Rat Poison Ingestion in Dogs and Cats: Anticoagulant Rodenticides

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Toxin
Anticoagulants

Source
First-generation coumarins include D-Con, WARF 42, Rax, Dethmore, Rodex, Tox-Hid, Prolin, Ratron, and others.

Second-generation coumarins include Havoc, Talon, Contrac, Maki, Ratimus, D-Con Mouse Pruf II, brodifacoum, bromadiolone, and others.

Indandiones include diphacinone, chlorophacinone, valone, and pindone, Promar, Diphacin, Ramik, Afnor, Caid, Drat, Quick, Raticide-Caid, Ramucide, Ratomet, Raviac, Pival, PMP, and others.

General Information
These products inhibit the enzymes responsible for recycling of vitamin K, which ultimately reduces production of certain blood clotting factors. There is no effect on circulating clotting factors, so a lag time between poisoning and bleeding problems is seen. The lack of coagulation factors causes the animal to bleed to death because the blood does not clot. First-generation coumarins may be deadly with a larger single dose or smaller doses over multiple days. Clinical signs are usually seen 3-5 days after exposure. Second-generation coumarins and indandiones are toxic with a single dose. Second-generation coumarins are a greater hazard than first-generation coumarins if the dog or cat eats a poisoned rat or mouse. Treatment once symptoms appear is more difficult, expensive, and has a much poorer prognosis than treatment that starts immediately after ingestion.

If a female that is nursing puppies or kittens is poisoned, check the clotting ability of the young as the poison may pass in the milk.

Toxic Dose
First generation: Dogs; 2.25-135 mg per pound once, or 0.5-2.25 mg per pound per day for 5-15 days. Cats; 2.25-13 mg per pound once, or 0.5 mg per pound per day for 5 days.

Second generation: Dogs; 0.11-1.5 mg per pound of Brodifacoums, or 5-6.5 mg per pound of Bromadiolones. Cats; 11 mg per pound of either toxin.

Indandiones: The toxic dose of these varies depending on the specific agent involved.

Signs
History of exposure or possible exposure to anticoagulant rodenticides. Difficulty breathing; lethargy; lack of appetite; blood in the stool, vomit, or urine; nose bleed; bleeding gums; hematomas; bruising of skin, ears, or eyes; pallor; or weakness. The most common cause of death is bleeding into the chest cavity.

Immediate Action
If the pet is seen consuming the product, vomiting should be induced. Take the product package and the pet to the veterinarian immediately to begin further treatment. Treatment with vitamin K1 should be started within 24 hours.

Veterinary Care
General treatment: The induction of vomiting may be continued, gastric lavage is performed, and activated charcoal is administered.

Supportive treatment: IV fluids are given. The blood clotting ability is monitored through laboratory tests before, during, and after treatment. Blood transfusions are given if necessary. The animal is kept quiet and confined to reduce the likelihood of causing bleeding to occur through injury such as bumping into objects and bruising.

Specific treatment: Vitamin K1 is given. The oral form is reported to work better than the injectable form. The treatment is continued for 1-4 weeks depending on the toxin ingested. Vitamin K3 is not an effective treatment.

Prognosis
Good, if treatment begins immediately after ingestion. Guarded prognosis, if treatment is not initiated until after the pet shows symptoms.

Keep this and all other medications out of the reach of children and pets.

If you think your pet has been poisoned...
Contact your veterinarian or one of the Animal Poison Hotlines (listed below) if you think your pet may have accidentally received or been given an overdose of the medication.
**ASPCA National Animal Poison Control Center
1-888-4ANI-HELP (1-888-426-4435). $65.00 per case, billed to caller's credit card.
Follow-up calls can be made for no additional charge by dialing 888-299-2973.
There is no charge when the call involves a product covered by the Animal Product Safety Service.
**Pet Poison Helpline - 24-hour service available throughout North America for pet owners and veterinary professionals who require assistance with treating a potentially poisoned pet.
1-800-213-6680 ($35.00 per incident). Staffed 24-hours a day.

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