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HK Ratre
Associate Professor, Department of Teaching Veterinary Clinical Complex, College of Veterinary Science & A. H., Anjora, Dau Shri Vasudev Chandrakar Kamdhenu Vishwavidyalaya, Durg, Chhattisgarh, India

SK Maiti
Associate Professor, Department of Teaching Veterinary Clinical Complex, College of Veterinary Science & A. H., Anjora, Dau Shri Vasudev Chandrakar Kamdhenu Vishwavidyalaya, Durg, Chhattisgarh, India

Shraddha Sinha
Associate Professor, Department of Teaching Veterinary Clinical Complex, College of Veterinary Science & A. H., Anjora, Dau Shri Vasudev Chandrakar Kamdhenu Vishwavidyalaya, Durg, Chhattisgarh, India

Neeti Bante
Associate Professor, Department of Teaching Veterinary Clinical Complex, College of Veterinary Science & A. H., Anjora, Dau Shri Vasudev Chandrakar Kamdhenu Vishwavidyalaya, Durg, Chhattisgarh, India

I Raj
Associate Professor, Department of Teaching Veterinary Clinical Complex, College of Veterinary Science & A. H., Anjora, Dau Shri Vasudev Chandrakar Kamdhenu Vishwavidyalaya, Durg, Chhattisgarh, India

R Dewangan
Associate Professor, Department of Teaching Veterinary Clinical Complex, College of Veterinary Science & A. H., Anjora, Dau Shri Vasudev Chandrakar Kamdhenu Vishwavidyalaya, Durg, Chhattisgarh, India

KR Baghel
Associate Professor, Department of Teaching Veterinary Clinical Complex, College of Veterinary Science & A. H., Anjora, Dau Shri Vasudev Chandrakar Kamdhenu Vishwavidyalaya, Durg, Chhattisgarh, India

S Nety
Associate Professor, Department of Teaching Veterinary Clinical Complex, College of Veterinary Science & A. H., Anjora, Dau Shri Vasudev Chandrakar Kamdhenu Vishwavidyalaya, Durg, Chhattisgarh, India

Corresponding Author:

HK Ratre
Associate Professor, Department of Teaching Veterinary Clinical Complex, College of Veterinary Science & A. H., Anjora, Dau Shri Vasudev Chandrakar Kamdhenu Vishwavidyalaya, Durg, Chhattisgarh, India

Canine ehrlichiosis with uveitis in a pug breed dog: Case study

HK Ratre, SK Maiti, Shraddha Sinha, Neeti Bante, I Raj, R Dewangan, KR Baghel and S Nety

Abstract

An adult pug dog with a history of anorexia was brought at the Teaching Veterinary Clinical Complex, DSVCKV, Anjora, Durg, with a high body temperature, partial vision, and tick infestation. Clinical examination showed light pink conjunctiva. Haematological finding showed slight anaemia and Thrombocytopenia along with marked leucocytosis and neutrophilia. On the day of being admitted to the TVCC, supportive treatments included Oxytetracycline @ 5-10 mg/kgbw IV, Normal saline 250 ml IV, Meloxicam 0.5 mg/kgbw IM, pantoprazole 1 mg/kgbw I/V, Doxycyclin 10 mg/kgbw twice daily PO for 21 days, and two doses of imidocarb dipropionate 6.6 mg/kgBW were scheduled fourteen days apart. Supportive treatment with Cineraria Maritima Mexicana (aqueous) a homeopathic eye drop was given twice daily for 14 days. After receiving medication for 7 days, the dog made a smooth recovery and complete recovery was noticed after 21 days of post treatment.

Keywords: *Ehrlichia*, Doxycycline, imidocarb, uveitis and rickettsiasis

Introduction

Due to the severity of the condition, ehrlichiosis is regarded as one of the canine diseases that has the highest mortality rate (PYLE, 1980) [8]. The incubation stage for ehrlichiosis, which lasts for 8 to 20 days, is followed by the acute, subclinical, and chronic phases of the illness. The parasite replicates in the spleen, liver, and lymph nodes' mononuclear phagocyte cells after entering the circulation and lymphatic system during the acute phase (HARRUS *et al.*, 1997) [4]. These cells spread the rickettsias to other organs by interacting with endothelial cells to generate a vasculitis (HARRUS *et al.*, 1997) [4]. Ataxia, breathing difficulty, mild to moderate loss of weight, anorexia, a high temperature, increase in size of lymphnode and spleen, uncontrolled bleeding, and gastro-intestinal disturbances (Vomition and diarrhoea) are some of the clinical symptoms of the acute phase that can range in severity from mild to non-specific (SWANGO *et al.*, 1989). The disease's ocular symptoms can manifest in any stage (MARTIN 1999) and affect practically all eye structures (COLLINS & MOORE, 1999) [1]. Each patient's degree of ocular involvement is unique (STILES, 2000). Ocular lesions are seen in 10% to 15% of naturally occurring instances (MARTIN, 1999). According to Collins & Moore (1999) [1] and Powell (2002) [7], uveitis can be divided into anterior (also known as iridocyclitis), posterior (also known as choroiditis), and pan uveitis types.

Materials and Methods

History

An adult pug dog aged around 5 year old with a history of loss of appetite, an elevated temperature, partial loss of vision, and tick infestation was brought to the Teaching Veterinary Clinical Complex, DSVCKV, Anjora, Durg in a lateral recumbent position. Clinical examination revealed conjunctiva that was pale pink. There was no history of nasal epistaxis but tick infestation was reported some 2 months back by the pet owner.

Haematological Examination

The results of the haematological analysis revealed neutrophilia, leucocytosis with marked thrombocytopenia and a mild anaemia. *Ehrlichia canis* was detected by a parasitological test (fig. 1).

Treatment

The specific treatments for ehrlichiosis on the day of presentation to TVCC include Oxytetracycline @ 5-10 mg/kgbw IV, Normal saline @ 250 ml IV, Meloxicam @ 0.5 mg/kgbw IM, pantoprazole @ 1 mg/kgbw I/V, followed by Doxycycline 05 mg/kgbw orally BID for 28 days and/or imidocarb dipropionate @ 6.6 mg/kg subcutaneously. In places where canine monocytic ehrlichiosis is endemic, administering fipronil to dogs once a month has proven to be an efficient tick-control method (DAVOUST *et al.*, 2003) [2]. Inflammation-controlling medications are crucial. The supportive treatment with homeopathic eye drop cineraria Meritima Maxicana (Aqueous) and Tobastar-f eye drop were given twice daily for period of 14 days to overcome uveitis. The most frequently prescribed class of medications for uveitis is corticosteroids (both systemic and local), particularly prednisone (POWELL, 2002) [7]. After receiving 12-hour interval medication for 7 days, the dog made a smooth recovery.

Results and Discussion

Treatment of ehrlichiosis with Doxycycline @ 5 mg/kg body weight twice daily orally was proven to be most effective but it should be continued for 28 days. Treatment of *E. canis* infections is considered successful when dogs recover clinically, i.e., fully recover from partial blindness (uveitis), the homeopathic eye drop cineraria Meritima Maxicana and steroid eye drop preparation are very effective in correction of corneal opacity which causes uveitis. The blood parameters and physiological indices return to normal (Fig. 2a and 2b), and the organism can no longer be proved to be present in the body, it should be confirmed by blood smear examination after post treatment of 28 days. It has been approved that if we reduced the duration of treatment with doxycycline, complete elimination of *E. canis* became impossible and dogs played their role as carriers without displaying any clinical manifestations (NEER T.M. *et al.*, 2002) [6].

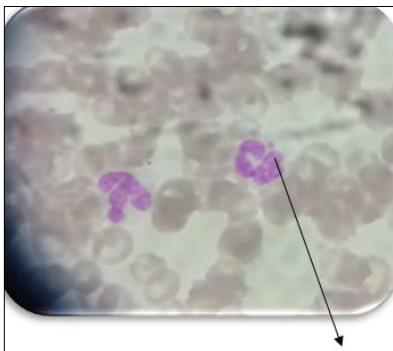


Fig 1: Showing blood smear positive for *Ehrlichia canis*

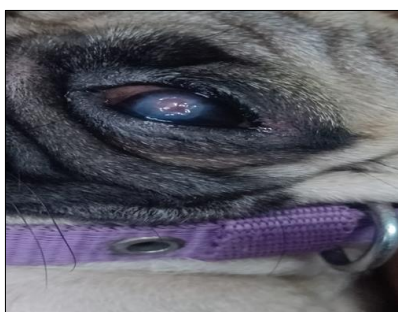


Fig 2a: Animal showing partial blindness before treatment



Fig 2b: Animal showing complete recovery after treatment

Conclusion

In our area, ehrlichiosis is endemic. It is extremely challenging to control because there are no public education initiatives on how to limit the spread of ticks. It is important to stress that ehrlichiosis can cause uveitis in a variety of circumstances and that its symptoms may not always occur in a predictable pattern. Reduced ocular inflammation, pain relief, and complete diagnosis and management of ehrlichiosis are the goals of treatment in these circumstances.

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