International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Therapeutic Management of Rodenticide Poisoning in Cat

Suryawanshi A. A[1], Patil J.U[2], Gaikwad. R. V[3]

[1]Department of Teaching Veterinary Clinical Complex.
[2]Department of Veterinary Epidemiology and Preventive Medicine.
[3]Department of Clinical Medicine, Ethics and Jurisprudence, Mumbai Veterinary College, Parel, Mumbai-400012.

Abstract

A domestic female cat with short fur that was 1 year old and weighed 3 kg was brought to the Parel campus of the Mumbai Veterinary College in Mumbai, Maharashtra. Past eating poisoned rats, ongoing seizure episodes, recent kitten delivery, and lateral recumbency. A clinical examination indicated dehydration, a high body temperature (104°F), nystagmus, mydriasis, and ongoing seizures. WBC and liver enzyme levels are elevated according to blood tests. The cat was given injections of acetyl-cysteine @ 140 mg/kg and then reduced to 50 mg/kg B.W., mannitol @ 0.5 mg/kg B.W., antipyretic, antibiotics, and nervine tonics, as well as normal saline. These treatments were used to manage the cat's seizures. Eight days of therapy resulted in a full recovery for the cat.

Keywords: Rodenticide Poisoning, Bromadiolone, Cat, Acetyl-cysteine, Vitamin K_1.

Introduction

Rodent pest control has been practiced for centuries using a variety of techniques, active substances, formulations, and control measures. These initiatives become increasingly obvious as cities grow and human-wildlife coexistence changes. The risk of exposure to non-target species increases as humans come into more contact with wildlife and rodent pests. Ingestion of the target species and subsequent relay toxicity, or, less frequently, baited ingestion as a result of malicious intent to kill either domestic animals or wildlife, can all result in nontarget species being exposed to rodenticides (Hommerding, 2022).

Materials and Methods

The present study was conducted in the Department of Teaching Veterinary Clinical Complex (TVCC), Mumbai Veterinary College, Parel, Mumbai.

1. Clinical history

A 1yr. old short-hair domestic female cat weighing 3 kg was presented at the Department of Teaching Veterinary Clinical Complex, Mumbai Veterinary College, Parel, Mumbai, Maharashtra. History of eaten poisoned rat (Mortein™ Rat Kill), continuous episodes of seizures, recently delivered kittens, and lateral recumbency (Fig.1).

2. Clinical and laboratory examination

Clinical examination revealed a high temperature (104°F), nystagmus, mydriasis, continuous seizures, and dehydration. Blood reports revels high WBC count and liver enzyme values.

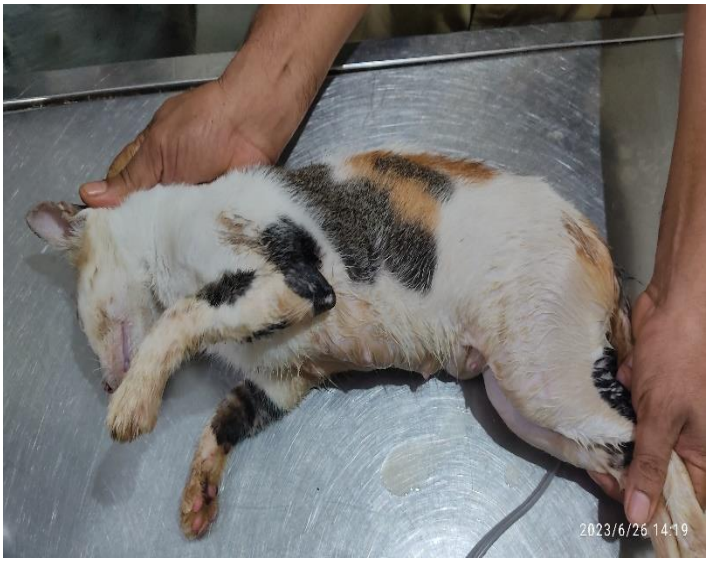

Fig. 1: Lateral recumbency of cat

Results and Discussion

Based on the history of the owner, the cat has recently delivered kittens and searching for food and accidentally ingested Mortein^{TM} Rat Kill. Which content Bromadiolone is a second-generation rodenticide. The above history and clinical symptoms reveal rodenticide poisoning. Hematological examination reveals leukocytosis (27.1× 10^3/ul), elevated levels of SGOT (697 IU/L) and SGPT (433 IU/L).

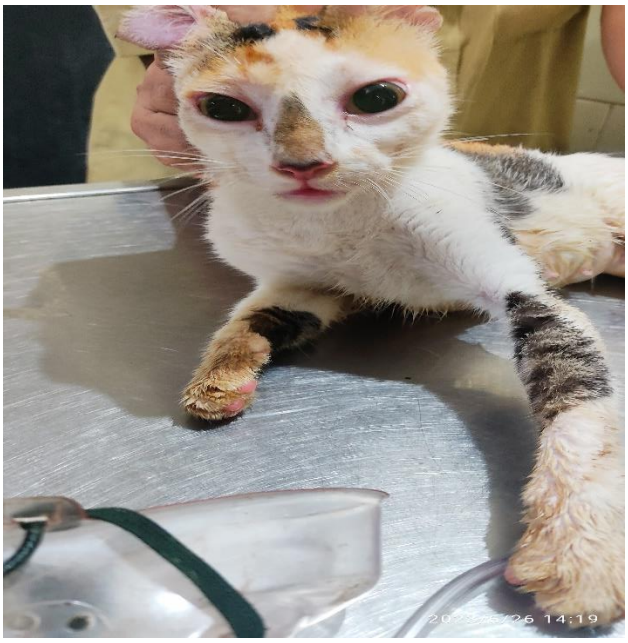

Fig. 2: Mydriasis

Therapeutic Management

To suppress the cat's seizures, injections of 0.5 mg/kg B.W. of diazepam, 5 mg/kg B.W. of K1 with fluid, 140 mg/kg B.W. of acetyl-cysteine, 50 mg/kg B.W. of mannitol, antipyretic, antibiotics, and nervine tonics were then administered. ice packs were placed on the body to lower the body's temperature. Seizures start to lessen after 2 days of medication, and additional treatment for 6 days of inappetence is finished. The cat was entirely recovered with no history of seizures after 8 days of treatment. Identical recommendations from DeClementi (2012) To increase absorption, vitamin K1 should be given at a dose of 3 to 5 mg/kg PO divided every 12 hours with a fatty meal. When vitamin K1 is added, it takes at least 6 hours for the patient to feel the effects. Vitamin K1 (2.5 mg/kg, PO, every 12 hours for 28 days or 5 mg/kg, PO, every 24 hours for 28 days) was recommended by Hommerding (2022). Until the patient can tolerate oral medication, subcutaneous dosage may be tried. Hypovolemic patients should first get fluid resuscitation, then IV fluid therapy at 1.5–2 times maintenance rates until they are noncoagulopathic and stable.

References

1. DeClementi (2012). Rodenticide Poisoning: What to do after exposure. Today's veterinary Practice. https://todaysveterinarypractice.com/emergency-medicine-critical-care/rodenticide-poisoning-what-to-do-after-exposure/
2. Hommerding H. (2022). Overview of rodenticide poisoning in animals. https://www.msdvetmanual.com/toxicology/rodenticide-poisoning/anticoagulant-rodenticide-warfarin-and-congeners-poisoning-in-animals
3. Isackson B, Irizarry L. Rodenticide Toxicity. [Updated 2022 Dec 4]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK554428/
4. Mount ME. Diagnosis and therapy of anticoagulant rodenticide intoxications. Vet Clin North Am Small Anim Pract. 1988 Jan;18(1):115-30. doi: 10.1016/s0195-5616(88)50012-8. PMID: 3282375.
5. Petterino C, Paolo B, Tristo G. Clinical and pathological features of anticoagulant rodenticide intoxications in dogs. Vet Hum Toxicol. 2004 Apr;46(2):70-5. PMID: 15080206.
6. Robben JH, Kuijpers EA, Mout HC. Plasma superwarfarin levels and vitamin K1 treatment in dogs with anticoagulant rodenticide poisoning. Vet Q. 1998 Jan;20(1):24-7. doi: 10.1080/01652176.1998.9694831. PMID: 9477532.
7. Robben JH, Mout HC, Kuijpers EA. Rodenticide anticoagulans-intoxicatie bij honden in Nederland [Anticoagulant rodenticide poisoning in dogs in The Netherlands]. Tijdschr Diergeneeskd. 1997 Sep 1;122(17):466-71. Dutch. PMID: 9534772.