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**Toxoplasmosis**

By Kristine Peters

Toxoplasmosis is a zoonotic disease that you should absolutely be familiar with! It is a disease that you or someone that you know could easily contract if the conditions are right. It is a disease that lurks only as far away as the closest litter box or bird droppings.

Toxoplasmosis is a parasitic disease caused by the protozoan *Toxoplasma gondii* and can infect most warm blooded animals, including humans. Unfortunately, the main carrier of this disease is cats. In fact, cats and some birds are the main reservoir for the protozoan, though not all cats and birds are carriers. As a carrier of the disease, the reservoirs may not necessarily be the cause of the disease. For example, cats and birds can be afflicted with this parasitic disease by ingestion of infected meat, transmission from mother to fetus, or by ingestion of bird or cat feces from a recently infected host. Once they contract the disease, the reservoir does not directly infect you, but it simply helps to spread the disease to you and other animals through the process of fecal shedding. Currently up to one third of the world’s population is currently known to carry a Toxoplasmosis infection.

Despite the scary facts, there is no need to barricade your door and throw your cat out into the cold, as studies have shown that only about 2% of cats shed oocysts at any one time. Typically humans come into contact with the protozoan through contact with cats and/or bird fecal matter, especially while cleaning out their cat’s litter box. This can sometimes even happen through gardening or drinking contaminated water. Human are naturally resistant to the ...(Continued on page 5)
As the holiday season approaches, mistletoe will be carefully hung above doorways, holly will decorate the fireplace, and guests will arrive with poinsettias in hand. Although many pet owners try to keep popular holiday plants away from their pets, dogs and cats can be tempted to nip at poinsettias, nibble on holly, and ingest stray mistletoe. Because pets often get into mischief, veterinary technicians should be aware of the potential toxins of holiday plants as well as the resources that are available to assist in their identification. This article will provide a brief background on popular holiday plants and discusses their toxic potential as well as how to care for animals that have ingested these plants.

**Poinsettia**

Poinsettias (Euphobia pulcherrima) belong to the family of plants commonly known as spurge. Joel Roberts Poinsett, who found the flower in Mexico, introduced poinsettias into the United States in the 1820's. Despite popular belief, the toxic potential of this plant has been greatly exaggerated. In the early 20th century, the 2-year-old child of an army officer was rumored to have died from eating a leaf of the plant, this the legend of the deadly poinsettia originated.

According to one source, a 50-lb. child would have to ingest more than 600 leaves to exceed experimental doses that produced no toxic effects. The experience of veterinarians and technicians at the National Animal Poison Control Center (NAPCC) also support this observation. Callers to the center report that animals have ingested this plant generally experience only mild to moderate self-limiting gastrointestinal (GI) irritation, including, hypersalivation, vomiting, and diarrhea.

Because of the poinsettia’s low potential for toxicity, decontamination of patients that have ingested parts of the plant is usually not necessary; however, a diluent (e.g. water, milk) can be given to reduce possible GI irritation.

**Mistletoe**

American mistletoe (Phoradendron serotinum) is the species of mistletoe most commonly recognized as a symbol of the holiday season. American mistletoe is a parasitic plant that lives off a number of different trees (e.g. walnut, oak) throughout the United States.
Whereas poinsettia ingestion produces mild effects in pets, the adverse effects caused by mistletoe ingestion are more severe symptoms, and can include GI irritation, polyuria, polydipsia, ataxia, bradycardia, hypothermia, dyspnea, seizures, coma, and even death. As is true for many plants that are ingested, a minimum toxic dose has not been established for mistletoe. According to the NAPCC, however, most animal ingestion of the plant usually results in only self-limiting GI upset. As with poinsettias, decontamination measures are generally not necessary. Supportive care may be administered as needed if signs of adverse effects occur.

**Holly**

American Holly (Ilex opaca) is a member of the Aquifoliaceae family, which also includes such plants as yerba mate, inkberry, and winterberry. Although indigenous to the southeastern United States, this species of holly is also planted as an ornamental evergreen throughout North America.

All parts of the holly plant are considered to be potentially toxic, composed of methlyxanthines (i.e. caffeine and theobromine—both also present in chocolate). Detergent-like substances called sapo-nins, and a bitter-tasting toxalbumin known as ilicin. As is true of mistletoe and other plants, a minimum dose is difficult to pinpoint. Although holly contains toxic substances, true toxicoses from ingesting the plant are uncommon GI irritation and mild to moderate central nervous system depression are usually the only effects that are noted.

In cases in which animals have consumed large quantities of holly, emesis may be induced (in asymptomatic patients only) to reduce the likelihood of GI effects and depression. Most animals do not require GI decontamination. However, water or milk may be given to reduce potential for GI irritation.

**Conclusion**

Although some plants can be potentially lethal when ingested, most exposures to poinsettias, holly, and mistletoe generally produce only mild to moderate GI irritation. Proper identification of the plant in question however, is critical in providing quality care to patients.
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**OFFICE HOURS Fall 2014**  
In Room B22 of the TILT Building

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protozoan, however some healthy adults may feel the effects. However, woman who are pregnant, or who suffer from HIV, or immune disorders need to be wary. It is very easy to contract Toxoplasmosis if any of these conditions exist.

So how do you tell if you have Toxoplasmosis? A normal, healthy adult may experience mild flu-like symptoms and then after a few weeks of infection show no symptoms.

However, in not-so resilient humans, the parasite can cause encephalitis (inflammation of the brain), neurological diseases, and problems in the heart, liver, and eyes, such as chorioretinits. A human with an acute infection may have swollen lymph nodes, or muscle aches for a month or more. Only a small percentage of infected newborn babies with acute Toxoplasmosis have serious eye or brain damage at birth. A latent infection may also occur, in which the newborn doesn’t show symptoms, and may develop cysts in nervous and muscle tissues, with other possible symptoms later in life. Detection of this protozoan in human blood samples may be determined by using a polymerase chain reaction (PCR), however the cysts usually remain undetected. Occasionally, contraction of this parasitic disease can also be fatal.

Here are some interesting facts about Toxoplasmosis:
- A recent study has indicated that Toxoplasmosis correlates strongly with an increase in boy births in humans.
- It has been found that the parasite has the ability to change the behavior of its host. Infected rats and mice are less fearful of cats and may seek out cat-infested areas.
- Studies have found that Toxoplasmosis is associated with an increased car accident rate, roughly doubling or tripling the chance of an accident relative to uninfected individuals.
- Woman carriers are suggested to be more outgoing, and friendly.

So yes, you should be aware of this protozoan disease. And always make sure to wash your hands after cleaning a litter box.
“Animals don’t lie. Animals don’t criticize. If animals have moody days, they handle them better than humans do.”
— Betty White, If You Ask

“Meow” means “woof” in cat.”
— George Carlin

Q: What happens to a frog’s car when it breaks down?
A: It gets toad away.

Q: What did the duck say when she bought lipstick?
A: Put it on my bill.

Q: What did the dog say to the hot dog bun?
A: Are you pure bred?

“Meow” means “woof” in cat.”
— George Carlin

DID YOU KNOW?
• A 1,200-pound horse eats about seven times its own weight each year.
• A cow gives nearly 200,000 glasses of milk in her lifetime.
• An adult lion’s roar can be heard up to five miles away, and warns off intruders or reunites scattered members of the pride.
Veterinary Medicine Quiz

Label each part of the hoof structure.

Answers:
**November 2014**

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**Thanksgiving Break**

**SAVE THE DATE**
The end of the year party will be held on November 16th, at 11:45pm.