Lily Ingestion in Cats

An Avoidable Plant Poison That Kills

Key Points:

- Numerous houseplants can be toxic to our pets, ***with virtually all species of lilies causing acute kidney failure in cats.*** At Pets Unlimited, we see several cats every year who die of acute kidney failure after ingestion of lily plants. In most cases, the owner had no idea of the severely toxic effect this beautiful flower has on our feline companions.
- Other pets, such as dogs and rabbits, do not seem to be affected.
- Examples of these plants are the Easter Lily (*Lilium longiflorum*), Tiger Lily (*Lilium tigrinum*), Day Lily (*Lilium hemerocallus*), Asian lily (*Lily asiatic* spp.) and Rubrum Lily (*Lilium rubrum*).
- Lilies usually have smooth, linear, leathery green leaves that grow in a clump at the base of the plant or that arise along a tall stem.
- The flowers are white, yellow or orange and may be present on the plant for long periods of time during the summer.
- The toxic principle within the plant is unknown, but all parts of the plant, including the leaves, stem and flower, appear to be toxic.

Clinical Signs

- After a cat has eaten part of a lily plant, signs of stomach upset (vomiting, lack of appetite, or lethargy) may be present.
- It is imperative to seek emergency medical treatment as soon as possible to ensure proper treatment. In approximately 2-4 days after ingestion of the plant, signs of kidney failure may begin which can include loss of appetite, depression, vomiting, and lack of urination.

Diagnosis

- Diagnosis of lily ingestion is based solely on the history of witnessing the ingestion of a portion of the plant, or seeing part of the plant in the vomit.
- There are no known diagnostic tests to check for lily toxicity.
- If your cat has evidence of kidney failure, based on blood tests, it is important to tell your veterinarian if there is the possibility your cat could have eaten part of a lily.

- Some laboratory values that will be checked to look for kidney failure are blood urea nitrogen (BUN), creatinine, and phosphorus. A urine analysis will also be performed to look at the concentration of the urine (specific gravity) and any abnormal cells that may be identified under the microscope that can indicate kidney failure.

Treatment

- Treatment must be performed early in order to be successful, and focuses primarily on emptying the stomach ***AS SOON AS POSSIBLE*** after ingestion, ideally within 1 hour, along with administering medications to prevent absorption of the toxin from the gastrointestinal tract. When you call your veterinarian or an emergency clinic, you may be directed to induce vomiting at home using hydrogen peroxide, or you may be advised to bring your cat into the hospital right away.
- It is also essential to provide intravenous fluid therapy for diuresis for at least the first 48 hours to make sure that the kidneys continue to function appropriately.
- If the stomach is not emptied, and if medications are not given to prevent absorption of the toxin, kidney failure usually begins within 2-4 days. At that point there are few treatment options, and the mortality (death) rate from lily toxicity is high.

Complications of Ingestion

- Some cats who experience a mild toxicity may experience mild to moderate kidney failure. In this case they may need to stay in an intensive care unit for several days to receive intravenous fluid therapy and medications to ensure that the kidneys continue to produce urine.
- The damage to the kidneys can be permanent, but if the damage is not severe, the cat may be able to recover over time. This may require that the cat be monitored closely with routine blood work to assess kidney function, and may require continued treatment at home with subcutaneous fluid therapy (fluids administered under the skin using a needle). Kidney transplantation can be a treatment option if the kidneys do not appear to be functioning. Transplantation will only be done once there are no more poisons in the system, so that the transplanted kidney does not also develop dysfunction.

Prognosis

- If emptying the stomach, administering medications to prevent absorption and supportive IV fluid therapy are instituted and there are no changes in laboratory values related to kidney function after 48 to 72 hours, the prognosis for recovery is excellent.
- If enough toxin is absorbed to lead to acute kidney failure, then the prognosis is guarded to poor, and the mortality rate is high. This makes it essential to seek emergency care immediately after ingestion of the lily plant.

Final take home message for all cat owners:

Do not bring lilies of any type into your home under any circumstances.