

SUCCESSFUL ARREST OF SEVERE EPISTAXIS IN CANINE *TRYPANOSOMIASIS* USING PROPOFOL: A CASE REPORT

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Abstract

A 5-year-old female German Shepherd dog was presented with bilateral epistaxis and inappetence for 5–7 days. Clinical examination revealed pyrexia, pale mucous membranes, and generalised weakness. Blood smear examination confirmed *Trypanosoma spp.* infection. The animal had a history of unresponsive epistaxis despite symptomatic treatment. Therapeutic management included Diminazene diaceturate, doxycycline, supportive care, and the administration of propofol to control persistent nasal bleeding. Following treatment, the bleeding subsided, and the animal showed complete clinical recovery with no recurrence of epistaxis.

Introduction

Trypanosomiasis is a haemoprotozoan disease caused by various species of *Trypanosoma*, primarily transmitted by biting flies either through mechanical or biological means. Among these, *Trypanosoma evansi* is the most prevalent species, known to affect a wide range of domestic and wild animals, including dogs, horses, cattle, buffaloes, sheep, goats, pigs, and various wildlife species (Herrera *et al.*, 2004). The disease may also spread via iatrogenic routes through contaminated or non-sterile instruments and needles. Furthermore, carnivores are susceptible to infection through the ingestion of meat or blood containing the parasite, with transmission occurring through breaches in the oral mucosa or ulcers in the gastrointestinal tract (Desquesnes *et al.*, 2013; Ramírez-Iglesias *et al.*, 2017). Although often overlooked, trypanosomiasis has zoonotic

potential and can affect humans, making it a significant but underrecognized public health concern (Truc *et al.*, 2014). Clinically, the disease is characterized by signs such as anaemia, pyrexia, pallor of mucous membranes, corneal opacity, lymphadenopathy, meningeal involvement, infertility, abortion, and if left untreated, death (Ezeh *et al.*, 2007). Anaemia is a hallmark of trypanosomiasis and results from the destruction and removal of red blood cells by the mononuclear phagocytic system. In chronic infections, where parasitaemia becomes low and intermittent, the severity of anaemia may reduce to some extent (Urquhart *et al.*, 2002). The present case highlights a dog diagnosed with trypanosomiasis, presenting with bilateral epistaxis. Bleeding was successfully managed using propofol injection, leading to an uneventful clinical recovery.

History and clinical findings

A 5-year-old female German Shepherd dog weighing 27 kg was presented with a history of bilateral epistaxis (Fig. 1) and inappetence for the past 5–7 days. On clinical examination, the rectal temperature was 104.4°F, with a heart rate of 144 beats per minute and a respiratory rate of 113 cycles per minute. The dog exhibited pale mucous membranes and generalized weakness. Further history revealed that the dog had previously been treated symptomatically by a veterinarian

with fluid therapy, pantoprazole, doxycycline, and styptics such as tranexamic acid, botrophase, adrenaline, and vitamin K. However, no noticeable improvement in the bleeding was observed. Microscopic examination of a blood smear revealed the presence of *Trypanosoma* spp. (Fig. 2 and 3). Based on the clinical signs, history, and microscopic findings, the case was diagnosed as *Trypanosomiasis*.



Fig 1: Bilateral epistaxis on the day of presentation

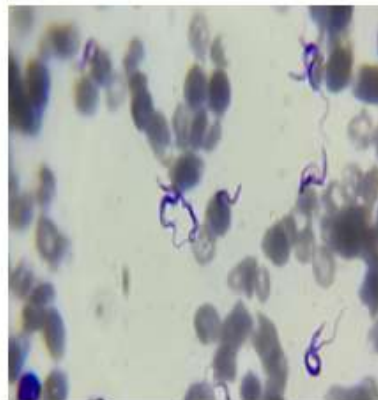


Fig. 2 Trypanosoma in field's stain (100x)

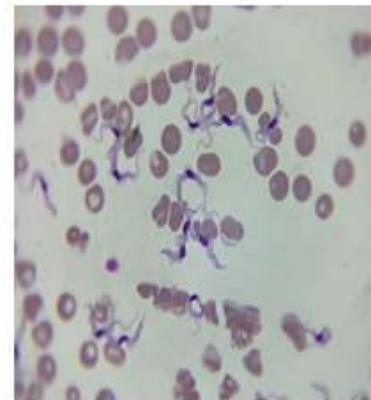


Fig.3: Trypanosoma in Leishman stain (100x)

Treatment

The dog was treated with diminazene diaceturate administered via intramuscular route at a single dose rate of 3.5 mg/kg body weight. Oral doxycycline was initiated from the second day of presentation at a dose rate of 10 mg/kg once daily for 10 consecutive days. Supportive therapy included pantoprazole at 2 mg/kg body weight once daily Per orally, hepato-protective silymarin tablets (Lysibin-L, Savavet) at 1 tablet twice daily orally, platelet enhancer syrup (Advaplate, Savavet) at 10 ml orally twice daily, and intravenous fluids to correct electrolyte imbalance. To control the epistaxis, Injection of propofol was administered intravenously at 5 mg/kg body weight. Previous human studies have reported that propofol reduces intraoperative bleeding

during various surgical procedures, including endoscopic sinus surgeries. In this case, propofol effectively arrested the epistaxis following its administration on the day of presentation. On follow-up, the blood smear examination was negative for *Trypanosoma* spp. after the completion of therapy and no recurrence of epistaxis was observed (fig.4). The animal showed an uneventful recovery.

Discussion

Canine *Trypanosomiasis* can present in various forms—acute, subacute, or chronic—depending on the host immune status and parasite load. Under natural conditions, the clinical course can be highly variable and complex (Katherine and Edith, 2004). Diminazene aceturate has demonstrated

therapeutic efficacy against canine trypanosomiasis and is commonly used at a dose of 3.5 mg/kg for *T. congolense* and 7 mg/kg for *T. brucei brucei* and *T. evansi* infections (Aquinos, 2007). However, in the present case, species-level identification could not be established. At the time of presentation, the animal did not respond to conventional haemostatic therapy. Following several unsuccessful attempts to control the epistaxis, treatment with propofol was initiated, referencing its application in human medicine, where propofol has shown benefits in reducing intraoperative bleeding, particularly during rhinoscopy and endoscopic sinus surgeries (Chaaban *et al.*, 2013). Propofol is a non-barbiturate intravenous anesthetic agent, often used in combination with ultra-short-acting opioids like remifentanyl, to provide favorable surgical conditions with minimal bleeding (Okuyucu *et al.*, 2008). Several studies have demonstrated that propofol decreases intraoperative blood loss by lowering cerebral

perfusion pressure, which subsequently reduces blood flow to areas such as the ethmoid, sphenoid, and frontal sinuses—regions primarily supplied by branches of the internal carotid artery (e.g., ethmoidal and supraorbital arteries) (Haberer *et al.*, 1993; Ebert *et al.*, 1992). As a result, reduced perfusion to these areas leads to diminished bleeding (Moshiri *et al.*, 2017). However, further studies are necessary to validate these findings in veterinary practice.

Conclusion

Trypanosomiasis is an emerging concern in canine patients in endemic regions, often presenting with systemic signs including anemia and epistaxis. In the present case, the dog failed to respond to conventional hemostatic therapy; however, the use of propofol aided in effectively arresting the bleeding, likely due to its controlled hypotensive and vasodilatory effects.

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