



Poison HOTLINE

1-800-222-1222

October 2014



Did you know

Bromethalin is increasingly being used in rodenticide products. Bromethalin is a cellular poison, NOT an anticoagulant.

Large acute ingestions can produce signs of toxicity as early as 2-4 hours post-ingestion, but toxicity is more typically seen 8-12 hours post-ingestion. Symptoms may be delayed 12-24 hours with smaller doses. Symptoms of toxicity include headache, confusion, tremors, seizures, cerebral edema, respiratory depression and coma.

A toxic dose has not yet been established.

Treatment is symptomatic and supportive; there is no specific antidote.

Rodenticides

Anticoagulants have historically been a common chemical used in rodenticides in the U.S. Initially, warfarin was the active ingredient. As rodents became resistant to warfarin, it was replaced with second generation anticoagulants, labeled “super warfarins,” and include brodifacoum, bromodialone, chlorphacinone, difenacoum, diphacinone, or pindone.

The “super warfarins” are long-acting anticoagulant rodenticides (LAARs) that inhibit the action of vitamin K1. Synthesis of clotting factors II, VII, IX, X, protein C and protein S require vitamin K as a cofactor. Without vitamin K, the clotting factors cannot be activated and coagulopathy results.

Prolongation of the prothrombin time (PT) or INR is usually the first indication that a coagulopathy exists. Prolonged INR may be evident within 24 hours, but usually reaches a maximum 36-72 hours after an LAAR ingestion. A normal INR 48 hours after exposure rules out significant ingestion.

Small accidental ingestions are common – particularly seen when toddlers ingest a few LAAR pellets. The majority of these cases do not result in a prolonged INR or significant bleeding. Large ingestions can cause nosebleeds, bleeding gums, hematuria, melena and extensive bruising. Note: anticoagulation symptoms are delayed until existing Vitamin K stores are depleted, and thus symptoms begin several days after ingestion. Anticoagulation from large LAAR ingestions can last weeks to months.

The antidote, phytonadione (Vitamin K₁), overrides the inhibition of Vitamin K caused by LAARs. Vitamin K₁ is indicated for an elevated INR or bleeding. CAUTION: Other forms of Vitamin K (Vitamin K₃-hydroquinone; Vitamin K₄-menadiol) should not be used in place of phytonadione.

Recently, the EPA instituted new regulations for residential-use rodenticides: products must be block baits only (no pellets), no second generation anticoagulants are permitted, a bait station must be sold with the rodenticide (to prevent children and pets from gaining access to the rodenticide), and each package can contain only one pound of rodenticide.

Call the IPCC at **1-800-222-1222** for assistance with rodenticide exposures.

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