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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^[1]. Dogs are susceptible to Nicotinic materials, symptoms are developed in dog after ingestion, absorption in the body through skin penetration during external used against Ecto-parasite. Dyspnea with rapid and shallow respiration, muscle tremor, weakness, Salivation, death is due to respiratory failure of the affected dog^[2].

Mellick^[3] reported that severe muscle weakness, bulbar palsies, flexor muscle spasm, hypertension, amusia, vomiting and respiratory compromise which are caused by the alkaloid, anabasin an isomer of nicotine found in *Nicotinia glauca*, position causing paresis.

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.*^[4].

The author diagnosed the cause and reported as poisoning in private practice. The dog had alopecia, itching pruritis in different parts in 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 tabacum. Body temperature was lower than normal. Injection Nikethamide was given intra muscularly and 25% Dextrose saline of 50 cc was given. Injection Vitamin B complex (V-plex^R) 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^[5] used the ephedrine hydrochloride. Atropine sulphate was used alone^[6].

Seya *et al.*^[7] reported that Nicotine induces negative inotropic contractile responses of the canine left atrium. This result show that pteleprenin has inhibitory action against nicotinic acetylcholine receptors in the guineapig ileum but not in the canine left atrium. It might be a novel lead compound as a nicotinic receptro antagonist.

The *Nicotiana tabacum* act 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, atrophin 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, Atrophinesulphate at 0.05 mg kg⁻¹ body weight and also external wash with water in the field of Nicotinic poisoning due to less expenses.

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