Another Sequela to Xylitol Ingestion in Dogs

Xylitol, a sugar alcohol recently introduced to the United States, is used as a sweetener in many sugar-free products for humans, including baked goods, gum, and toothpaste. Although humans have little or no increase in insulin secretion or blood glucose concentration after ingesting products containing xylitol, dogs have a severe, rapid increase in blood insulin. This can lead to clinical signs of hypoglycemia within 30 to 60 minutes after ingestion. This report is the first documentation of development of hepatic failure after xylitol ingestion. Eight dogs were seen with primary clinical signs of lethargy and vomiting after ingesting xylitol-containing products. Other signs included moderately to severely elevated liver enzymes, hyperbilirubinemia, hypoglycemia, hyperphosphatemia, prolonged clotting times, and thrombocytopenia. Xylitol doses in the dogs ranged from 1.4 g/kg to 16 g/kg. Despite aggressive treatment, including dextrose administration, IV fluids, and plasma transfusions, 5 of the dogs died or were euthanized. Two of the dogs made complete recoveries, and 1 dog was lost to follow-up. Survival did not appear to correlate with xylitol dosage. Of the 3 necropsies performed, 2 found severe hepatic necrosis and 1 severe hepatocyte loss or atrophy with lobular collapse. The authors recommend aggressive treatment for any dog that has ingested more than 0.1 g/kg of xylitol, even if clinical signs have not developed. Treatment delay may increase risk for fatal hepatic necrosis. Liver enzyme values, total bilirubin concentration, platelet counts, and coagulation variables should be monitored for at least 48 to 72 hours after ingestion. Administration of hepatic protectants might be beneficial as well, especially if given early.

COMMENTARY: The number of canine xylitol exposures reported to the Animal Poison Control Center has increased from 3 in 2002 to 138 in just the first half of 2006. It was previously believed that clinical signs were seen shortly after ingestion (within 30 to 60 minutes). However, 6 dogs in this report did not develop signs until 9 to 72 hours after xylitol ingestion, and these signs were associated with acute hepatic failure, not hypoglycemia. Interestingly, in the cases reported here, the actual amount of xylitol ingested compared with the dog's size was not a predictor of outcome. This emphasizes the importance of educating clients on the dangers of xylitol toxicity so that any suspected ingestions can be reported early and treated quickly and aggressively.—Patricia Thomblison, DVM, MS


Raw Pet Foods: Salmonella that Just Won’t Go Away

While concerns have been expressed about the feeding of raw meat to pets, little attention has focused on the potential for infection from contaminated meat or objects that have been in contact with contaminated food. This study sought to assess the persistence of Salmonella species and the effects of different cleaning regimens on experimentally infected food bowls. Stainless steel and plastic pet food bowls were experimentally inoculated with Salmonella Copenhagen that had been previously isolated from a commercial raw pet food. The bowls were then cleaned in 1 of 6 ways. The total percentages of bowls (stainless steel and plastic combined) from which Salmonella species were recovered were as follows: 100% in the control group (no cleaning); 96% in the warm-water rinse group; 96% in the rinse and scrub group; 79% in the scrub with soap group; 71% in the 10% bleach soak group; 67% in the dishwasher group (run at 85°C); and 42% in the scrub plus bleach soak group. Salmonella persistence did not significantly differ between stainless steel and plastic bowls. The persistence of Salmonella, even when bowls were soaked in bleach or washed in the dishwasher, was tentatively attributed to the presence of organic debris in the bowls. The authors conclude that avoidance of feeding raw-meat diets would be prudent; in cases where such diets are fed, caution must be exercised in handling the food and any items in contact with it.

COMMENTARY: Feeding raw diets to pets is a popular alternative for some owners looking for a more natural or hypoallergenic alternative to manufactured diets. This study illustrates one aspect of the risk to this option—indirect transmission of enteropathogens from food bowls. As the authors point out, the study does not confirm the risk for transmission, especially because it did not quantify the actual amount of bacteria isolated, but it does highlight some concerns. Pet owners must recognize these potential risks when considering feeding a raw diet, particularly if the home includes humans at high risk for infection, such as infants, the elderly, and the immunocompromised.—Jennifer L. Schori, VMD


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