Dichlorovos is an organophosphate insecticide used to control households and stored products insects. It is effective against mushroom, flies, aphids, spider, mites, caterpillars, thrips and white flies in greenhouse, outdoor fruits, the vegetable crops (Lotti, 2001). Therapeutically, dichlorovos is used as a fumigant or to treat a variety of parasitic worm infections in dogs, livestock and humans. It acts against insect as both a contact and a stomach poison (Lotti, 2001). The present communications reports dichlorovos poisoning in a dog and its management.

A four months old mongrel male dog was presented to university clinics with the history of accidently coming in contact and ingestion of grass sprayed with dichlorovos (Ruscron) while playing in the grass. Animal developed ataxia and froathy salivation. Owner gave household treatment with oral drenching of buttermilk. Animal fell down and started coughing, increased respiration and body tremors. Animal was presented in lateral recumbency with stiff legs, muscle fasciculation and miosis in dichlorovos poisoning alongwith greenish diarrheic feces along with the bottle of Ruscron insecticide sprayed on grass (Fig. 1). Clinical examination revealed hyperthermia (Temperature- 104.5° F), increased respiration rate (58/ minutes) and tachycardia (189 BPM). Animal showed depressed mentation, muscle fasiculations/ twitching spasms and hypertonicity with stiff limbs. Eye examination revealed intact palpebral and corneal reflex and constriction of pupil (miosis). Animal was diagnosed for dichlorovos poisoning on basis of clinical signs and circumstantial evidences.

![Fig. 1. Dog in Lateral Recumbency after Poisoning](image)

Organophosphorus compounds poisoning is an emergency and critical care management should be done. Animal was treated with normal saline solution (N.S.S) -500 ml slow intravenously along with ranitidine and diazepam @ 0.5mg/kg b.wt I/M. One fourth dose of atropine sulphate (@ 2mg/kg b.wt) was given intravenously in N.S.S and rest was given subcutaneously. Inj. Nispam/PAM-7 ml was given @ 25mg/kg b.wt intravenously. Animal showed marked improvement after treatment and follow up treatment was advised with Syrup Liv-52-Vet- 1 tsf orally for 7-days. Animal recovered completely within 4days.

Clinical manifestations in Organophosphorus poisoning (OP) depend on receptor sites. In present case, muscaranic, nicotinic and
central receptors were bound and showed different signs. The miosis is an important clinical feature in OP poisoning. Like this case; Chedi and Aliyu (2010) also found atropine and combination of atropine and diazepam as an effective treatment in acute dichlorovos poisoning in wistar rats. It is there that if ignored; early death in OP poisoning is a centrally mediated process, so death can be prevented by treating as early with anticholinergic agents like atropine sulphate as also mentioned by Bird et al. (2003). However, Cordoba et al. (1983) reported severe metabolic acidosis secondary to OP poisoning and used sodium bicarbonate to correct acid-base balance. Dichlorovos is an insecticide that acts by inhibiting the cholinesterase enzyme in mammalian tissues as also reported by Iyaniwura (1991) and causes a more rapid onset of signs which often followed by a similarly rapid recovery as also mentioned by Erdman (2004). It is attributed to rapid metabolism and elimination and not accumulation in fat unlike other organophosphorus compounds. In the present case toxicity develops due to inhalation, skin contact and ingestion of dichlorovos sprayed grass. The high toxicity of dichlorovos by inhalation (being volatile), dermal absorption and ingestion is there and also recorded by Bird et al. (2003).

References


