



Feline Diabetes

Diabetes mellitus is one of the most common metabolic diseases in older cats. This disease results from a decreased quantity (type I) or effectiveness (type II) of insulin in the body. Insulin is essential in transporting glucose



(sugar) out of the bloodstream and into the cells of the body where it is used for energy. A diabetic animal will have high levels of glucose in the blood, while the cells of the body are starving for energy.

Symptoms: The clinical signs of diabetes result from this inability to get energy into the cells where it is needed. The most common symptoms the pet owner notices are an increase in the amount of water the cat is drinking with increased urination and an increase in appetite with weight loss. The high blood glucose results in a high urine glucose, preventing urine concentration and resulting in an increased volume. The pet will then drink more to compensate for this increased loss. Since the blood glucose is not available to the body, the pet feels constantly hungry. The pet loses weight because the body turns to stores of fat and muscle to try to obtain energy.

If the early symptoms go unnoticed and untreated, the disease will usually continue to progress. Eventually, the metabolic changes will overwhelm the body's ability to compensate and the cat will become dehydrated, lethargic, weak and often will not eat. At this point, the pet is critically ill and needs aggressive medical treatment. Unfortunately, the changes are so severe in some cases that treatment is not successful and the disease is fatal.

Diagnosis: In most cases the diagnosis of diabetes is made based on a high fasting blood glucose, the presence of glucose in the urine, and the presence of consistent symptoms.

Treatment: When treated early the chances for success are much greater and the

prognosis is good. Treatment for cats can depend on whether they are a type I (insulin-dependent) or type II (non-insulin-dependent) diabetic. Approximately half of diabetic cats are type I, with the other half being type II. Just as in people, obesity places a cat at risk of becoming a type II diabetic. The name is a bit misleading, however, as many type II diabetic cats need insulin initially for control although they may be able to be managed by diet alone at a later date. In almost all cases a change in diet will be recommended to assist in controlling the normal fluctuations in blood glucose that occur around the time of a meal and to minimize the amount of carbohydrates the pet consumes. When insulin is needed, an injection is usually given twice daily at the time of feeding.

Goals of Treatment: The goal of treatment is somewhat different between cats and humans. Fortunately, cats are more tolerant of a wider range of blood glucose values than humans and do not need to be as tightly regulated. Therefore, treatment is not based strictly on the numerical laboratory values, but also on the clinical signs. The goal is a cat of stable weight with normal appetite, thirst and urine production.

Summary: Diabetes mellitus is a serious but treatable disease that generally affects older cats. The earlier the disease is diagnosed the better the prognosis for treatment. Long term management can involve dietary changes and insulin injections. Any pet exhibiting a change in eating, drinking or urination habits should be evaluated by a veterinarian. There are multiple diseases that can have similar symptoms, so a thorough physical exam and additional diagnostics are needed to make an accurate diagnosis. Owners of older cats should consider performing routine blood work and urinalysis tests as part of their cat's annual physical exam, as many diseases will cause changes in the laboratory values before clinical symptoms become apparent.

Staff News

Rachel Nabulsi joined the staff in March as a full time veterinary assistant. "The wonderful thing about working here is that every day is different, and you can directly see the benefit of your labor to aiding and protecting the health of all these unique and wonderful creatures," says Rachel. Rachel and her husband, Radi, have lived in Athens for ten

years. The most exciting recent development in their lives is the wonderful surprise of a pregnancy and the impending arrival of a long hoped for baby, who is scheduled to make his (or her) appearance in late March.

Caterine Wendt, our newest part-time employee, was born in Porto Alegre, Brazil but has lived most of her life in the United States. She is a Junior at UGA majoring in Biology and minoring in Spanish. Caterine has wanted to become a veterinarian since she was eight years old and hopes to begin this lifelong dream at the UGA College of Veterinary Medicine in the Fall of 2005.

Caterine enjoys spending time outdoors and playing tennis and soccer. She has three cats - Sassy, Squeaky, and Bisca (which means "naughty" in Portuguese).

Tanya Tuttle left Shoal Creek this past summer to begin a new career in animal assisted therapy at a home for troubled youth in Charleston, SC. Tanya works with the children that live at the home teaching them animal care and safety around the barnyard areas. In addition, she plays an important role in the Equine-Assisted Psychotherapy Program. She consults with the therapists about each resident's special needs and creates unique encounters between horses and residents. These experiential sessions empower the children to learn by doing. Discover more about the Equine-Assisted Growth and Learning Association at <http://www.eagala.org>.

10 Years of Service

Shoal Creek Animal Clininc is celebrating its first decade of service to our community. Our doors opened on November 15, 1993. Thank you to all our clients for entrusting us with your pets' health needs!



Dr. Askren and Ben Brewster of Ingram Construction hang the Shoal Creek sign 11/01/93

The Wrath of Grapes

by Charlotte Means, D.V.M.



Magoo was a big, playful Labrador Retriever who often got himself into some sticky situations. Usually, his escapades were harmless. But one day, he managed to snag a box of raisins from the pantry and ended up

eating an entire pound of the sweet treats. Other than being exasperated by Magoo's behavior, his guardians didn't think much about it. They knew that lots of people shared grapes with their dogs and often used raisins as training rewards. So it hardly seemed the kind of emergency that required a call to the veterinarian. In fact, if Magoo's parents had called the ASPCA's Animal Poison Control Center (APCC) just a few years ago, they would have been told not to worry about it.

Through the Grapevine

Enter the APCC AnTox™ database, a computerized system which contains nearly 500,000 animal-related medical conditions enabling veterinarians to quickly identify toxic-substance exposures and to recognize clinical signs in order to administer proper treatment. By tracking cases in this registry, similarities in animal medical conditions nationwide can be logged and syndromes can be identified.

Around 1999, the APCC began noticing a trend in dogs who had eaten grapes or raisins: nearly all developed acute renal (kidney) failure. As more cases were reported, enough data was generated in the database to help veterinarians identify and treat dogs at risk. In all of the cases, the ingredients for potential acute renal failure were the same. Whether the ingested grapes were purchased fresh from grocery stores or grown in private yards didn't seem to matter, nor did the brand eaten. And the ingested amounts varied considerably, from over a pound of grapes to as little as a single serving of raisins. The cases weren't from any specific region, but instead came from across the United States.

The database showed that dogs who ate the grapes and raisins typically vomited within a few hours of ingestion. Most of the time, partially digested grapes and raisins could be seen in the vomit, fecal material, or both. At this point, some dogs would stop eating (anorexia) and develop diarrhea. The dogs often became quiet and lethargic and showed signs of abdominal pain. These clinical signs

lasted for several days - sometimes even weeks.

When medical care was sought, blood chemistry panels showed consistent patterns. Hypercalcemia (elevated blood calcium levels) was frequently present, as well as elevated levels of blood urea nitrogen, creatinine and phosphorous (substances that reflect kidney function). These chemistries began to increase anywhere from 24 hours to several days after the dogs ate the fruit. As the kidney damage developed, the dogs would produce little urine. When they could no longer produce urine, death occurred. In some cases, dogs who received timely veterinary care still had to be euthanized. Why did the fruit cause the dogs to become ill? No one knows. Suspect grapes and raisins have been screened for various pesticides, heavy metals (such as zinc or lead), and mycotoxins (fungal contaminants) and so far, all results have come back negative. In the cases where the grapes were grown in private yards, owners confirmed that no insecticides, fertilizers or antifungals had been used on the fruit.

"Raisin" the Success Rate

Even though the exact cause of the renal failure is unknown, dogs who ingest grapes and raisins can be treated success-

fully to prevent its development. The first line of defense is decontamination. Inducing vomiting in recent ingestions and administering activated charcoal helps prevent absorption of potential toxins. Dogs should be hospitalized and placed on intravenous fluids and a veterinarian should monitor blood chemistry daily. If all blood work is normal after three days, it's unlikely that kidney failure will occur. If a dog shows evidence of renal failure, fluids must be continued, and other medications should be used to stimulate urine production. Some dogs may need peritoneal dialysis, a process where the peritoneum (the membranes surrounding the abdominal organs) is used to filter waste products that are normally filtered by the kidney.

Thanks in part to the AnTox database, grape or raisin ingestion can be easily identified and treated. Today, a dog can make a complete recovery from this potentially fatal condition.

Dr. Means is a veterinary toxicologist at the ASPCA's Animal Poison Control Center in Urbana, Illinois. Reprinted from ASPCA Animal Watch, Summer 2002, Volume 22, Number 2., with permission from The American Society for the Prevention of Cruelty to Animals, 424 East 92nd Street, New York, NY 10128-6804. Learn more about the ASPCA Animal Poison Control Center at <http://www.aspca.org>.



Shoal Creek Animal Clinic

2226 Barnett Shoals Road

Athens, GA 30605

706-369-0962

animalclinic@shoalcreek.com

<http://www.shoalcreek.com>

Pre-sort Standard
U.S. Postage
PAID
Athens, GA
Permit No. 515

In This Issue... Feline Diabetes, Staff News, Anniversary, and Grape Toxicity

Visit our Home Page on the World Wide Web at <http://www.shoalcreek.com>