

Glycosylated hemoglobin is a good indicator of blood glucose status in Persian cats

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Abstract

The purposes of this study were to determine normal value of glyated hemoglobin in Persian cats and to investigate its relation to fasting plasma glucose. Blood samples were collected from 67 clinically healthy adult Persian cats (32 males and 35 females). After separation and washing of red blood cells, hemolysate was

prepared and subjected to weak cation exchange chromatography for determination of glycosylated hemoglobin. Glucose was measured in fasting plasma samples (after 10–12 h of fasting) using glucose oxidase method. Glycosylated hemoglobin % in the studied cats was 1.56 ± 0.47 in males and 1.61 ± 0.52 in females. Fasting plasma glucoses were 88.3 ± 10.2 and 90.8 ± 11.5 mg/dl in males and females, respectively. Glycosylated hemoglobin % and plasma glucose strongly correlated together ($r = 0.79$, $p < 0.001$). Three cats with persistent high fasting plasma glucose showing glycosylated hemoglobin percentage of 2.6, 2.8, and 2.9 % which exceeded the upper limit of the normal value obtained in this study were found. We concluded that glycosylated hemoglobin % is a good indicator of fasting plasma glucose, and its determination can be considered as a method for diabetes screening in Persian cats. Considering three cats with persistent high fasting plasma glucose and glycosylated hemoglobin percent, we concluded that glycosylated hemoglobin percent could be a good biochemical test for screening or diagnosis diabetes in cats.

Keywords

Glycosylated hemoglobin Cation exchange chromatography Persian cat
Blood glucose Diabetes

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