months of time. Subsequent blood smear examination revealed normal blood picture.

Case 4
A 28 month old local non-descript dog was presented on 20th September 2005 with the symptoms of anorexia, nasal discharge, pustular eruption in the abdominal and inguinal region. The physical examination revealed high fever (40.2°C), pale mucous membrane and unilateral epitasis. Subsequent blood smear examination revealed for *E. canis* and *H. canis* (mixed infection). Timely treating with Vitamin K-20mg (I.V), Bacterium 200mg p/o and Dexorange 5ml p/o for 10 days, exerted complete recovery with complete eradication of *H. canis* from the dog.

From this perspective study it is clear that the clinical manifestation of *H. canis* vary from mild to severe leading to death due to anaemia and prolongation of Erythrocyte sedimentation rate.

Gossett et al. (1985) made similar observation in dogs infected with *H. canis* and *E. canis*. Though the clinical signs of fever, anaemia and leg weakness gave indication of hepatozoonosis, the signs of epitasis and petechiae mimic Ehrlichiosis. However blood smear study only confirmed the diseases as Hepatozoonosis. Haematological findings of this study revealed absence of neutrophilic leukocytosis which is a characteristic feature of hepatozoonosis, which is in agreement with the results of Barton et al.(1985) and Gossett et al. (1985). In our study the incidence of hepatozoonosis was more during May to September and probably this seasonal distribution may be related to the increased tick activity and transmission of infection to other dogs.

Treatment with Imidocarb and Oxytetracycline resulting in the death of dogs in some cases and the prominent recovery of the dogs in some cases treated with Oxytetracycline and bacterium indicated that the survival dogs were infected with *H. canais* infection.

The above finding is in accordance with the findings of Adeyanju and Aliu (1977). Concurring with Steven and Craig (1986), the present study revealed that some dogs showed profuse salivation, dyspnoea, muscle tremors and post injection shock after administration of Imidocarb through intramuscular route. In conclusion, as a result of this study, a subcutaneous injection of Imidocarb does not cause any untoward reaction such as shock and was well tolerated by the dog in this study.

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REFERENCES


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**Fig. 1**

Canine neutrophils containing gemetocyte of *Hepatozoon canis* - Giemsa Stain x 400

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