

## Be Aware: This Landscape Plant Can Kill Pets in Minutes

It grows wild and is a popular landscape plant, yet many people are unaware of its lethality to pets and humans. It entered the spotlight just a few months ago when it was deliberately used to poison Rosie, a dog, and Cowboy, a horse.

**Analysis by Dr. Karen Shaw Becker**

### STORY AT-A-GLANCE

- Oleander toxicosis isn't something we often hear about, but it's important for pet owners to understand just how deadly this plant is, and how to recognize it
- The toxins in oleanders are called cardiac glycosides, and they affect the cardiovascular, gastrointestinal, and neurologic systems in humans and several other species, including dogs and cats
- Signs of oleander poisoning include common toxicosis symptoms such as excessive drooling, vomiting, and diarrhea. However, since oleander toxins directly affect the heart, severe cardiac arrhythmias complicate treatment and recovery
- The patient's prognosis depends on how much toxin was ingested, how quickly treatment was administered, and the severity of cardiac arrhythmias
- Due to the extreme toxicity of oleander ingestion to many animal species, it's important for pet parents to recognize the plant when they see it and keep animal companions at a safe distance

***Editor's Note: This article is a reprint. It was originally published August 10, 2016.***

Sadly, a few months ago a dog named Rosie in Sonoma County, California died after ingesting cookies containing parts of an oleander plant. The cookies, which also contained oats, shredded apples, carrots, and molasses, were deliberately poisoned with oleander and placed as bait along a fence line.<sup>1</sup>

In addition, the cookies were placed in a horse paddock on the same property, and an 18-year-old horse, Cowboy, also died after eating them. Another horse became sick, but recovered. Laboratory analysis of the cookies revealed large amounts of oleandrin, one of the toxins found in the oleander plant.

Fortunately, the malicious poisonings appear to have been an isolated incident, and local law enforcement has identified a "person of interest."

### The Common Oleander

Many pet parents don't realize how deadly the oleander plant can be if ingested by humans, dogs, cats, birds, horses, cows, and other animals. The plant only grows in certain regions of the U.S. and isn't especially attractive to animals, which is probably why many people are unaware of the danger it poses.

The common oleander (*Nerium oleander*) and the yellow oleander (*Thevetia peruviana*) belong to the dogbane family of plants. The common oleander (which I'll refer to hereafter as simply the oleander) is the prevalent species in the U.S., and is found primarily in warm regions of the south and southwest, California, and Hawaii.



*The oleander* is a shrub that grows to a height of 6 to 12 feet. The leaves are narrow, dark green in color with yellowish veins, and grow in pairs or groups of three. The flowers grow in clusters at the ends of branches, and can be white, pink, salmon or red in color.

The oleander is also a fruit-bearing plant. The fruit grows in slender capsules, and the sap is clear and sticky.

## **Oleanders Contain Toxic Cardiac Glycosides**

Every part of the oleander plant, including the roots, stems, leaves, flowers, seeds, fruit, sap and nectar, contains naturally-occurring cardiac glycosides, which are toxins that directly affect the electrolyte balance within the heart muscle. Even water in which oleander leaves are floating contains these toxins.

The roots and stems of the plant contain the highest amount of cardiac glycosides, followed by the leaves and flowers. The most toxic oleanders are thought to be the plants with red flowers.<sup>2</sup>

Oleandrin, the toxin found in high amounts in the bait cookies that poisoned Rosie and Cowboy, is the most widely recognized of as many as 30 different cardiac glycosides found in oleanders. Oleandrin acts similarly to the human and veterinary drug digoxin, which is used in the treatment of a variety of heart conditions.

Other plants known to contain glycosides include dogbane, giant milkweed, foxglove (from which the human drug digoxin is extracted), kalanchoe, lily of the valley, milkweed, and Star of Bethlehem.<sup>3</sup>

## **Symptoms of Oleander Toxicosis**

A toxic dose of oleander depends on the part of the plant ingested and the strength of the toxin. There is currently no established single toxic dose that applies to all species.

Ingestion of 0.005% of an animal's weight in dry plant leaves is generally thought to be lethal to horses and ruminants. This is about 10 to 20 dry leaves for an adult horse. A dose of 0.25 milligram green (vs. dry) leaves per kilogram of body weight has been suggested as a lethal dose for dogs.<sup>4</sup>

Oleandrin affects the cardiovascular, gastrointestinal (GI), and neurologic systems. Symptoms typically occur within 30 minutes to a few hours of ingestion, and can include:

- Excessive salivation (drooling)
- Lethargy
- Vomiting
- Drowsiness
- Abdominal pain
- Weakness
- Diarrhea
- Tremors
- Hypoglycemia (low blood sugar)
- Ataxia (loss of coordination)
- Decreased heart rate
- Dilation of pupils
- Atrioventricular (AV) block (partial or complete interruption of impulse transmission from the atria to the ventricle)
- Atrial or ventricular fibrillation (a fibrillation is an abnormal heartbeat)

## Diagnosis and Recommended Treatment for Oleander Poisoning

There are several different blood tests that can confirm the presence of cardiac glycosides in the blood, but unfortunately, they take time to obtain — time the animal may not have.

That's why diagnosis is often made based on suspicion or knowledge of plant ingestion, the presence of **hyperkalemia** (higher than normal blood potassium levels) and heart rate abnormalities.

Traditional treatment involves attempting to induce vomiting in animals who haven't already vomited and who have ingested the plant within an hour or so of being brought to a veterinary clinic. This is followed with one dose of activated charcoal and a cathartic (similar to a laxative), then two additional doses of activated charcoal every 6 to 8 hours.

Patients must be hospitalized, and those with clinical signs should receive careful electrocardiographic monitoring for 24 hours, along with blood glucose and electrolyte monitoring, and serum chemistry tests. An antidote, Digibind (digoxin-specific Fab fragments), has been administered to successfully reverse the cardiac effects of oleander toxicosis in severe, life-threatening cases. However, the drug is extremely expensive and not widely used.

## Prognosis for Pets With Oleander Toxicosis

As with any case of poisoning, the sooner treatment is provided, the better the outlook for the patient. Because the toxins in oleanders affect the cardiovascular system, severe heart arrhythmias can complicate recovery. Obviously, preventing your pet from ingesting any part of the oleander plant should always be the goal. It's important for owners of small animals, in particular, to spot the shrub and keep pets at a safe distance.

If you happen to live in Texas, Arizona, Nevada, or California, where oleander grows wild and is also a popular landscape plant, you should watch off-leash pets carefully.

One of my clients who runs an animal shelter in Austin tells me she keeps very high potency homeopathic Nux vomica on hand, which has proven to be very beneficial in cases of oleander poisoning. She gives the remedy immediately — usually en route to the emergency animal hospital.

### Sources and References

[NBC Bay Area February 24, 2016](#)

<sup>1</sup> [UC Davis Veterinary Medicine, California Animal Health and Food Safety Laboratory System](#)

<sup>2,4</sup> [dvm360, May 3, 2016](#)

<sup>3</sup> [Pet Poison Helpline](#)

---