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Shraddha Sinha
Department of Teaching Veterinary Clinical Complex, College of Veterinary Science and AH, DSVCKV, Anjora, Durg Chhattisgarh, India

SK Maiti
Department of Teaching Veterinary Clinical Complex, College of Veterinary Science and AH, DSVCKV, Anjora, Durg Chhattisgarh, India

HK Ratre
Department of Teaching Veterinary Clinical Complex, College of Veterinary Science and AH, DSVCKV, Anjora, Durg Chhattisgarh, India

MO Kalim
Department of Teaching Veterinary Clinical Complex, College of Veterinary Science and AH, DSVCKV, Anjora, Durg Chhattisgarh, India

Neeti Bante
Department of Teaching Veterinary Clinical Complex, College of Veterinary Science and AH, DSVCKV, Anjora, Durg Chhattisgarh, India

Richa Chourasia
Department of Teaching Veterinary Clinical Complex, College of Veterinary Science and AH, DSVCKV, Anjora, Durg Chhattisgarh, India

Renuka Mishra
Department of Teaching Veterinary Clinical Complex, College of Veterinary Science and AH, DSVCKV, Anjora, Durg Chhattisgarh, India

B Reddy
Department of Teaching Veterinary Clinical Complex, College of Veterinary Science and AH, DSVCKV, Anjora, Durg Chhattisgarh, India

Corresponding Author:
Shraddha Sinha
Department of Teaching Veterinary Clinical Complex, College of Veterinary Science and AH, DSVCKV, Anjora, Durg Chhattisgarh, India

Therapeutic management of canine ehrlichiosis in a Rottweiler: A case report

Shraddha Sinha, SK Maiti, HK Ratre, MO Kalim, Neeti Bante, Richa Chourasia, Renuka Mishra and B Reddy

Abstract
An adult female Labrador Retriever dog was presented at Teaching Veterinary Clinical Complex, DSVCKV, Anjora, Durg in lateral recumbency with history of anorexia, high fever, severe panting, having tick infestation, profuse nasal bleeding and bloody vomition. Clinical examination showed light pink conjunctiva. Haematological finding showed slight anaemia and thrombocytopenia. Parasitological examination found it to be positive for *Ehrlichia canis* and confirmed ticks to be *Rhipicephalus sanguineus*. On the day of presentation to hospital Oxytetracycline @ 20 mg/kg IV along with Normal saline 250 ml IV, Meloxicam @ 2.5mg/kg BW IM, pantoprazole @ 1mg/kg BW I/V, Botropase Intranasally, Orofer – S @ 50mg as total dose at alternate days, Ethamsylate 5 mg/kg BW, Ondansetron @ 0.5 mg/kg BW for 5 days, Romiplostim @ 3-5 mcg at weekly interval for 3 weeks followed by Doxycycline @ 10mg/kg P.O. for 21 days and two doses imidocarb dipropionate @6.6mg/kg BW at 21 days interval along with supportive treatments. The dog recovered uneventfully after 7 days of BID treatment.

Keywords: Ehrlichia, tetracycline, doxycycline, romiplostim

Introduction
Ehrlichiosis is a rickettsial infection that affects dogs. It is most frequently caused by the species of *Ehrlichia canis*, *chaffeensis*, *ewingii*, and potentially *ruminantium* (Vieira *et al*., 2011) [7]. Ehrlichia is mostly spread via the Brown Dog Tick (*Rhipicephalus sanguineus*) and two other species of ticks (Groves *et al*. 1975) [5]. In general, all dog breeds are equally susceptible to ehrlichiosis, however German shepherds and Siberian Huskies have a worse prognosis because they develop a more severe form of the disease due to a lower cell-mediated immune response to *E. Canis* (Nyindo *et al*. 1980) [6]. Three kinds of canine monocytic ehrlichiosis are the most common. Following the acute form are the subclinical and chronic variants. Fever, anorexia, weakness, epistaxis, lymphadenopathy, tick infestation, and ocular abnormalities are the primary symptoms of the illness.

Materials and Methods
History
An adult female Labrador Retriever dog was presented at Teaching Veterinary Clinical Complex, DSVCKV, Anjora, Durg in lateral recumbency with history of anorexia, high fever (104.4°F), severe panting, having tick infestation, profuse nasal bleeding and bloody vomiting (fig 1 and 2). Clinical examination showed pale mucous membrane and increased respiratory rate. Haematological finding was done by collecting the samples from peripheral blood and it showed slight anaemia and thrombocytopenia. (Table no. 1). Parasitological examination was done by using blood smear and observed under microscope in 100x and was found positive for *Ehrlichia canis* (fig. 3).

Treatment
The dog was treated with Oxytetracycline @ 20 mg/kg IV along with Normal saline 250 ml IV, Meloxicam @ 2.5mg/kg BW IM, pantoprazole @ 1mg/kg BW I/V, Botropase intranasally, Orofer – S @50mg as total dose at alternate days, Ethamsylate 5 mg/kg BW, Ondansetron @0.5 mg/kg BW for 5 days, Romiplostim @ 3-5 mcg at weekly interval for 3 weeks followed by Doxycycline @ 10mg/kg P.O. for 21 days and two doses imidocarb dipropionate @6.6 mg/kg BW at 21 days interval along with supportive treatments.

Results and Discussion

When dogs recover clinically, the haematology and physiological parameters return to normal (Fig.4a and b), and the organism can no longer be demonstrated to be present in the body, treatment of *E. canis* infections is deemed successful. Romiplostim was found so effective to control thrombocytopenia by inducing gradual thrombopoiesis. Doxycycline (Brouqui *et al.* 1990) [4], both short and long acting Oxytetracycline (Adawa *et al*, 1992) [1], imidocarb dipropionate (Adenyanju *et al*, 1982) [2], and others have been reported to be effective against *E. canis*. The effectiveness of tetracyclines in the treatment of experimentally and naturally acquired *E. canis* infections has recently been the subject of a number of more controlled research. It has been discovered that tetracycline treatment is successful at resolving clinical and laboratory abnormalities and getting rid of *E. canis.* (Bartsch *et al*, 1996) [3].

Fig 1: showing bloody vomition along with undigested food

Fig 2: Showing profuse nasal bleeding

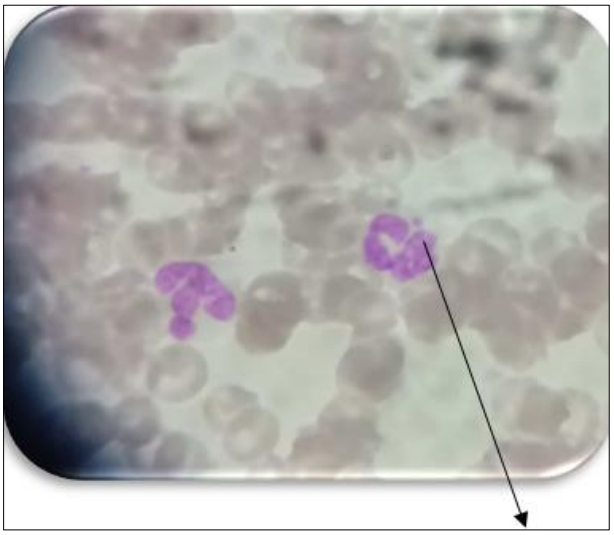

Fig 3: showing blood smear positive for *Ehrlichia canis*

Fig 4a

Fig 4b

Fig 4a, b: showing improvement in animal after treatment

Table 1: Haematological parameters of dog suffering from Ehrlichiosis

Blood parameters	Values
HCT	29.5%
Hb	9.6gm/dl
MCHC	32.5gm/dl
WBC	8.4 x 10^9 mg/dl
Grans %	61%
L/M	3.3 x 10^9 / L
L/M %	39%
PLT	107 x 10^9 / L
RETICS%	0.3%

Table 2: Physiological parameters before and after treatment showing improvement

Parameters	Before treatment	After treatment
Temp (°F)	104.4	101.2
HR (beats/min)	100	80
Resp. (/min)	35	22

Table 3: Haematological values before and after treatment showing improvement

Parameters	Before treatment	After treatment (1 week)
Hb	9.6 g/dl	10.2 g/dl
PCV	29.5%	33%
PLT	107 x 10^9 / L	235 x 10^9 / L

Conclusion

As a consequence, to Ehrlichiosis there was severe thrombocytopenia, so Romiplostim was found so effective to control thrombocytopenia by inducing gradual thrombopoiesis. Doxycycline (*Brouqui et al.* 1990) [4], both short and long acting Oxytetracycline (*Adawa et al*, 1992) [1], imidocarb dipropionate (*Adenyanju et al*. 1982) [2], and others have been reported to be effective against *E. canis*. The effectiveness of tetracyclines in the treatment of experimentally and naturally acquired *E. canis* infections has recently been the subject of a number of more controlled research. It has been discovered that tetracycline treatment is successful at resolving clinical and laboratory abnormalities and getting rid of *E. canis.* (*Bartsch et al*, 1996) [3].

Conflict of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

1. Adawa DAY, Hassan AZ, Abdullah SU, Ogunkoya AB, Adeyanju JB, Okoro JE. Clinical trial of long-acting Oxytetracycline in the treatment of canine ehrlichiosis. The Veterinary Quarterly. 1992;14(3):118-120.
2. Adenyanju BJ, Aliu YO. Chemotherapy of canine ehrlichiosis and babesiosis with Imidocarb Dipropionate. Journal of the American Hospital Association. 1982;18(5):827-830.
3. Bartsch RC, Greene RT. Post-therapy antibody titers in dogs with ehrlichiosis: follow-up study on 68 patients treated primarily with tetracycline and/or doxycycline. Journal of Veterinary Internal Medicine. 1996;10(4):271-274.
4. Brouqui P, Davoust B, Haddad S, Vidor E, Raoult D. Serological evaluation of *Ehrlichia canis* infections in military dogs in Africa and Reunion Island. Veterinary Microbiology. 1991;26(1/2):103-105.
5. Groves MG, Dennis GL, Amyx HL, Huxsoll DL. Transmission of *Ehrlichia canis* to dogs by ticks (*Rhipicephalus sanguineus*). Am. J Vet. Res. 1975;36(7):937-940.
6. Nyindo M, Huxsoll DL, Ristic M, Kakoma, I, Brown JL, Carson CA. Cell-mediated and humoral immune responses of German Shepherd Dogs and Beagles to experimental infection with *Ehrlichia canis*. Am. J Vet. Res. 1980;41(2):250-254.
7. Vieira RFDC, Biondo AW, Guimarães AMS, Santos APD, Santos RPD, Dutra LH, *et al*. Ehrlichiosis in brazil. Revista Brasileira Parasitol. Vet. 2011;20(1):01-12. http://dx.doi.org/10.1590/S1984-29612011000100002