Phenol and Phenolic Poisoning in Dogs and Cats

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Toxin
Phenol and Phenolic Compounds.

Source
Coal tar shampoos, keratolytic shampoos, shampoos with 3% hexachlorophene, and drugs and foods containing benzoic acid.

General Information
Phenols destroy proteins in cells. They are extremely corrosive and produce lesions that penetrate through layers of skin. These compounds are very caustic to mucous membranes causing visible burns. Severe eye injury including deep ulcerations occur with ocular exposure. In lower doses, these compounds affect the respiratory center in the brain causing hyperventilation and associated problems. Phenols are absorbed rapidly from the GI tract. Liver and kidney damage occurs within 12-24 hours. Toxic levels of hexachlorophene cause damage to the nervous system. Birds, some reptiles, and cats are more sensitive to phenols than other species.

Toxic Dose
The oral toxic dose of phenol is about 0.22 gram per pound of body weight in the dog; less in the cat.

Concentrations of 1% cause dermal burns, and concentrations above 5% cause oral burns.

Signs
Panting, hyperactivity, restlessness, apprehension, drooling, vomiting, dark mucous membranes, green or black urine, ataxia, muscle tremors, shock, abnormal heart rhythm, and coma.

Immediate Action
Phenolic poisonings are extreme emergencies. DO NOT induce vomiting. Administer water, milk, or egg whites. If dermal (skin) contact has occurred, wash area thoroughly with a liquid dish detergent and rinse thoroughly. The person bathing or handling the animal should wear heavy rubber gloves to avoid skin contact. If ocular exposure has occurred, flush eyes for 20-30 minutes with water or saline. Seek veterinary attention.

Veterinary Care
General treatment: In cases of ingestion, water, milk, or egg whites are given. Gastric lavage and activated charcoal are treatments of choice if the esophagus is not damaged. In cases of skin or eye exposure the affected area should continue to be flushed.

Supportive treatment: IV fluids and oxygen are administered. N-Acetylcysteine may help prevent kidney and liver injury. The animal is monitored and treated for methemoglobinemia if necessary.

Specific treatment: Unavailable.

Prognosis
Guarded