



A CASE OF ASCITES ASSOCIATED WITH CANINE MONOCYTIC EHRLICHIOSIS

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Canine Monocytic Ehrlichiosis (CME) due to *Ehrlichia canis* is frequently reported as a cause of morbidity and mortality among dogs. This small pleomorphic gram-negative coccoid bacterium appears intracytoplasmic within monocytes and macrophages in clusters of organisms called morulae. The organism was initially identified in dogs by Donetein and Lestoquard in Algeria in 1935. These microorganisms are known as an etiologic factor of infections worldwide in humans and in different species of animals according to Hotopp *et al.* (2006). A case of monocytic ehrlichiosis associated with ascites and its successful medical management is presented in this article.

A three year old Labrador retriever dog was presented to University Veterinary Hospital Kokkalai, with a history of lethargy, anorexia, and dark coloured urine for the past one week. In addition to this, the abdomen size was reported to be increasing day by day and animal was reluctant to move and also showing difficulty in breathing. Regular vaccination and deworming were followed. Clinical examination revealed rectal temperature of 103° F, enlarged lymph nodes, and pale ocular and buccal mucous membranes. Heart rate and pulse rate appeared to be normal and respiratory rate was reduced. The fluid waves could be detected on tactile percussion of the abdomen.

Whole blood was collected in EDTA coated vial and subjected to haematological

parameters which revealed microcytic-anaemia along with leucocytosis, granulocytosis, and thrombocytopaenia. Serum was separated and Subjected to estimation of total protein, globulin and albumin. Elevated levels of globulin and reduction in the albumin could be detected. Peripheral blood smear and buffy coat smear examination revealed the presence of *Ehrlichia canis* morula in monocytes. Haematological Parameters:

Sl.No.	Parameter	Result
1.	WBC	20.2 x 10 ³ /μl
2.	Granulocytes	14.8 x 10 ³ /μl
3.	RBC	4 x 10 ⁶ /μl
4.	Hb	6g/dl
5.	Platelets	48 x 10 ³ /μl

Animal was treated with Doxycycline orally @ 10mg/kg for 14 days and supported with prednisolone (1mg/kg) injection in tapering dose for 5 days, diuretics (Lasix@ 4mg/kg) intravenously, Pantoprazole (1mg/kg) intravenously, amino acid injection, Astymin for 5 days. Multivitamin supplement (Pet-o-vet syrup) and liver stimulant syrup (Livoferol) were also advised. The animal was cured of the condition by 15 days post therapy.

Canine Ehrlichiosis can be caused by several species of *Ehrlichia* attacking different groups of blood cells, but most often an infection by *Ehrlichia canis* is diagnosed with special relation to monocytes. The vector

for *E. canis* are *Rhipicephalus sanguineus* and *Ixodes ricinus*. Incubation period is 8 to 20 days, followed sequentially by acute, subclinical, and in some cases chronic phases. Clinical signs observed in the study were in concordance with findings of Harrus *et al.* (2011). But ascites is observed in the study which is not commonly reported. It may be due to the hypoalbuminaemia. Hematobiochemical abnormalities observed in the present case are also similar to report of Harrus *et al.* (1991) and Harrus and Warner (2011).

The hypoalbuminaemia seen in CME may be the consequence of peripheral loss of albumin to oedematous inflammatory fluids as a result of increased vascular permeability, blood loss, or decreased protein production due to concurrent mild liver disease. As albumin synthesis is regulated by oncotic pressure, the decrease in albumin concentrations may act as a compensatory mechanism for the hyperglobulinaemic state, thereby maintaining the oncotic pressure and preventing an increase in blood viscosity Dubie *et al.* (2014). To cause ascites the albumin level must be less than 1.5 g/dl. This study observed value was 1.2g/dl. Oral doxycycline is found to be effective against the *E. canis* organism at the dose rate of 5-10 mg/kg body weight for 14 days. Breitschwerdt *et al.* (1998) and Schaefer *et al.* (2007)

Summary

A clinical case of ascites associated canine monocytic ehrlichiosis and its successful management is discussed in this study. Infection with *E. canis* can lead to Hypoalbuminaemia, hyperglobulinaemia

and hypergammaglobulinaemia, which may be a cause of ascites. Oral administration of doxycycline along with prednisolone and diuresis could reduce the clinical symptoms and complete recovery noticed after 15 days post therapy.

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P. Amel Dev¹, P.V. Tresamol², and C. Deepa³

Department of Veterinary Epidemiology and Preventive Medicine,
College of Veterinary and Animal Sciences,
Mannuthy, Thrissur- 680 651

1. MVSc Scholar

2. Professor & Head

3. Assistant Professor , Dept. of Veterinary Clinical Medicine, Ethics & Jurisprudence