

## DIAGNOSIS AND THERAPEUTIC MANAGEMENT OF CANINE EHRlichIOSIS IN A LABRADOR BITCH - A CASE REPORT

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**Abstract:** Current case report describes the successful treatment of canine *Ehrlichiosis* in a Labrador bitch with history of bleeding from nose, anorexia, lethargy since last 2 days and presence of tick on the body. Clinical observation showed the signs of dehydration, fever, unilateral epistaxis, mild convulsions, dullness, depression and pale ocular mucous membranes indicates anemia with mild corneal opacity. On the basis of blood analysis and clinical symptoms, the case was diagnosed as Canine *Ehrlichiosis*. Specific treatment with tetracycline antibiotics and supportive therapy with multivitamin, haematinics and liver tonics showed recovery in 21<sup>st</sup> days.

**Keywords:** Anaemia, canine ehrlichiosis, epistaxis, tetracycline, Ehrlichia canis.

### INTRODUCTION

Canine ehrlichiosis is a highly fatal tick borne disease caused by *Ehrlichia canis* (order Rickettsiales, family Anaplasmataceae) (Singla *et al.* 2011). Clinical diagnosis of disease condition is mainly based on identification of Intracytoplasmic morulae stage, second stage of life cycle. It is having acute, subclinical and chronic phases. Disease distribution showed seasonal variations with greater incidence rate in warmer seasons (Aziz *et al.*, 2022). Co-infections of *Ehrlichia* with *Anaplasma*, *Rickettsia*, *Babesia* or *Bartonella spp.* occur frequently as dogs are naturally exposed to multiple tick-borne pathogens (Straube, 2010). The present case paper discussed the diagnosis and therapeutic management of Ehrlichiosis in a bitch.

## MATERIAL AND METHOD

A 2.5 year old Labrador bitch having around 25 kg body weight was presented at Department of Veterinary Clinical Medicine, COVAS, MAFSU, Parbhani, with history of bleeding from nose, anorexia, weakness, lethargy, mild convulsions since last 2 days and presence of tick on the body.

Clinical examination of bitch showed unilateral epistaxis from left nostril (Fig. 1), pale mucous membrane (Fig.2), mild corneal opacity, dehydration, tachycardia, dyspnoea, high fever (105.2°F), dull, depressed, and presence of ticks on the body. On palpation splenomegaly and partial hepatomegaly was detected. Blood sample was collected in EDTA vial for complete blood count examination. Peripheral blood smear was made from the animal and subjected to direct microscopic examination using Giemsa stain for hemoprotozoan parasite investigation. Microscopic examination of stained blood smear revealed morulae of *Ehrlichia canis* inside the monocytes (Fig. 3). Complete blood count showed reduction in RBC count (2.03 m/mm<sup>3</sup>), haemoglobin (4.7 g/dl), PCV (20.11%), Neutrophils (2.1m/mm<sup>3</sup>) and thrombocyte (90 m/mm<sup>3</sup>). And increase in WBC count (34 m/mm<sup>3</sup>) (Neer *et al.*, 2002). On the basis of observations of blood smear examination and complete blood count the bitch is diagnosed with canine *Ehrlichiosis* infection (Aziz *et al.*, 2022).

Treatment was started with antibiotic (Inj. Oxytetracycline HCL) @ 20 mg/kg body weight with normal saline 200 ml IV for 5 days (Sainz *et al.*, 2015). Tab. Doxycycline @ 10mg/kg body weight orally for 21 days, antihistaminic (Inj. Pheneramine maleate) @ 0.5 mg/kg body wt IM for 3 days, antipyretic (Inj. Meloxicam) @ 0.2 mg/kg body weight IM for 3days. Hemostatics drug (Inj. Botropase) @ 1 ml IM for 2 days, multivitamins (Inj. Polybion) @ 2ml IM for 5 days. Calcium therapy with Inj. Calcium Sandoz @ 10ml slow IV in 50ml of normal saline for 2 days, given to combat mild hypocalcemia and to support for blood coagulation. Glucocorticoides Inj. Dexamethasone @ 0.04 mg/kg body weight IM for 3 days, given to prevent shock. Hematinic syrup Vitcofol @ 1 tsf twice daily PO for 21 days, given to increase haemoglobin concentration inside erythrocytes. Liver tonic syrup Liv 52 @ 5ml twice daily PO for 21 days, advised to prevent adverse effect of tetracycline on liver.

## DISCUSSION

Gradual reduction in epistaxis seen from the 3<sup>rd</sup> day of treatment and completely stopped on 5<sup>th</sup> day post treatment. Bitch started taking small quantity of feed and water from 5<sup>th</sup> day of treatment with no convulsions. Followed by gradual increase in intake of feed and water has

observed. On 21<sup>st</sup> day post treatment, the bitch was alert and apparently healthy with pinkish ocular mucous membrane, clear nostrils and normal blood picture.

Generally canine *Ehrlichiosis* should be suspected in dogs with pale or whitish mucous membrane, pancytopenia, nasal bleeding, thrombocytopenia, echymotic haemorrhages, neurological signs and have been exposed to ticks previously (Aziz *et al.*, 2022). Similar clinical signs were also observed in this case also. Tetracyclines are the treatment of choice for many hemoprotozoan in canines. For canine ehrlichiosis, the dose of tetracycline (20 mg/kg q 24H) and doxycycline (10 mg/kg every q 24H) can be given (Iqbal and Rikihisa, 1994). Tetracycline treatment administered for three weeks is the well established treatment that also responded well in the current case. As tetracycline are known to be hepatotoxic effect, liver tonic are added to protect from adverse effect to the bitch.

## CONCLUSION

Confirm diagnosis and therapy with tetracycline can cure Canine Ehrlichiosis in bitch.

## REFERENCES

- [1] Iqbal Z, Rikihisa YJ (1994) Reisolation of Ehrlichia canis from blood and tissues of dogs after doxycycline treatment. Clin Microbiol. 32(7):1644-9.
- [2] Straube J (2010) Canine ehrlichiosis-from Acute Infection to Chronic Disease. Comp. Vect. Born. Dis. digest. 7: 1-12.
- [3] Singla LD, Singh H, Kaur P, Singh ND, Singh NK, Juyal PD (2011) Serodetection of Ehrlichia canis infection in dogs from Ludhiana district of Punjab, India. J Parasit Dis. 35(2):195-8. Doi: 10.1007/s12639-011-0055-2. Epub 2011 Aug 2. PMID: 23024503
- [4] Aziz MU, Hussain S, Song B, Ghauri HN, Zeb J, Sparagano OA (2022) Ehrlichiosis in Dogs: A Comprehensive Review about the Pathogen and Its Vectors with Emphasis on South and East Asian Countries. Vet Sci. 29; 10(1):21.
- [5] Sainz, Á., Roura, X., Miró, G., Estrada-Peña A., Kohn B., Harrus S. and L. Solano-Gallego (2015) Guideline for veterinary practitioners on canine ehrlichiosis and anaplasmosis in Europe. Parasites Vectors 8, 75.
- [6] Neer TM, Breitschwerdt EB, Greene RT, Lappin MR (2002) Consensus statement on ehrlichial disease of small animals from the infectious disease study group of the ACVIM. American College of Veterinary Internal Medicine. J Vet Intern Med. 16(3):309–15.



Fig 1. Epistaxis from left Nostril

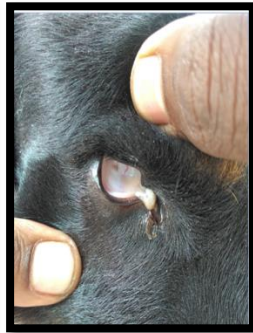


Fig 2. Pale ocular mucus membrane

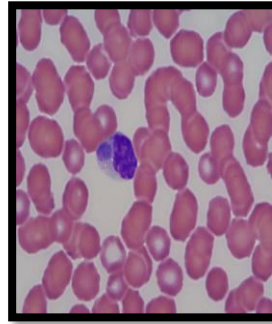


Fig 3. Morulae of *E. canis* in Monocytes

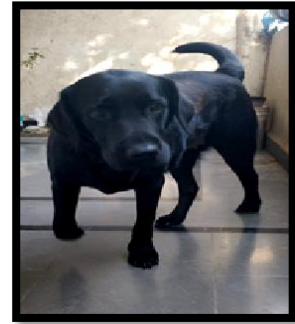


Fig 4. Bitch after complete recovery