

Therapeutic Management of Monocytic Ehrlichiosis in a dog

Yamini, K., Satish Kumar, K*, Dasmabai, B., Pranay Kumar, K., Arukontham Deepika, Juned Ur Rehman Khan

Sri Venkateswara Veterinary University, Andhra Pradesh, India.

Department of Veterinary Medicine

CVSc, Rajendranagar, PVNRTVU

Hyderabad-500030

Abstract

One year old German Shepherd dog was presented with history of unresponsive fever, weakness, epistaxis tick infestation and dyspepsia. Clinical examination revealed pale mucosa with mild enlargement of peripheral lymph nodes. Reduced haematocrit, haemoglobin, WBC counts, thrombocytopenia, elevated alkaline phosphate were noticed. Splenomegaly was appreciated in abdominal ultrasonography. Peripheral blood smear revealed morulae of *E. canis* and PCR technique confirmed the presence of canine monocytic ehrlichiosis. The dog was treated with doxycycline for three weeks, along with other supportive drugs and fluid therapy. Dog showed uneventful recovery following therapy.

Keywords: canine monocytic ehrlichiosis, doxycycline

Canine monocytic ehrlichiosis is a tick-borne infectious disease of dogs, which has the potential to be fatal. *Ehrlichia canis* predominantly infects dogs and other members of the Canidae family. All dog breeds are susceptible to canine monocytic ehrlichiosis (CME). This article reports successful management of ehrlichiosis in a German Shepherd dog.

Case History and Observations

A German shepherd dog aged one year was presented to TVCC, Rajendranagar, Hyderabad with history of epistaxis, anorexia, dyschezia, inactiveness and infestation of ticks. Serous oculo nasal discharges, congested conjunctival mucosa and enlarged lymph nodes. Haematological analysis revealed marked thrombocytopenia ($92 \times 10^3/\mu\text{L}$), low levels of Haemoglobin (13.1 g/dL), Total Erythrocyte Count ($6.1 \times 10^6/\mu\text{L}$), Leucocytes ($10.7 \times 10^3/\mu\text{L}$), PCV (37.7%) and increased serum alkaline phosphate (304.6 U/L). Ultrasonographic examination revealed splenomegaly and peripheral blood smear examination revealed morulae in monocytes. Blood sample was subjected for PCR and lateral flow assay that tested positive for Ehrlichiosis (Fig 1).

Treatment and Discussion

The dog was treated with doxycycline @10mg per kg bodyweight, orally, BID for 15 days along with anti-inflammatory drugs and fluid therapy. The dog

showed marked improvement following therapy. Canine Ehrlichiosis is a zoonotic disease transmitted by ticks, posing a global challenge to veterinary and public health. Haematologic abnormalities and clinical signs such as thrombocytopenia, anemia, depression, anorexia, weight loss, fever, and bleeding mark the acute phase (Diniz *et al.* 2022). During the subclinical phase, dogs may either clear the infection spontaneously or remain infected while appearing clinically healthy for months to years (Diniz *et al.*, 2022). Eventually, some dogs may progress to a severe chronic infection characterized by hypoplastic bone marrow, bleeding, and death (Diniz *et al.*, 2022). Thrombocytopenia is considered to be the most common and consistent haematological abnormality of dogs naturally or experimentally infected with *E. canis* (Harrus *et al.* 1999). When diagnosed, treatment involves using antibiotics such as doxycycline, tetracycline, or rifampicin. Doxycycline may be administered orally at 10 mg/kg of dog body weight, divided into two daily doses, for 28 days (Alcón-Chino & De-Simone, 2025).

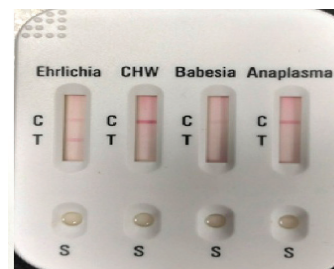


Fig.1: Image showing reports positive for ehrlichiosis by lateral flow assay.

*Corresponding author: drsatish.ksk@gmail.com

References

- Alcón-Chino, M.E. and De-Simone, S.G. 2025. Understanding the Diagnosing of Canine Ehrlichiosis: A Comprehensive Review. DOI: 10.5772/intechopen.1010408
- Diniz, P.P.V. and de Aguiar, D.M. 2022. Ehrlichiosis and anaplasmosis: An update. *Veterinary Clinics: Small Animal Practice*, **52(6)**: 1225-1266.
- Harrus, S., Waner, T., Bark, H., Jongejan, F. and Cornelissen, A.W. 1999. Recent advances in determining the pathogenesis of canine monocytic ehrlichiosis. *J. cli. microbiol.*, **37(9)**: 2745-2749.
- Pugliese, M., Biondi, V., Merola, G., Landi, A. and Passantino, A. 2022. Oxidative stress evaluation in dogs affected with Canine Monocytic Ehrlichiosis. *Antioxidants*, **11(2)**: 328.

Received : 10.06.2025**Accepted : 19.06.2025****Published : 30.06.2025**
