Acetaminophen (Tylenol) Toxicity in Cats and Dogs

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Toxin
Acetaminophen

Source
Tylenol, Excedrin, Allerest, Anacin-3, Comtrex, Dayquil, Nyquil, SineAid, SineOff, Vanquish, and numerous other products that contain acetaminophen.

General Information
In the body, acetaminophen is changed into glucuronic acid and sulfate. A small amount is normally oxidized to reactive metabolites. These reactive compounds are normally bound by glutathione and excreted from the body. At elevated doses, the supply of glutathione becomes exhausted allowing the reactive metabolite to bind to cells causing cell death. The cat produces less glutathione than the dog, making the cat more susceptible to poisoning with acetaminophen. The liver and red blood cells are most frequently affected by acetaminophen. In red blood cells, hemoglobin is changed to methemoglobin, and the cell can no longer adequately deliver oxygen to other cells in the body.

Toxic Dose
Dogs: 45 mg per pound of body weight.
Cats: 22 mg per pound of body weight.

Signs
Dogs: Symptoms begin within hours of ingestion. They include depression (progressive), vomiting, abdominal pain, dark-colored urine and serum, and death in 2-5 days.
Cats: Symptoms begin within hours of ingestion. They include lack of appetite, drooling, vomiting, depression, blood in the urine, brown or blue mucous membranes without difficulty breathing, dark chocolate-colored blood and urine, edema of face and paws, and death in 18-36 hours.

Immediate Action
Induce vomiting. Seek veterinary attention immediately.

Veterinary Care
General treatment: The induction of vomiting may be continued, gastric lavage is performed, and activated charcoal is administered.
Supportive treatment: IV fluids, oxygen, and blood transfusions are given as necessary.
Specific treatment: Vitamin C may be given to help convert methemoglobin to oxyhemoglobin, thus increasing the oxygen carrying capacity of the red blood cells. Acetylcysteine is given to replenish the depleted glutathione. S-adenosylmethionine (SAM-E) and cimetidine may also be given.

Prognosis
Cats: Guarded to poor.
Dogs: Slightly more favorable.