

Intravenous Lipid Therapy in the Management of Ivermectin Toxicity in a Cat

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Abstract

A 6-month-old female domestic short-haired kitten weighing about 1 kg was presented to Veterinary College and Research Institute, Namakkal with ataxia and lateral recumbency for 10 hours following accidental ingestion of a 10 mg over-the-counter ivermectin tablet. Mydriasis, absence of menace response, sluggish pupillary reflexes, tachycardia and dyspnoea were noticed. Ivermectin toxicity was diagnosed based on history and clinical findings. Treatment involved intravenous administration of lipid with normal saline. Significant clinical improvement was noted within 24 hours and by the third day, the kitten showed complete recovery.

Keywords: Ivermectin toxicity, kitten, lipid emulsion

Introduction

Ivermectin is one of the commonly used drug in veterinary medicine, which is effective in the management of both ecto and endo parasites (Gonzalez *et al.*, 2009). Siroka *et al.* (2013) reported that poisoning of over-the-counter drugs is a common problem especially in drugs like ivermectin due to improper dosing or while used in non-target species. Although toxicity and treatment of ivermectin are well documented in dogs, only a few reports of toxicity and treatment in cats and kittens have been reported so far. This article describes management of ivermectin toxicity in a kitten.

Case History and Observations

A 6-month-old female kitten weighing one about kilogram was presented to Veterinary College and Research Institute, Namakkal with ataxia for the past 10 hours. The owner reported that she had been given one

tablet of ivermectin (10 mg) bought over the counter in the previous night to control ticks. The dosage of the drug was 50 times the recommended dosage of 0.2 mg/kg. Generalized ataxia, lateral recumbency, mydriasis, tachycardia and dyspnoea were noticed. There was absence of menace and sluggish pupillary reflex.

Treatment and Discussion

Intravenous administration of lipid emulsion (@ 1.5mL/kg) was infused initially and followed by constant infusion (@ 0.25 mL/kg/min). Next day of presentation, the kitten was normothermic (101.6 °F) with heart rate of 110 bpm and normal respiration rate. Fluid therapy with normal saline (@ 20 ml/kg, IV) was given. Mydriasis got resolved and the pupillary and menace reflex were regained and the vision returned to normal. On 3rd day of review, the kitten was active and showed no signs of ataxia with complete recovery.

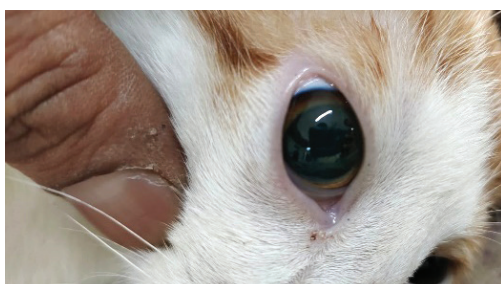


Fig. 1: First day of treatment- mydriasis of eye

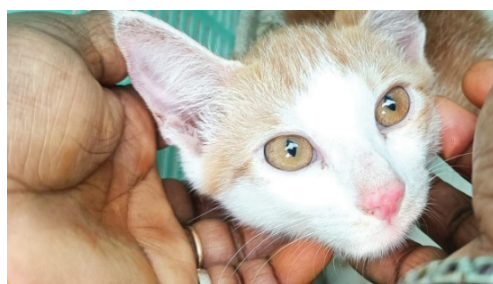


Fig. 2: Third day of treatment – normal eyes

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Increased use of over-the-counter drugs by the pet parents without dose calculation can have a detrimental effect on the health of the pet. Gonzalez *et al.* (2009) reported that the signs of ivermectin toxicity included mydriasis, blindness, ataxia, weakness, recumbency, coma and even death. Muhammad *et al.* (2004) reported that neostigmine methyl sulphate @ 25µg and 5% dextrose I/V showed transient improvement from signs of ivermectin toxicity. Intravenous administration of lipid emulsion in adult cats showed complete recovery without any clinical signs according to Jourdan *et al.* (2015). The lipid-soluble nature of the ivermectin was used as an advantage for the removal of the drug using intravenous administration of the lipid emulsion.

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