SUCCESSFUL MANAGEMENT OF AMITRAZ ACUTE TOXICITY IN A NON-DESCRIPT DOG

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The present case report details the clinical signs and their management in a non-descript dog that was administered amitraz liquid orally. Dog was recumbent and comatose on presentation while tachycardia, poor PLR response and dyspnea was noticed on physical examination. Therapy was initiated with oral decontamination by inducing emesis with hydrogen peroxide and later activated charcoal orally. Fluid therapy with Ringers lactate, atropine was administered. Significant improvement was reported by second day and complete recovery was noticed by third day of therapy.
Keywords: Amitraz, Non-descript dog, Toxicity.

Amitraz toxicity is often encountered in veterinary practice due to its wide usage as acaricide. Toxicity occurs through dermal absorption or licking of the topical application. Once ingested it gets rapidly breakdown in stomach and leads to toxicity signs. Amitraz is a common scabicide employed for the management of mange infestation in dogs. It is a triazapentadiene compound with $\alpha_2$adrenergic agonistic activity in central nervous system (Eizadi-Mood *et al.*, 2011). Toxicity due to amitraz is reported in veterinary practice due to accidental licking of the topical application leading to clinical signs like sedation, bradycardia etc., Clinical signs of toxicity develops within one hour of ingestion of amitraz or when the plasma concentration reaches 5mg/L (Filazi and Yurdakok-Dikmen, 2018). The present case report discuss about the clinical signs and therapeutic management of amitraz acute toxicity in a non-descript dog.

Case history and observations

A 2 year old non-descript dog weighing 10kg was presented to City Veterinary hospital, College of Veterinary Science, Tirupati with the history of accidental administration of amitraz liquid approx.10ml orally. On presentation the dog was found to be recumbent and comatose. Physical examination revealed bradycardia (50 bpm), poor tactile reflexes, salivation, mydriasis, poor PLR and dyspnoea. Whole blood sample was collected and subjected to routine haematological evaluation. No significant changes was noticed in blood picture.

Treatment

Basing on the history and clinical findings the case was diagnosed as acute amitraz toxicity. Therapy was initiated by inducing emesis using 3% hydrogen peroxide @ 2ml/kg b.wt. Once the emesis was done, intravenous fluid therapy with ringers lactate @ 15ml/kg b.wt was administered. Activated charcoal @ 2g/kggiven orally to bind any remnants of the amitraz. Atropine sulphate @ 0.04mg/kg given intravenously to counteract the bradycardia. Heart rate and other vitals were continuously monitored during the therapy. The heart rate reached 95 bpm by 2 hours of therapy and vitals were stabilised. On second day, clinical examination revealed improved vitals and activity of pet with mild ataxia. Fluid therapy was continued for the second day along with neuro supportive i.e., Renerve plus @ 1ml i.v.

Results and Discussion

Complete recovery was noticed by third day of therapy. Amitraz is a common insecticide/acaricide used for control of mange infestation in veterinary practice. Dermal absorption is low and excretion is primarily through renal route. Within 24 hours most of the drug will be excreted and complete elimination by 72 hrs. Accidental consumption through licking or dermal absorption as Gberindyer and Omotosho, 2015, had earlier reported that with mild to moderate signs, however ingesting liquid may cause severe signs like respiratory depression, bradycardia, coma and death. Once ingested, in stomach it gets quickly breaks down into at least six metabolites, several of which are active and mostly eliminated by the urine in 48 hours. Central nervous depression noticed is due to the effect of amitraz on $\alpha_2$adrenergic receptors and respiratory depression through its effect on respiratory centre as also reported by Eizadi-Mood *et al.*, 2011. $\alpha_2$adrenoreceptor antagonists like yohimbine and atipamezole can be used to reverse its toxicity. No specific antidote is available for amitraz and symptomatic management with proper gastric decontamination is crucial in the treatment.

References

Eizadi-Mood, N., Sabzghabaee, A.M., Gheshlaghi, F. and Yaraghi, A. (2011). Amitraz poisoning treatment: still supportive? *Iran. J. Pharm. Res.,* **10**(1):155-158.

Filazi, A. and Yurdakok-Dikmen, B. (2018). Amitraz. In Veterinary Toxicology, *Basic and Clinical Principles.* 3rd edn., Academic Press, London, U.K. **Pp.** 525-531.

Gberindyer, F.A. and Omotosho, O.O. (2015). A case of Amitraz poisoning in four adult Alsatian dogs. Internat. J. Livestock Res., **5**(9): 62-67.