

ANTICOAGULANT RODENTICIDE TOXICOSIS

About the Diagnosis

A rodenticide is a product used to kill rodents such as rats and mice. They are commonly referred to as rat or mouse bait, rat poison, or mouse poison. These rodenticides are poisonous to cats and dogs. The effects depend on the type of rodenticide that is ingested. Most rodenticides contain anticoagulants, which are poisons that work by causing the animal to bleed internally. The poison interferes with the blood's ability to clot (coagulate). Symptoms of accidental ingestion of anticoagulant rodenticides include sluggishness and mental dullness, weakness, bloody vomit and/or diarrhea, bleeding from the nose, bleeding into joints that can cause limping (lameness), hematomas (pockets of blood that collect under the skin), excessive bruising, breathing difficulty caused by bleeding into the chest and lungs, coughing, collapsing, and even death. The earliest symptoms start to occur about 2 days after a dog or cat eats the poison. Therefore, if you see your pet consume anticoagulant rodenticide, do not panic, but bring him/her promptly to the veterinarian.

Warfarin is one type of anticoagulant. It has been used in rodenticides for many years and is still found in some products. However, newer anticoagulant rodenticides are available that are even more potent. These include fuminar, diphacinone, bromodiolone, brodifacoum, and others. The names of these poisons are found on the package.

Diagnosis: Your veterinarian will perform a thorough physical examination and take a complete history, inquiring especially about the active ingredient in the rodenticide. Several tests may be performed to help make the diagnosis. Some tests are important to rule out certain problems that mimic anticoagulant rodenticide poisoning. For example, immune-mediated hemolytic anemia and immune-mediated thrombocytopenia are diseases in which the pet's own immune system inappropriately destroys its own red blood cells and platelets, respectively. Some dogs can be born with hemophilia which is a bleeding disorder. Liver or kidney diseases can cause bleeding disorders. The tests are necessary to tell rodenticide poisoning apart from these other disorders because the symptoms of all of them are the same.

To test for these and other problems, blood and urine samples may be taken. The veterinarian may take x-rays of the chest to look for potential causes of any breathing problem. The ability of the blood to clot can be measured from a blood sample.

Living with the Diagnosis

When the diagnosis of anticoagulant rodenticide poisoning is made, treatment must begin immediately (see Treatment below). It is important to identify the type of rodenticide that was ingested because some have longer-lasting effects and may require a longer course of treatment. If possible, bring the package to your veterinarian so that the toxic ingredient can be identified. It is safest to seal the package in a zip-type plastic bag to reduce the risk of any more of it being eaten.

Pet owners can prevent future exposure to these poisons by placing them in areas that are inaccessible to cats and dogs. Dogs should be kept in a fenced-in yard and on a lead during walks to reduce the possibility of ingesting rodenticides on the neighbors' properties.

TREATMENT

Treatment depends on the type of anticoagulant, how much was consumed, and how long ago. If you know that your pet ingested the poison within the last few hours, some or all of it may still be in the stomach. Your veterinarian may give your pet a medicine to induce vomiting. The pet's stomach may be further emptied by gently passing a tube into it and flushing it with warm water to "pump the stomach" (gastric lavage). A liquid called activated charcoal can be given through this tube or by mouth. Activated charcoal is a "universal antidote" that binds any poison remaining in the intestines to prevent it from being absorbed. The activated charcoal containing the poison is eliminated from the body when the pet has a bowel movement. An antidote, vitamin K₁, is given because it becomes depleted by the poison. Vitamin K₁ is needed for normal blood coagulation. If the pet is having a severe bleeding crisis, a plasma or blood transfusion may need to be given to replenish the missing coagulation factors. Depending on the type of anticoagulant rodenticide ingested, vitamin K₁ may need to be given at home as tablets or liquids for up to six weeks. Your veterinarian can determine the effectiveness of treatment by periodically performing a blood test to measure how well the blood coagulates.

Commonly, the time of ingestion and the type of anticoagulant is not known. Symptoms may not be evident until several days later. By this time, the poison has been absorbed into the pet's body. Vitamin K₁ may need to be given for several weeks. The pet's progress is measured with periodic tests of the blood's ability to coagulate.

It is important that the pet rests during the 3 to 6 weeks of oral medication treatment because even minor trauma can cause internal bleeding.

DOs

- Call your veterinarian or the local emergency clinic immediately if your pet has eaten any type of poison.
- Give medicine exactly as directed.
- Inform your veterinarian if your pet has ever been diagnosed with a medical condition and is taking medicine.
- Bring any remaining rodenticide packaging to the veterinary clinic.

DON'Ts

- Do not stop giving medicine without instructions to do so from your veterinarian. Suddenly discontinuing some medicines can make the problem worse and cause serious side effects, even when it seems that all the symptoms are gone.
- Do not leave rodenticides in places accessible to your pets.

When to Call Your Veterinarian

- If you cannot keep an appointment.
- If you are unable to give medicine as directed.
- If your pet may have eaten any type of poison, or if you are not sure if something is poisonous.
- If your pet is not improving after starting treatment.

Signs to Watch For

- Weakness, decreased appetite, bloody vomit or diarrhea, constipation, hives (bumps under the skin), excess salivation, or seizures.

Routine Follow-Up

- Typically, a blood sample is taken 2 days after Vitamin K₁ therapy ends to monitor the pet's response to treatment. These tests are important to help determine if treatment needs to be continued.