Glargine Insulin: Gold Standard for Cats, but Dogs?

One of the properties of glargine insulin—a human insulin analog produced through recombinant DNA techniques—is a slow, prolonged, and relatively constant release (ie, peakless insulin). In this study, 5 dogs with newly diagnosed diabetes mellitus (DM) and 5 dogs with uncontrolled DM were evaluated for effects of twice-daily glargine insulin administration. Dogs were fed a diet high in insoluble fiber and received glargine insulin at 0.5 U/kg SC q12h. At 4 follow-up visits, blood glucose (BG) was measured q2h for at least 10 hours after a meal. Dogs had well regulated DM at 38 days (mean) posttreatment. Mean minimum BG concentrations at 2 and 12 hours’ postadministration were 163 ± 89 mg/dL and 230 ± 95 mg/dL, respectively. There were no significant differences between mean minimum and mean maximum BG concentrations or at other time points. Hypoglycemia was noted at various intervals in 7 dogs during hospitalization. Although no dogs showed signs of hypoglycemia, 2 of these 7 dogs had a seizure at home—one of which was believed to be caused by prosencephalic disease. An initial starting dose of 0.3 U of glargine insulin/kg SC q12h was recommended.

Global Commentary
Glargine (long-acting, peakless) has become the insulin of choice for DM in cats. The role of glargine in canine DM is less clear; there are few studies that have examined glargine in spontaneous cases of canine DM. This study found that good glycemic control was achievable with glargine. Based on the balance of evidence and experience, I would still use NPH or lente insulin as first-line treatment for canine DM; however, I would consider glargine in cases of uncomplicated DM in which adequate glycemic control was not achieved. Glargine also shows promise for critically ill patients without DM but insulin therapy is needed for glycemic control.

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