Bio Vet Innovator Magazine

Volume 2 (Issue 1) JANUARY 2025

OPEN ACCESS

Case Study

Ascites Associated with Canine Ehrlichiosis: Case Report

Anupama Verma[1*], Rishi Kumar[2], Nagendra Singh[3]

[1]Phd Scholar, Division of Medicine, IVRI, Izatnagar, Bareilly, Uttar Pradesh (243123)

[2]Assistant Professor, Department of Livestock Products Technology, Mahatma Jyotiba Fule College of Veterinary and Animal Sciences, Chomu, Rajasthan (303702)

[3]Ph.D Scholar, Department of Veterinary Gynaecology and Obstetrics, College of Veterinary Science and Animal Husbandry, DUVASU, Mathura, Uttar Pradesh (281001)

***Corresponding Author:** vermaanu255@gmail.com

DOI: https://doi.org/10.5281/zenodo.14836610

Received: January 30, 2025

Published: January 31, 2025

Abstract:

Current case report describes the successful treatment of canine ehrlichiosis with ascites in a female mongrel presented to TVCC, IVRI, Izzatnagar. Clinical observation showed the signs of fever (103°F), lethargy, anorexia, abdomen swelling and gastric bleeding. On the basis of microscopic examination and clinical signs, case was diagnosed as ascites associated with canine ehrlichiosis and successfully treated with antibiotic, antipyretics, haemostatics and supportive therapy with multivitamin, haematinics and liver tonics.

Keywords: Ehrlichiosis, canine, ascites, treatment, abdomenocentasis

Introduction:

Ehrlichiosis in canine's also known as canine hemorrhagic fever, rickettsiosis and tropical canine pancytopenia. It is caused by *Ehrlichia canis*, a rickettsial microorganism. The main vector which harbours Ehrlichia organism is *Rhipicephalus sanguineus* (brown dog tick) and transmits it to dogs (6, 7, and 8). Canine get ehrlichiosis from the tick as when tick bites passes an *Ehrlichia* organism into the bloodstream.It is also possible for dogs to become infected through blood transfusion from an infected dog (2). Ehrlichiosis can manifest in three phases (9). Signs of the acute phase of the disease usually include anemia, fever, depression, lethargy, and loss of appetite, shortness of breath, joint pain and stiffness. In the subclinical phase the animal may appear normal or show only slight anemia and can last for months or years. The chronic phase can be either mild or severe and characterized by weight loss, anemia, neurological signs, bleeding, inflammation of the eye, edema in the hind legs, and fever. Blood tests show that one or all of the different blood cell types are decreased.

History:

A 6-year-old female mongrel was presented TVCC, IVRI, Izatnagar with duration of illness 08 days and history of distended abdomen on both sides with palpable fluid thrill, dyspnoea, pale mucous membranes, lethargic,

discomfort, anorexic, black feces, and tick infestation. Dog was reluctant to walk.

Clinical Observation:

When examined clinically, dog observed rise in body temperature (103.8ºF). There were ticks on the body. On taping the abdomen there was undulating movements (Thrills) of the fluid and there was a symmetrical enlargement of abdomen. The buccal and ocular mucus membranes examined were pale with enlarged lymph nodes.

- **Laboratory Findings:**

  Whole blood was collected in EDTA vial and subjected to hematological parameters which revealed microcytic anemia along with pancytopenia (Table 1). Blood smear examination for infectious agent revealed positive for *E. canis.*

- **Ultrasonographic (USG) Findings:**

  USG examination of abdomen area revealed anechoic (black) fluid around internal organs. Mixed echogenicity of liver parenchyma seen and rest of the organs seem normal (Figure 2,3).

S.No	BLOOD PARAMETERS	0th Day	14th Day	21st Day
1	W.B.C(10^3/µL)	2.24	3.24	8.79
2	R.B.C (10^6/µL)	3.88	4.83	6.19
3	H.b (g/dL)	8.4	10.3	12.2
4	H.C.T (%)	25.4	30.1	39.9
5	M.C.V (fL)	65.5	65.2	64.5
6	M.C.H(pg)	21.6	21.4	19.7
7	M.C.H.C (g/dL)	33.1	32.8	30.6
8	Platelet (10^3/µL)	10.8	37.0	52.4
9	DLC –Neutrophils(%)	55	60	67
10	DLC-Lymphocytes (%)	40	35	24
11	DLC -Eosinophils (%)	3	3	4
12	DLC – Monocyte (%)	2	3	3
13	DLC -- Basophils (%)	0	0	1

Table 1: Hematological parameter at various interval

Fig. 1. Dog in right lateral recumbency with intravenous catheter inserted into a dog's abdomen

Citation:. Anupama Verma, Rishi Kumar, Nagendra Singh. (2025). Ascites Associated with Canine Ehrlichiosis: Case Report. In Bio vet innovator magazine (Vol. 2, Issue 1, pp. 49–52). Bio vet innovator magazine. https://doi.org/10.5281/zenodo.14836610

Fig. 2. Ultrasound image showing anechoic fluid around kidney

Fig. 3. Ultrasound image showing anechoic fluid around liver lobe having mixed echogenicity of parenchyma

Tentative Diagnosis:

On the basis of clinical signs, laboratory and USG findings the animal was tentatively diagnosed with Canine Ehrlichiosis infection with concurrent ascites.

Treatment:

Initially 50ml of ascitic fluid was removed from the abdomen by abdominocentesis (Fig. 1) to relieve from dyspnea along with the administration of NS @150ml i/v single dose. Tab. Doxycyclin @5mg/kg body wt twice in a day; liver tonic, Syp. Livotas @ 2tsf; hematinic syrup a-Rbc @1t.s.f twice a day ; Tab Pantoprazole @1mg/kg body wt. daily p.o (empty stomach); Tab. Carprofen @2mg/kg B.W p.o once daily ; Tab. Torsemide + Spironolactone @5mg tab p.o twice daily for 7 days; Tab. Giloy Ghanvati @ 1tab p.o twice a day; Syp. for Platelet Booster Syp Imu-Lat @7ml p.o twice daily; Syp. Sucralfate @5ml p.o daily and Tab. Caripill @1 tab thrice daily for 7 days. This treatment is followed for 21 days continuously. The owner is also advised to apply fiprofort spot on to get rid of ticks on the body of animal.

Discussion:

Most dogs recover from the acute and subclinical phases when treated with doxycycline or other tetracyclines at appropriate dosages for an adequate period of time. The prognosis becomes poor once dogs enter the chronic phase of disease. 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 like report of (3,4).

The cause of hypoalbuminemia seen in this case may be consequence of peripheral loss of albumin to edematous inflammatory fluid as a result of increase vascular permeability, blood loss or decreased protein production due to concurrent mild liver disease (1). Oral administration of Doxycycline along with diuretics could reduce the clinical symptoms and complete recovery noticed after 21 days post therapy. As tetracycline are known to be hepatotoxic effect (5), liver tonic are added to protect from adverse effect.

Conclusion:

A clinical case of ascites associated with canine ehrlichiosis and its successful management is discussed in this study. The infection of E.canis can lead to hypoalbuminaemia and hyperglobulinaemia, which may be a cause of ascites. The clinical recovery with oral therapy may be seen within 2-3 days but treatment should be continued for 21 days for clearing up parasitemia.

Citation:. Anupama Verma, Rishi Kumar, Nagendra Singh. (2025). Ascites Associated with Canine Ehrlichiosis: Case Report. In Bio vet innovator magazine (Vol. 2, Issue 1, pp. 49–52). Bio vet innovator magazine. https://doi.org/10.5281/zenodo.14836610

References:

Dubie, T., Mohammed, Y., Terefe, G., Muktar, Y., and Tesfaye, J. (2014). An insight review on canine ehrlichiosis with emphasis on its epidemiology and pathogenesity importance. Global Journal of Veterinary Medicine and Research. 2(4): 59-67.

Ettinger, S. J., and Feldman, E. C. (1995). Textbook of veterinary internal medicine. Section VIII: The Respiratory System.

Harrus, S. and Waner, T. (2011). Diagnosis of canine monocytotropic ehrlichiosis (Ehrlichia canis): an overview. Vet. J. 187: 292-296.

Harrus, S., Waner, T., Bark, H., Jongejan, F., and Cornelissen, A.W. (1999). Recent advances in determining the pathogenesis of canine monocytic ehrlichiosis. J. Clin. Microbiol. 37: 2745-2749

Liénart F., Morissens F., Jacobs P. and Ducobu J. (1992). Doxycycline and hepatotoxicity. Acta. Clin. Belgica. 47: 205-208.

Melo, A. L., Martins, T. F., Horta, M. C., Moraes-Filho, J., Pacheco, R. C., Labruna, M. B., and Aguiar, D. M. (2011). Seroprevalence and risk factors to Ehrlichia spp. and Rickettsia spp. in dogs from the Pantanal Region of Mato Grosso State, Brazil. Ticks and Tick-borne Diseases. 2(4): 213-218.

Mylonakis, M. E., Koutinas, A. F., Breitschwerdt, E. B., Hegarty, B. C., Billinis, C. D., Leontides, L. S., and Kontos, V. S. (2004). Chronic canine ehrlichiosis (Ehrlichia canis): a retrospective study of 19 natural cases. Journal of the American Animal Hospital Association. 40(3): 174-184.

Parola, P., Davoust, B., and Raoult, D. (2005). Tick-and flea-borne rickettsial emerging zoonoses. Veterinary research. 36(3): 469-492.

Skotarczak, B. (2003). Canine ehrlichiosis. Annals of Agricultural and Environmental Medicine. 10(2).

Citation:. Anupama Verma, Rishi Kumar, Nagendra Singh. (2025). Ascites Associated with Canine Ehrlichiosis: Case Report. In Bio vet innovator magazine (Vol. 2, Issue 1, pp. 49–52). Bio vet innovator magazine. https://doi.org/10.5281/zenodo.14836610