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Successful therapeutic management of snake envenomation in a dog: A case report

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Abstract

A 4-year-old male dog was presented to the Veterinary Clinical Complex, College of Veterinary Science, Mamnoon, Warangal, with a history of snakebite and clinical signs including facial swelling, pain, depression, recumbency, excessive salivation, muscle tremors, and ecchymosis around the affected site. On clinical examination revealed altered physiological parameters, while hematological and biochemical investigations indicated anemia, leukocytosis, thrombocytopenia, azotemia, and elevated serum enzyme activities. Based on the history, clinical signs, and laboratory findings, the case was diagnosed as snake envenomation. The dog was treated with polyvalent anti-snake venom along with intravenous fluid therapy, corticosteroids, antibiotics, vitamins, and supportive care. Progressive clinical improvement was observed within 48 hours, and complete recovery was achieved within one week.

Keywords: Cobra, snake envenomation, snake venom antiserum, hyaluronidase

Introduction

Snakebite is an emergency condition causing systemic effects, which can sometimes result in the death of an animal if proper treatment is not followed. Around 60 species of venomous snakes are reported from India, out of 236 species that inhabit India. In India, the cobra, common krait, Russell's Viper, and saw-scaled viper are common venomous snakes. Snake bite is a neglected public health issue in many tropical and subtropical countries. An estimated 5.4 million people worldwide are bitten by snakes each year with 1.8 to 2.7 million cases of envenomings. Around 81 410 to 137 880 people die each year because of snake bites, and around three times as many amputations and other permanent disabilities are caused by snakebites annually. Bites by venomous snakes can cause paralysis that may prevent breathing, bleeding disorders that can lead to a fatal haemorrhage, irreversible kidney failure and tissue damage that can cause permanent disability and limb amputation (Dandona *et al.*, 2018) ^[12]. Snake venom has enzymatic and non-enzymatic components, proteins, peptides, inorganic cations, sodium, calcium, potassium, manganese and nickel.

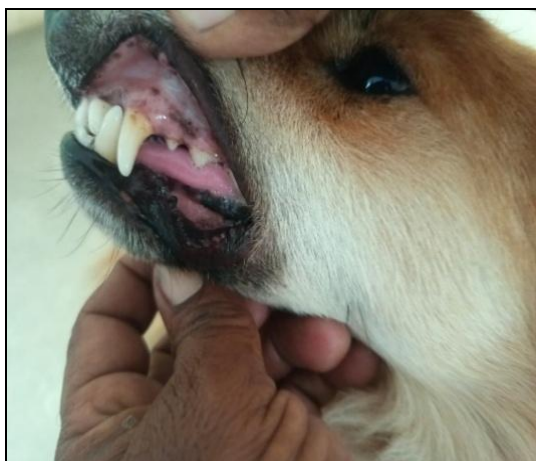
Case history and clinical observations

A 4-year-old intact male dog was presented with sudden facial swelling following outdoor activity. Clinical examination revealed asymmetrical facial swelling, depression, dullness, recumbency, muscle tremors, bruising around the affected area, dilated pupils, and frothing of saliva. Hematological examination revealed anemia, leukocytosis, and thrombocytopenia. The dog was treated with lyophilized polyvalent anti-snake venom along with intravenous fluids, atropine sulphate, dexamethasone, Tribivet, tetanus toxoid, and enrofloxacin. The animal was monitored continuously for clinical improvement. A noticeable reduction in facial swelling was observed within 24-48 hours. The dog showed gradual improvement in appetite, alertness, and locomotion and recovered completely within one week. The favorable outcome observed in the present case was primarily due to early diagnosis and prompt administration of polyvalent anti-snake venom. Supportive therapy further aided recovery by maintaining hydration and preventing complications.

It is concluded that Prompt diagnosis and early administration of polyvalent anti-snake venom together with supportive therapy can significantly improve clinical outcomes in canine snake envenomation

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