The Indian Journal of Veterinary Sciences & Biotechnology ***(2017) Volume 13, Issue 1, 83-84***
ISSN (Print) : 2394-0247 : ISSN (Print and online) : 2395-1176, abbreviated as IJVSBT
***http*://dx.doi.org/10.21887/ijvsbt.v13i01.8742**

Submitted : 13-03-2017 ***Accepted : 18-06-2017*** ***Published : 16-08-2017***

Fenvalerate Toxicity in a Germen Shephard Dog

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Synthetic pyrethroids account for more than 30% of insecticides used worldwide in household, agricultural and veterinary applications. Fenvalerate is synthetic pyrethroid used in agriculture, homes, gardens, and also in livestock alone or in combination with other insecticides (Ramana Murthy *et al.,* 2015). Fenvalerate is used since 1980 in India, yet its toxicity has not been reported so far. This case report describes acute toxicity of fenvalerate in a dog.

Key words: Fenvalerate, Toxicity, Dog

Case History and Clinical Observations

Five month old male German shepherd dog weighing 11 kg was presented in emergency at Department of Veterinary Surgery and Radiology, College of Veterinary Science and AH, Anand with the history of in coordination and salivation following licking of ant killer powder three hours before the onset of symptoms. On clinical examination dog was active, but mild in coordination and salivation was noticed. The physiological parameters revealed increased heart and respiration rates, while rectal temperature was normal. There were no any other systemic signs noticed.

Treatment and Discussion

There is no specific antidote of fenvalerate, hence the symptomatic treatment was given according to the history and clinical manifestations. The dog was treated with intravenous Inj. of Normal saline 200 ml along with Corticosteroid @2 mg/kg, Atropine sulphate@ 0.04 mg/kg and Frusemide @ 2 mg/kg. The dog vomited during treatment, so Ranitidine @ 0.5 mg/kg as a mucoprotectant and Ondansetronas antiemetic @ 0.5 mg/kg were given intravenously. The symptoms subsided completely very next day and dog recovered uneventfully.

Wide range of synthetic pesticides are released in the environment during their use in agriculture to control pests, weeds and other pathogens in developing countries like India. Fenvalerate is one of the most persistent synthetic pyrethroids in soils. Fenvalerate is highly toxic for fish and bees, while in birds and mammals its toxicity is low, but pyrethroids produce neurotoxicity in mammals when administered at high dose (Arshad Waheed and Muthu Mohammed, 2012), and in mammalian tissue these compounds may be dangerous (Parmar *et al.*, 2015). Earlier we (Parmar *et al.,* 2016) reported toxicity of deltamethrin in a dog, which was treated with similar approach and medicines, while in the present case animal showed vomition, so mucoprotectant and antiemetic were also

given. However, fenvalerate toxicity is least reported and there is no much information available about fenvalerate toxicity in animals, hence documented in the communication with emphasis on need to re-examine/re-evaluate the same to safeguard the health of mammals, particularly pet animals.

Acknowledgements

We thank Dean of the Faculty, Dr. A.M. Thaker, for the emergency treatment facilities provided in the college.

Conflict of Interest: All authors declare no conflict of interest.

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