Successful Therapeutic Management of Ivermectin Toxicity in Deoni Calf

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Abstract
A month old, 39kg Deoni calf was admitted to Teaching Veterinary Clinical Complex, with history of salivation, labored respiration, abnormality in gait and loss of appetite. History revealed administration of dewormer bolus containing combination of fenbendazole (300mg) & ivermectin (100mg). Clinical examination revealed salivation, normal body temperature, tachycardia, tachypnea, depression, incoordination in gait and tremors. Based on clinical signs and history of administration of overdose of dewormer containing ivermectin the case was diagnosed as Ivermectin toxicity. The calf was treated with supportive therapy of fluids, amoxicillin plus cloxacillin, dexamethasone and chlorpheniramine maleate daily for five days. Clinical improvement started from day second while complete clinical recovery was observed on fourth day of treatment. As antidote is not available, such cases of accidental administration of overdose of ivermectin could be managed successfully with supportive treatment and patient monitoring.

Keywords: Ivermectin; Toxicity; Calf; Treatment

Introduction
Ivermectin is endectoparasiticide of Macrocyclic lactone class which is commonly used as broad spectrum anthelmintics. It has wide spectrum of activity against gastrointestinal and lung nematodes, mites, ticks, biting flies and larvae of parasitic dipteran flies [1,2]. It is also active against larvae of canine heartworm Dirofilaria immitis [3]. Ivermectin acts by binding GABA-gated chloride and invertebrate’s specific glutamate-gated anion channel in peripheral neuromuscular synapses, suppressing conduction of nerve impulse [4]. Dewormer toxicity is rare in farm animals unless and until there is overdosing of the drug. Also the antihelmintics with narrow margin of safety are more prone for toxicity in animals due to faulty managemental practices leading to administration of overdose of dewormer and such incidences have been reported by various workers [5-7]. The present communication puts on record rare case of ivermectin toxicity in calf and its successful therapeutic management.

Case Report and Results
A month old Deoni calf weighing 39kg was admitted to Teaching Veterinary Clinical Complex of College of Veterinary and Animal Sciences, Udgir with complaint of difficulty in breathing and dullness, difficulty in walking and gradual loss of appetite since two days. Manetogicamal history from owner revealed administration of dewormer bolus having combination of ivermectin (100mg/bolus) and fenbendazole (3000mg/bolus) as the calf was exhibiting signs of soil licking, arching of back and colic suggestive of worm load.

Clinical examination revealed dullness, severe weakness with incoordination while walking and preferred recumbency for long time. Examination of head revealed sticky salivation, slight nasal discharge and cyanotic mucus membranes. Body temperature (101 °F) was normal while heart rate (120/min) and respiration rates (32/min) were elevated. Distant examination of calf revealed shivering, tremors and incoordination of gait. Pelleted feces with mucus and yellowish colored urine were observed in ailing calf. Hematology revealed leukocytosis (29.68x10⁹/µl), accompanied by granulocytosis (19.82x10⁹/µl), normal erythrogram (TEC- 9.85x10¹²/µl, Hb- 12.9gm/dl, HCT- 40%) and normal thrombocyte (362x10⁹/µl) count. On the basis of history and clinical signs the case was diagnosed as Ivermectin toxicity.

The calf was treated with fluids (Dextrose 5% @ 1 liter/day in two divided doses iv), amoxicillin+cloxacillin @10mg/kg
Ivermectin toxicity was reported in three Quarter Horses orally administered with 1 dose of 1.87% Ivermectin paste. Clinical signs like depression, ataxia, dropping of lips, muscle fasciculations, bilateral mydriasis, decreased pupillary light reflexes and absence of menace reflex were observed. Clinical signs showed progression up to 36 hours from administration. Supportive treatment with fluids and anti-inflammatory drugs resolved signs in two horses without any long term sequel [7].

**Conclusion**

In this way sporadic cases of ivermectin toxicity could be reported in farm animals due to faulty managemental practices by dairy farmer. Such toxicities without specific antidote could be managed with monitoring and supportive therapy till complete clinical recovery.

**Conflict of Interest**

The authors declare that there is no conflict of interest regarding the publication of this case report.

**References**
