Acetaminophen Toxicosis

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BASIC INFORMATION

Description

Acetaminophen is a non-aspirin pain reliever found in more than 200 formulations. The most recognized trade name is *Tylenol*. Acetaminophen is often found in combination with other drugs, such as antihistamines and decongestants.

Causes and Toxicity

Cats are most sensitive to the effects of acetaminophen, although dogs can also be poisoned. Cats lack an enzyme necessary to detoxify acetaminophen, so it can accumulate quickly. The ability of the blood to carry oxygen is most commonly affected in cats. The blood turns a brown or gray color and is unable to transport oxygen to body tissues. This condition is called *methemoglobinemia*. Dogs generally require higher doses to be poisoned, and the liver tends to be the most affected organ.

Clinical Signs

Within 2-4 hours after exposure, cats may develop a purplish-brown or gray discoloration to the gums, accompanied by weakness, rapid heart rate, and rapid breathing. In some cases, cats drool, vomit, or develop swelling of the face or paws. The blood may appear brown, gray, or black, and the urine may be discolored. Clinical signs of anemia and decreased urine production from kidney failure are also possible.

In dogs, vomiting and jaundice (yellow discoloration to the whites of the eyes and gums) may occur with liver toxicity. Dogs may also develop a reduction in the ability of the blood to carry oxygen, but at higher doses than those that cause liver failure. Occasionally, dogs develop dry eye (keratoconjunctivitis sicca) from decreased production of tears.

Diagnostic Tests

A tentative diagnosis is based on a history of exposure to acetaminophen, consistent clinical signs, and characteristic discoloration of the blood or urine. Laboratory tests often indicate an anemia in cats and liver damage in dogs. Specialized blood tests to detect methemoglobinemia or to measure acetaminophen levels can be performed by an outside laboratory. Other laboratory tests, x-rays, an abdominal ultrasound, and liver biopsy (in dogs) may be needed to rule out other diseases that cause similar clinical signs.

TREATMENT AND FOLLOW-UP

Treatment Options

Induction of vomiting may be recommended if the exposure was recent (within 1 hour). Vomiting should be induced only under the direction of a veterinarian. Activated charcoal may also be administered by mouth to help bind acetaminophen in the gut and prevent its absorption into the body. In many cases, hospitalization is required for intensive treatment and monitoring. Several medications (such as acetylcysteine, ascorbic acid, or cimetidine) may be administered to counter the effects of the acetaminophen by assisting the body in metabolizing and removing the acetaminophen. Supportive measures are usually needed and may include intravenous fluids, oxygen therapy, whole blood transfusions, and agents to assist the liver.

Follow-up Care

Laboratory tests are used to monitor for methemoglobinemia, anemia, jaundice, and liver and kidney function. Intensive monitoring may be required initially if liver or kidney failure occurs and may be continued for some time as the animal recovers. In dogs, tear production may also be monitored for several days. Keep all products containing acetaminophen out of the reach of pets.

Prognosis

For minor toxicoses, prognosis is good with prompt, aggressive treatment. For cases with prolonged or severe methemoglobinemia, anemia, liver damage, or kidney failure, prognosis is guarded (uncertain). The first 3-4 days following intoxication are critical, and animals that start to improve within that period have a higher chance of recovery.

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