2018 AAHA Diabetes Management Guidelines for Dogs and Cats*

Ellen Behrend, VMD, PhD, DACVIM, Amy Holford, VMD, DACVIM†, Patty Lathan, VMD, DACVIM, Renee Rucinsky, DVM, DABVP†, Rhonda Schulman, DVM, DACVIM

ABSTRACT

Diabetes mellitus (DM) is a common disease encountered in canine and feline medicine. The *2018 AAHA Diabetes Management Guidelines for Dogs and Cats* revise and update earlier guidelines published in 2010. The 2018 guidelines retain much of the information in the earlier guidelines that continues to be applicable in clinical practice, along with new information that represents current expert opinion on controlling DM. An essential component of successful DM management is to ensure that the owner of a diabetic dog or cat is capable of adm blood glucose levels at home, althoug is the mainstay of treatment for clinic available for use in dogs and cats, t species. Also discussed are non-insu insulin therapy, give the practitioner a the two conditions that represent the risk for developing DM, which are im or mildly elevated blood glucose. (J

AFFILIATIONS

From the Department of Clinical Sciences, College c University, Auburn, Alabama (E.B.); Department of of Veterinary Medicine, University of Tennessee, Kı partment of Clinical Sciences, College of Veterina University, Starkville, Mississippi (P.L.); Mid Atlanti Maryland (R.R.); and Animal Specialty Group, I

CONTRIBUTING REVIEWERS

Audrey Cook, BVM&S, MRCVS, DACVIM, DE Department of Small Animal Clinical Sciences, C Texas A&M University, College Station, Texa DVM, MS, DACVIM, Red Bank Veterinary Hospi

Correspondence: aholford@utk.edu (A.H.); rucinsk

ALP (alkaline phosphatase); BG (blood glucose); B (blood pressure); CBC (complete blood count); (hyperadrenocorticism); NPH (Neutral Protamine PP (polyphagia); PU (polyuria); PZI (protamine U (units); UG (urine glucose); UPC (urine protei

* These guidelines were sponsored by a g from Boehringer Ingelheim Animal Health a They were subjected to a formal peer-review

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are scenarios where this is the most practical monitoring scheme. Table 3 lists the suggested protocol for using UG test strip readings in cats is based on the Task Force's clinical experience.

Glycosylated Proteins

The glycosylated proteins include fructosamine and glycosylated hemoglobin (A1C). Fructosamine, the glycosylated protein used in veterinary medicine, is formed by nonenzymatic, irreversible binding of glucose to serum proteins, mainly albumin.[42] Rate of formation is proportional to the average BG level, so the higher the mean BG concentration is over time, the greater the fructosamine concentration should be. Because fructosamine concentration is also affected by the half-life of albumin, it reflects glycemic control over the previous 1–2 wk. Unfortunately, well-controlled diabetics can have elevated fructosamine concentrations. Conversely, uncontrolled diabetic pets can have normal levels.[43] Fructosamine may be elevated in sick, hyperglycemic, but nondiabetic cats.[43] For these reasons, fructosamine trends are more useful than isolated values. Because fructosamine is typically not affected by stress, it can help to differentiate stress hyperglycemia from diabetes.

One of the best uses of fructosamine is to evaluate trends in glycemic control if measured at each recheck. Declining fructosamine values indicate a lowering in BG overall, whereas increasing values indicate the opposite. A fructosamine concentration below the reference range is highly suggestive of chronic hypoglycemia, in which case a BGC should be performed. Additionally, this scenario may be an indicator that a feline patient may be nearing diabetic remission. Cats with hyperthyroidism or conditions that cause hypoalbuminemia, increased protein turnover rates, or hypoglobulinemia may have decreased fructosamine concentrations. Corrections can be performed by the laboratory performing the analysis.

Commercial testing of canine and feline A1C is available. This glycated hemoglobin is commonly used to monitor diabe-

evidence of tight glyce
term goal of DM tre
However, because a plac
DM control should not

Monitoring on the Init

- Initiate insulin thera
- Measure fructosamir
- Perform a BGC to e
- If BG is <150 mg/d
  - Decrease dose by
  - Decrease dose by
  - In both species, r until a nadir >15
- If BG is >150 mg/dl 14 days (sooner if con should not be increase

Monitoring Until Conti

- In a new diabetic, ha observe technique.
- BGC will need to b dose is found.
- Review owner log.
- Perform a physical body weight.
- Perform a BGC and

Ongoing Monitoring

- Review owner log.
- Perform a physical bodyweight.
- Perform a BGC and