Study of Nicotine Poisoning in a Dog-A Case Report

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Nicotine poisoning is an infrequently reported toxicosis of the veterinary literature. Incidence of tobacco poisonings is relatively higher in younger animals. Dogs are susceptible to Nicotine materials, symptoms are developed in dog after ingestion, absorption in the body through skin penetration during external use against Ecto-parasite. Dyspnea with rapid and shallow respiration, muscle tremor, weakness, Salivation, death is due to respiratory failure of the affected dog.

Melliek reported that severe muscle weakness, bulbar palsies, flexor muscle spasm, hypertension, amnesia, vomiting and respiratory compromise which are caused by the alkaloid, anabasine an isomer of nicotine found in Nicotina glauca, position causing parasis.

Symptoms in the form of skin, itching sensation inflammatory reactions, swelling of the skin after absorption of the nicotine with the water through skin are reported by David et al.

The author diagnosed the cause and reported as poisoning in private practice. The dog had alopecia, itching pruritis in different parts of the body. The owner crushed same tobacco leaves, kept soaked in water over night and applied on the skin only once. After about 10-12 h the dog become sick, there were muscle spasm, paresis, stiffness of gait, vomiting and normal body temperature. It was called in to attend the case. From the history and symptoms nicotine poisoning was tempering diagnosed.

A case of nicotine toxicosis in dog was reported here. The diagnosis was done on the basis of history and symptoms. Symptomatic treatment completely cured the animal.

The dog was immediately washed the fresh water and removed the tobacco. Body temperature was lower than normal. Injection Nikethamide was given intra muscle and 25% Dextrose saline of 50 cc was given. Injection Vitamin B complex (V-plex) was given intravenously and 2 mL atropine sulphate (0.05 mg kg⁻¹ body weight) was given intramuscularly. After half an hour urination was done and increased the consciousness of the animal but slightly decreased the stiffness of the muscle. After 4 h the dog become alert and walking frequently. Body temperature raised and the animal completely recovered after 6 h. In the treatment Arena used the ephedrine hydrochloride. Atropine sulphate was used alone.

Seya et al. reported that Nicotine induces negative inotropic contractile responses of the canine left atrium. This result show that ptelepnin has inhibitory action against nicotinic acetylcholine receptors in the guinea pig ileum but not in the canine left atrium. It might be a novel lead compound as a nicotinic receptor antagonist.

The Nicotiana tabacum set as a toxic agent in both animal and Ecto-parasite. External use of the tabacum with water produce toxicity, cracking the skin, depression, dyspnea, irregular pulse, tachycardia in acute poisoning and respiratory paralysis.

From this study it is evident that Nikethamide increase body temperature, atropin sulphate decreased the toxicity and external wash also reduces the toxic material from the body surface. So we use the Nikethamide at low body temperature, Atropinesulphate at 0.05 mg kg⁻¹ body weight and also external wash with water in the field of Nicotine poisoning due to less expenses.

REFERENCES


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