



Easter Lily Toxicosis

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A 2-year-old, spayed, female domestic shorthair presented with a 24-hour history of lethargy, depression, and anorexia.

History. She was an indoor cat, the only pet in the household, FeLV/FIV negative, and current on all vaccinations. The owners reported no previous health problems. They had come home the previous night to find several piles of vomitus around the house and casually reported that one pile contained a plant leaf. The vomiting resolved overnight, but the next day the cat became progressively more lethargic and refused all food.

Physical Examination. The cat was quiet but responsive, dehydration was assessed at 5% to 7%, and heart rate was slightly elevated at 180 beats/minute. All other findings were normal.

Diagnostics. The abnormal results of CBC, serum chemistry, and urinalysis are given in the Table.

Variable	Results	Reference Range
CBC Stress Leukogram		
Packed cell volume (mg/dl)	52.0	25.8–41.8
Total serum protein (g/dl)	7.6	5.7–7.4
Serum Chemistry		
BUN (mg/dl)	93	6–29
Creatinine (mg/dl)	17.4	0.6–1.6
Phosphorus (mg/dl)	11.7	3.0–7.0
Urinalysis		
Urine specific gravity	1.010	
	Large numbers of renal tubular epithelial casts	

ASK YOURSELF...

Which of the following is the most appropriate next step toward a definitive diagnosis?

- A. Do ultrasound-guided renal biopsy.
- B. Run an ethylene glycol test.
- C. Take abdominal radiographs.
- D. Determine the species of plant leaf observed in vomitus.
- E. Evaluate response to treatment.

continues

INSIGHTS FROM CLINICAL CASES . DISCUSSION

Correct Answer: D Determine the species of plant leaf observed in vomitus.

After further questioning, the owners reported that they had received a lily as a gift 2 days before and that the leaf in the vomitus was from the lily. Members of the *Lilium* (true lilies) and *Heimerocallis* (day lilies) genera can cause renal failure and death when ingested by cats.



Lilies cause acute renal tubular necrosis without damaging the basement membrane. All parts of the plant are considered toxic. Only small amounts are required—less than one leaf or a small amount of pollen—to cause clinical signs. The results of serum chemistry and urinalysis are generally similar to those of other causes of renal failure, with the exception of the disproportionate increase in creatinine compared with BUN concentrations.

Treatment goals include successful decontamination and fluid therapy. In cats that have already begun to vomit, administration of activated charcoal with a cathartic is advised to minimize further absorption of the plant toxins. Before activated charcoal, administration of an antiemetic is recommended, and the cat should be carefully monitored to reduce risk for aspiration. If the cat has been observed to ingest plant material and has not yet vomited, induction of emesis is appropriate to begin decontamination.

Fluid diuresis at twice maintenance rates for at least 48 hours is recommended to maintain urine flow and prevent obstruction of the renal tubules from sloughing epithelial cells. Cats that become anuric have a poorer prognosis, although in some cases renal function has been restored after long-term peritoneal dialysis.

This cat received twice maintenance fluid diuresis for 72 hours. During that time, the renal values gradually returned to normal and the cat maintained good urine output. The cat also stopped vomiting, began to eat, and regained normal mentation. She was weaned off fluids over a 48-hour period, and the renal values remained normal. The cat was discharged. Blood analysis was repeated 2 weeks later, and all values remained normal. ■

See Aids & Resources, back page, for references, contacts, and appendices.

TAKE-HOME MESSAGE

Ingestion of even small amounts of true lilies or day lilies should be considered potentially toxic in cats.

practice hotline

ITEMS FOR YOUR ARSENAL

New Services

Companion Animal Cancer Program

PETSCREEN VETERINARY CANCER PROGRAM (PetScreen; Nottingham, England) provides a cancer screening, detection, and individualized chemotherapy treatment program. Proteomic technology detects a range of cancer markers from a blood “fingerprint” and enables malignancies to be picked up early when treatment has the best chance of success. Ideally dogs would be tested at 12 months of age and yearly thereafter except in high-risk breeds (6-month screening). If cancer is detected, a combined rapid histopathology and individualized chemotherapy service is available. PetScreen is working with veterinary practices in the United Kingdom, Europe, and the United States to make the program widely available this year. For further information visit www.petscreen.com.—
Press release 1/8/06

Testing for Canine Influenza Virus

The University of California-Davis School of Veterinary Medicine has developed a molecular diagnostic assay for detection of canine influenza virus (CIV). This test, along with Cornell University’s hemagglutination inhibition assay (HIA), is assisting veterinarians in their diagnosis of CIV.

The UC-Davis real-time polymerase chain reaction (PCR) assay is offered as part of a canine respiratory panel targeting common infectious causes for kennel cough, including *Bordetella bronchiseptica*, canine adenovirus type-2, canine influenza virus, canine herpesvirus, and canine distemper virus. Veterinarians can send deep pharyngeal swab samples taken within the first 72 hours of the onset of clinical signs. Turnaround time for the panel is 24 to 48 hours and the cost is \$75 per sample. For further information call (530) 752-7991 or visit www.vetmed.ucdavis.edu/vme/taqmanservice.—Press release 2/1/06