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# XYLITOL (SUGAR SUBSTITUTE) TOXICITY IN DOGS

As our society grapples with obesity and diabetes more and more sugar substitutes are available. A relatively new and increasingly popular one is Xylitol.

Xylitol is a sugar alcohol made from birch, raspberries, plums and corn. It is a white crystalline powder and can be found in a wide variety of products such as gum, candies, mouth washes, and toothpaste. This artificial sweetener is increasingly available in large quantities for cooking and baking, just as you would purchase sugar.



From the veterinary perspective, Xylitol is becoming a rapidly emerging toxin in dogs and possibly to ferrets. Reports of toxicity in cats are lacking but this may be due to decreased encounters and is not an indication that it is harmless to our feline friends.

Xylitol can harm dogs in two ways. Firstly it can cause a rapid release of insulin in the body. This increase results in hypoglycemia (a low blood sugar). The second and often more detrimental result of xylitol is acute hepatic necrosis (death of liver cells).

Hypoglycemia usually occurs within 30 to 60 min of ingestion. The lowest possible dose to cause this is 0.1grams per kilogram. Given that a piece of xylitol sweetened gum may contain as much as 1 to 2 grams per piece that would mean that a 10kg dog could be poisoned with as little as 1 or 2 pieces of gum! Signs of hypoglycemia may include vomiting, weakness, ataxia (inability to walk in a straight line or appearing drunk), depression and even seizures.

Liver damage is thought to occur at higher doses; usually 0.2-0.4g/kg. Some studies are now suggesting that dogs who had acute liver failure and complications associated with this often had no signs of hypoglycemia. These dogs showed acute illness 48 hours after ingestion of the xylitol and some had increased enzymes prior to showing illness. This syndrome is often fatal.

Based on the low dose required, and the potential for serious consequences, xylitol toxicity is a serious and emerging toxicity which needs to be well publicized in order to prevent more cases. If a dog is known to have ingested xylitol then decontamination should be preformed as soon as possible. There is no evidence to suggest that activated charcoal is of any use. Blood glucose monitoring and liver enzyme monitoring must be done and followed for up to 48 hours.

Spread the word that this sweetener can be fatal to our Fidos!