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EFFECT OF SNAKE BITE ON CLINICO HAEMATO-BIOCHEMICAL CHANGES IN DOG AND ITS MANAGEMENT

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Abstract: Beagle and Labrador dog were presented to Teaching veterinary clinical complex, NTR CVSc, Gannavaram with a history of foamy saliva, anxiety, abnormal gait and wound noticed at Right forelimb elbow region (Beagle), around the facial region (Labrador) with swelling. The case was diagnosed as snake bite based on the history and general physical examination. Changes in the haemato-biochemical values were recorded in both the cases. The case was successfully managed therapeutically with Anti-snake venom, antibiotics and liver tonics.

Keywords: Beagle, Labrador, Snake bite, Haematology, Biochemical profile, Management.

INTRODUCTION

Most of the cases of snake bite have been encountered in animal, moreover reports are more in dog and horse (Garg, 2000). Snake bite is an accidental injury encountered in both human and pet animals caused by the bite of the poisonous snake. The clinical signs include, swelling on the affected parts and pain at the affected parts, puncture wounds or fang marks on bitten area (Garg, 2000). Vomition, frothy salivation followed by tingling of limbs and head are the important warning signs. so, an immediate constant attention is required for relive from the condition otherwise delayed and improper treatment may culminate to grave prognosis. There is lack of reports regarding clinico haemato-biochemical changes in canine with regards to snake bite. The present study was concentrated on clinico haemato-biochemical changes and management following snake bite in canine was undertaken.

HISTORY AND CLINICAL OBSERVATION

Beagle (Female, 4 yr, 6 hours before bitten by snake) and Labrador dog (Male, 3.5 yr, 9 hours before bitten by snake) were presented to Teaching veterinary clinical complex, NTR CVSc, Gannavaram with a history of foamy saliva, anxiety, abnormal gait and wound noticed at Right forelimb elbow region (Beagle), around the facial region (Labrador) with swelling. According to the owner history, the dog usually left in the garden area (The garden contains

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full of bushy area). The complete physical examination and general examination of animals was carried out, that revealed mild elevation of body temperature and normal pulse rate, respiratory rate in beagle dog, where as in Labrador elevated body temperature followed by difficulty in breathing with tachycardia was recorded. The blood sample was collected from saphenous vein (Recurrent tarsal vein) by using sterile 5ml syringe and poured into the clot activator and EDTA vaccutainer. The important clinico haemato-biochemical parameters changes (*Haemoglobin, Total leukocyte count, Alkaline phosphate, creatinine, Blood urea nitrogen, Alanine amino transferase, Total protein*) were recorded in both dogs (Tab.1)

Table 1: Haemato-biochemical parameters of affected dogs

Animal	Hb	TLC	ALP	BUN	Creatinine	SGPT	TP
Beagle	8.3 g/dl	41,350/ml	115 IU/L	31 mg/dl	2.0 mg/dl	80 IU/dl	3.2 gm/dl
GSD	7.9 g/dl	42,200/ml	139 IU/L	40 mg/dl	2.3 mg/dl	89 IU/dl	2.5 gm/dl

TREATMENT AND DISCUSSION

Snake Bite area thoroughly cleaned with Potassium permanganate (PP solution) and applied with betadine ointment applied to prevent further contamination by external micro organisms. Lyophilized Polyvalent snake anti-venom was reconstituted by adding 10 ml of distilled water and its directly mixed with 150 ml of Normal saline. Slow intravenous drip for 1-2 hours continued, followed by antibiotic Ceftiofur @ 2.2 mg/kg i/v, Meloxicam @ 0.2 mg/kg s/c. steroids and anti-histaminic are not tried because it mask the certain clinical signs. Tetanus toxoid 0.5 ml administered in both dogs. GSD required 2 doses of Polyvalent snake anti-venom. Antibiotic, NSAIDS, Hepatinics and dressing continued for 5 more days. After one week Beagle dog was recovered uneventfully, but GSD dog died after 2 days continuation of treatment, that may be due to delayed presentation.

Snake bite is one of the common emergency cases encountered in pet animals. Snake venom contains complex mixtures of protein, enzymes and other various toxic material present in it that have more lethal properties when entered into the system of other host (Joshua et al., 2010). Moreover glycoprotein, lipids, histamine, serotonin, acetylcholine and catecholamine are the important components in the snake venom (Alder and Kraig, 2002). Klaassen, (2008) opined that typical clinical signs include *cyanosis of bitten area with swelling, frothy/ foamy salivation, dullness followed by muscular weakness that were appeared due to presence of hyaluronidase enzyme in the snake venom*. The elevated levels

of total leukocytes and decreased level of haemoglobin due to primary infection or inflammatory condition and damage to the blood cells, respectively. The elevated levels of respective serum biochemical parameters suggestive of acute hepatitis and nephrotoxicity effect of snake venom (O'Shea, 2005). Hepatinics continued for one month duration for complete recovery. It concluded that snake bite is a emergency clinical condition in pet animals, treated as early as possible to prevent death of animals. Clinico haemato-biochemical parameters should be evaluate to predict the extent of damage of kidney and liver due to hepatotoxic and nephrotoxicity effect of snake venom.

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