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## Glycosylated hemoglobin concentration for assessment of glycemic control in diabetic cats.

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### Author information

### Abstract

Blood glycosylated hemoglobin (GHb) concentration was quantified in 84 healthy cats, 9 cats with stress-induced hyperglycemia, 37 cats with newly diagnosed diabetes mellitus, and 122 diabetic cats treated with insulin or glipizide. Diabetic control was classified as good or poor in insulin-treated or glipizide-treated cats based on review of history, physical examination findings, changes in body weight, and measurement of blood glucose concentrations. Blood GHb concentration was determined using an affinity chromatography assay. Mean blood GHb concentration was similar for healthy normoglycemic cats and cats with transient, stress-induced hyperglycemia, but was significantly ( $P < .001$ ) higher in untreated diabetic cats when compared with healthy normoglycemic cats. Mean blood GHb concentration was significantly ( $P < .001$ ) higher in 84 cats with poorly controlled diabetes mellitus when compared with 38 cats in which the disease was well controlled. Mean blood GHb concentration decreased significantly ( $P < .01$ ) in 6 cats with untreated diabetes mellitus after insulin and dietary treatment. A similar significant ( $P < .01$ ) decrease in mean blood GHb concentration occurred in 7 cats with poorly controlled diabetes mellitus after diabetic control was improved by an increase in insulin dosage from 1.1 +/- 0.9 to 1.4 +/- 0.6 U/kg/ 24 h and by feeding a diet containing increased fiber content and in 6 cats with transient diabetes mellitus 8.2 +/- 0.6 weeks after discontinuing insulin treatment. There was a significant ( $P < .01$ ) stress-induced increase in mean fasting blood glucose concentration and mean blood glucose concentration for 12 hours after administration of insulin or glipizide but no change in mean blood GHb concentration in 5 docile diabetic cats 12.2 +/- 0.4 weeks after the cats became fractious as a result of frequent hospitalizations and blood samplings. Results of this study suggest that evaluation of blood GHb concentration may be a clinically useful tool for monitoring glycemic control of diabetes in cats.

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