what's so dangerous about

XYLITOL?

Xylitol poisoning can happen to even the most observant of dog owners. Here's how a little protein called glutathione can be your dog's best friend should disaster strike.

By Deva Khalsa

Oscar is a hefty dog at well over a hundred pounds. He's a Shepherd mix and, like most dogs, he loves his walks. He also likes to get into the garbage when he can. So when Oscar found three delicious cupcakes in the trash, he gulped them right down. Meredith, his person, is very health conscious. She knows that sugar isn't so healthy, so she cooks with xylitol. Unfortunately, the three cupcakes Oscar snarfed up were baked with it.

Xylitol is a naturally occurring substance that's widely used as a sugar substitute. Chemically, it's a sugar alcohol and, in nature, it's found in berries, plums, corn, oats, mushrooms, lettuce, trees, and some other hardwood trees and fruits.

Commercially, most xylitol is extracted from corn fiber, birch trees, hardwood trees and other vegetable material. Although it's been used as a sugar substitute for decades, its popularity has increased dramatically in the last few years. Xylitol is manufactured into a white powder that looks and tastes similar to sugar. It's about as sweet as sucrose, but contains only about two-thirds the calories.

WHY IS XYLITOL BAD FOR DOGS?

While xylitol is OK for humans, it's extremely toxic to dogs. Even small amounts of xylitol can cause hypoglycemia (low blood sugar), seizures, liver failure or even death in dogs. The higher the dose ingested, the greater the risk of liver failure complications.

The most common source of xylitol poisoning reported to the Pet Poison Helpline is sugar free gum. As xylitol is becoming more popular and it's included in more and more foods, we all have to be on alert as our dogs will also find these foods appetizing and a decent percentage of our best friends practice the art of stealth food burglary.

While xylitol doesn't stimulate the release of insulin from the pancreas in humans, it certainly does in dogs. When a dog eats something containing xylitol, it's quickly absorbed into the bloodstream, resulting in a potent release of insulin from the pancreas. This rapid release of insulin results in a profound decrease in the level

of blood sugar (hypoglycemia) - an effect that occurs within 10 to 60 minutes of ingestion. Untreated, this hypoglycemia is often life threatening. There's no antidote for xylitol toxicity.

The prognosis is good for dogs who are treated before symptoms develop or for dogs who develop uncomplicated hypoglycemia that is reversed rapidly. If liver failure or a bleeding disorder develops, the prognosis is generally poor. Most dogs who develop liver problems never make it.

Oscar's Story

Meredith managed to get Oscar to the emergency center in no time at all. He was hospitalized and placed on intravenous fluids with dextrose to reverse his hypoglycemia, along with liver protectants.

In spite of all of this, his liver enzymes skyrocketed. An ultrasound showed liver necrosis. Soon afterward, his kidneys began to fail. Oscar had no energy and didn't want to eat; his days were numbered. So Meredith contacted me for a phone consult and we went to work.

Glutathione to the Rescue

The first and most important thing we did was to begin giving Oscar glutathione. Glutathione exists in every cell. It protects the cell's tiny but important engines, the mitochondria. This little protein made up of three amino acids is the king of all antioxidants in the body. Without it, cells would disintegrate from unrestrained oxidation. Our more familiar antioxidants, such as vitamins C and E, have short life spans and glutathione has the ability to bring back spent antioxidants from the dead and even recharge itself.

Because all other antioxidants depend on glutathione to function properly, doctors call it the master antioxidant. Glutathione is the most important, abundant, most active and most powerful of the antioxidants. None of the over the counter antioxidants would work without the glutathione created in the cells. The highest level of glutathione exists in the liver and it's no accident that the liver is the major organ of detoxification and desperately needs its glutathione to stay healthy.

Delivery Matters

The thing about glutathione is that it's very poorly absorbed when taken orally. There was no time to waste in Oscar's case: he had to get glutathione to protect and regenerate his necrotic liver fast as his liver was disintegrating from unrestrained oxidation.

Meredith literally ran to a compounding pharmacist who made up a form of glutathione that could be administered intramuscularly. The emergency service where Oscar was hospitalized agreed to administer it. The change was dramatic. Oscar perked up and his liver enzymes began to go down. We also put him on several homeopathic remedies for the liver, including *Aesculus, Ptelia, Chelidonium* and *Phosphorus*.

It's important to note that although Oscar had initially been given glutathione orally, as in standard treatment, it could possibly not have worked. That's because the precursors are made into glutathione in the liver. His liver was in a double bind because its own cells were rotting and dying. They needed glutathione to repair themselves but they were too sick to be able to convert the precursors Oscar was given orally. That's why the glutathione needed to be administered intramuscularly.

By the way, glutathione can also be administered intravenously, but we would have had to wait for it to be shipped from California and Oscar didn't have that kind of time left.

Soon after treatment, Oscar went home and was eating on his own and beginning to enjoy his walks again. His liver levels were normal but he still had elevated kidney levels, meaning he was too acidic. Both the kidneys and liver work much more efficiently in an alkaline environment (up to 40 times more efficiently), so Oscar went on a vitamin C intravenous drip to create alkalinity in his body and his kidneys responded and healed.

The body's organs can heal themselves with a little help from their friends. The very best friend, in Oscar's case, was the antioxidant glutathione. It had to be administered in a manner in which it could be reliably absorbed, so Oscar's liver could access it quickly to repair itself. Otherwise, Oscar might not have survived this ordeal.

With xylitol becoming more and more common in foods, we should all remember glutathione is there, in case of emergency. Most compounding pharmacies can prepare this for you as an intramuscular solution. But because prevention is the best medicine, I recommend storing foodstuffs made with xylitol in a dog proof location; our canine friends love a delicious cupcake just as much as we do!

Since beginning her holistically oriented veterinary practice over 25 years ago, Dr Khalsa has been incorporating homeopathy, acupuncture, Chinese herbs, nutritional advice, allergy elimination techniques such as NAET and also JMT into her approach. Dr Khalsa is a Fellow and Professor of the British Institute of Homeopathy.