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Short Communication

Clinical Management of Snake Envenomation in A Non Descriptive Dog – A Case Report

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ABSTRACT

Two years old male non – descriptive dog was presented to the Veterinary Clinical Complex, Udumalpet with a history of snake bite along with the Dead Russells viper snake. On observation facial oedema and fang mark on periorbital region (outer canthus) of the right eye were noticed. Haematology revealed echinocytosis, leukocytosis, neutrophilia and thrombocytosis. Serum biochemical evaluation revealed normal renal and liver profile. Based on the history, signs and clinical findings the case was diagnosed and treated for snake envenomation and appropriate therapeutic management was carried out immediately. Treatment was done with anti-snake venom, fluid, corticosteroid, antihistamine and antibiotic with careful monitoring. Day 1 and Day 7 renal profiles were normal and significant recovery was observed.

Key Words: Dog, Viper, Envenomation and Anti snake venom

INTRODUCTION

Snake bite cases are more common in horses and dogs when compared to other animals such as cattle, sheep and goat. Snake envenomation may be difficult to diagnose if the incident is not witnessed. Clinical signs may vary greatly depending on the species of snake involved and the quantity and toxicity of the venom injected (Yogeshpriya *et al,* 2017). In the Indian subcontinent the common venomous snakes encountered are the Indian Cobra (*Najanaja*), Russell's viper (*Daboiarusselli*) and the Common Krait (*Bungaruscaeruleus*) (Hussain *et al,* 2011), Poisoning from snake venom in animals is an emergency which requires immediate attention. Delayed and inadequate treatment may lead to untoward consequences (Klaassen, 2008).

HISTORY AND OBSERVATION

Two years old male Non – descriptive dog was presented to the Veterinary Clinical Complex, Udumalpet with a history of snake bite. Owner brought the dead snake (Photo 1) and identified it is a Russell's viper. On clinical examination pain was evinced on palpation of bitten areas and extensive swelling was observed on facial region. After keen examination fang mark was observed with a interfang distance of about 1cm on periorbital region (Photo 2). Interfang distance is useful to diagnose the type and age of snake. Vital signs were within normal limits except mild elevation of heart rate (134 bpm). Whole blood was not clotted for more than 20 minutes (Photo 3). Haematology revealed echinocytosis (Photo 4), leucocytosis, neutrophilia, and thrombocytosis. ECG was normal on the day of presentation. Serum biochemical evaluation revealed normal renal creatinine level on day 1 and day 7. The case was diagnosed as Russell's viper snake envenomation.

TREATMENT AND DISCUSSION

Dog was treated with two vials of lyophilized polyvalent anti-snake venom (Manufactured by

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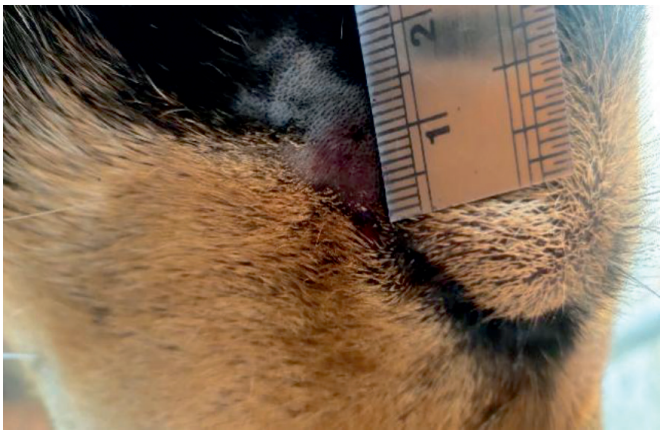
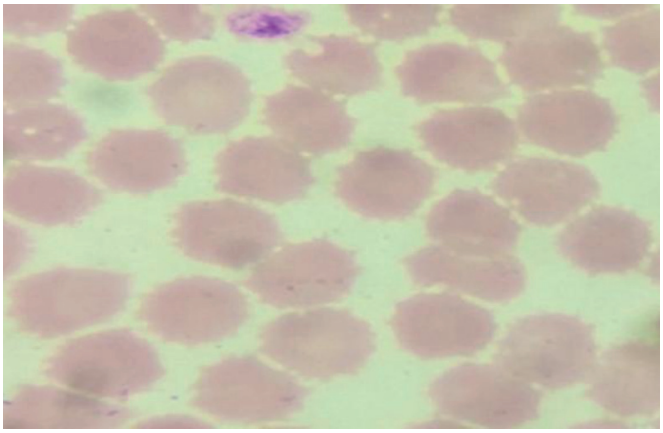
Dead Russells Viper (Photo 1)



Fang mark with measurement (Photo 2)

Unclotted blood (Photo 3)



Echinocytes in blood smear (Photo 4)

Serum institute of India, Pune) mixed with 250 ml of normal saline and administered intravenously as mentioned by Sooryadas (2011). Administration of large quantities of ASV along with supportive therapy alone will help to save the patient. Amoxicillin with potassium clavulunate was given intravenously @ 10 mg/kg BW, followed by a dose (0.5ml) of tetanus toxoid intramuscularly. Tramadol was given @ 2mg/kg BW to reduce the pain. Similar treatment protocol were reported by various authors case reports (Anandha *et al,* 2009, Yogeshpriya *et al,* 2017 and Bruchim, 2010). Animal was completely recovered with normal laboratory findings after a course of treatment. Most bites in dogs noticed on the head and face as reported by Thangapandiyan *et al* (2013). Oozing dark coloured blood and pain on palpation were reported in snake bite cases (Arul *et al,* 2017, Yogeshpriya *et al,* 2017 and Saravanan *et al,* 2017). Common laboratory findings like leucocytosis, echinocytoisis and neutrophilia were mentioned by Saravanan *et al* (2017). A field test whole blood clotting time test suggested by Saravanan *et al,* (2017) was followed to confirm the envenomation. The prolonged clotting time **(> 20 mins**) due to hypofibrenogenemia (Low fibrinogen in blood - fibrinogen level <100 mg/dL) (Achara *et al,* 2020). Complication of snake envenomation reported in dogs with viper snakebites included bacterial infections, local necrosis, upper respiratory airway obstruction due to laryngeal oedema, disseminated intravascular coagulation(DIC), acute renal failure, severe thrombocytopenia and death (Bruchim Y, 2010 and Anandha *et al,* 2009).

REFERENCES

Achara T, Pimjai N, Charuwan S, Winai W and Satariya T(2020). Utility of thrombin time in management of patients with green pit Vipers Bite. *SAGE Open Medicine* **8**: 1–6.

Ananda K J, Mohan K, Kamran A and Sharada A (2009). Snake bite in dogs and its successful treatment. *Veterinary World* **12 (2):** 212-213.

Arul V, Inbaraj C and Brindha V (2020). Management of snake bite envenomation in an indigenous cow. *J Entomol and Zool Stud* **8**(1): 844-845.

Bruchim Y (2010). Viper Snake bite. *Israel J Veterinary Med* **65**(2): 39-41.

Hussain M M A, Joseph C and Basavanagowda M T (2011). Successful Management of Viper Envenomation in a Labrador dog. *Intas Polivet* **12** (2): 212-213.

Klaassen C D (2008). Properties and Toxicities of animal Venoms. In:*Toxicology* . 7th Edn, McGraw-Hill, New Delhi: 1093-1098.

Saravanan M, Sivakumar M, Yogeshpriya S, Veeraselvam M, Krishmnakumar S, Ranjithkumar M, Jayalakshmi K and Selvaraj P (2017). Russells Viper Envenomation in Doberman Pinscher and its Therapeutic Management: A Case Report. Bull. *Env Pharmacol Life Sci* 6[11]: 144-148.

Sooryadas S (2011). Neurotoxic Cobra Envenomation in a Dog and its treatmentwith Anticholinesterase and Artificial ventilation. *Intas Polivet* **12** (II): 209-211

Thangapandiyan M, Mohanapriya T, Sridhar R, Murali Manohar B and Balachandran C (2013). Pathology of Snake Envenomation in a Dog. *Indian Vet J* 90 **(5):** 119 – 120

Yogeshpriya S, Saravanan M, Krishnakumar S, Jayalakshmi K, Arulkumar T, Ranjithkumar M, Veeraselvam M, Sivakumar M and Selvaraj P (2017). Viper bite in dog and its therapeutic management. *J Entomol and Zool Stud* **5**(3): 1827-1828.

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