

Easter lily toxicosis in cats

by

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Easter lilies (*Lilium longiflorum*), tiger lilies (*Lilium tigrinum*), rubrum or Japanese showy lilies (*Lilium speciosum* and *Lilium lancifolium*), various day lilies (*Hemerocallis* species), and possibly other members of the Liliaceae family can cause renal failure and death in cats. All vegetative parts of these plants, including the flowers, can cause clinical signs. Consuming less than one leaf can produce severe toxicosis in cats.

Vomiting, anorexia, and depression generally occur within two hours of ingestion. The vomiting may subside by 12 hours, but the anorexia and depression continue as blood urea nitrogen, creatinine, potassium, and phosphorus concentrations rise 24 to 72 hours after exposure. The creatinine concentration is often disproportionately elevated compared with the blood urea nitrogen concentration, and creatinine concentrations as high as 44 mg/dl have been reported (ASPCA Animal Poison Control Center Database: Unpublished data, 1999). Epithelial casts and glucose can be detected in the urine within 18 hours. Renal failure has been reproduced only in cats. Such plants as peace lilies (*Spathiphyllum* species) and calla lilies (*Zantedeschia* species) contain oxalates and should not be confused with those in the Liliaceae family.

Renal failure appears to be due to necrosis of renal tubular epithelial cells. The basement membrane remains intact, and tubular epithelial cells can regenerate with prompt, aggressive treatment.¹ Therapy consists of early decontamination (administering an emetic agent and, after the patient vomits, activated charcoal with a cathartic agent such as sorbitol or magnesium or sodium sulfate) and fluid diuresis. Administering lactated Ringer's solution at a rate twice maintenance (130 ml/kg/day) for at least 48 hours is required to maintain urine flow. Postponing treatment for longer than 18 hours after exposure can result in renal failure and death. Anuric cats have a poorer prognosis, but renal function has been restored in some cases after peritoneal dialysis.²

References

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2. Hall, J.O.: Personal communication, Utah Veterinary Diagnostic Laboratory, Utah State University, Logan, March 1999.

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