

The Prevalence Of Hypersomatotropism In Diabetic Cats In Australia.

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Abstract:

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Introduction: Hypersomatotropism is an excessive production of growth hormone from the anterior pituitary gland, typically secondary to a pituitary tumour that causes insulin resistant diabetes and the clinical syndrome of acromegaly. Studies have shown a prevalence of hypersomatotropism among diabetic cats in the UK of 26% and in Switzerland & the Netherlands of 17.8%.^{1,2} The prevalence of hypersomatotropism in Australia is not known

Materials and methods: Residual serum samples from cats with increased fructosamine or increased blood glucose and a clinical history of diabetes were submitted for IGF-1 measurement. Hypersomatotropism was defined as an IGF-1 of ≥ 1000 . The prevalence and associated confidence interval were calculated (Jeffrey's method). Clinicopathological features between diabetic cats with and without hypersomatotropism were compared.

Results: 87 samples from individual cats were included in the analysis. IGF-1 was > 1000 ng/mL in 14 cats. The absolute prevalence of IGF-1 was 16%, therefore the prevalence of hypersomatotropism in an Australian population is estimated to be between 9.5 and 24.9%. No significant difference was detected between breed (pedigree vs domestic), sex, age, nor location (metropolitan versus regional) in cats with and without hypersomatotropism. Glucose and fructosamine concentrations did not differ between cats with and without hypersomatotropism ($p=0.9$ and $p=0.57$ respectively).

Conclusion: Hypersomatotropism is an increasingly recognised condition in the feline population as a major contributor to uncontrolled diabetes mellitus. This study supports hypersomatotropism as a significant cause of diabetes mellitus in the Australian feline population.

1. Niessen SJM, Forcada Y, Mantis P, Lamb CR, Harrington N, Fowkes R, et al. Studying Cat (Felis catus) Diabetes: Beware of the Acromegalic Imposter. PLoS One. 2015 May 29;10(5):e0127794.
2. Schaefer S, Kooistra HS, Riond B, Suchodolski JS, Steiner JM, Prins M, et al. Evaluation of insulin-like growth factor-1, total thyroxine, feline pancreas-specific lipase and urinary corticoid-to-creatinine ratio in cats with diabetes mellitus in Switzerland and the Netherlands. J Feline Med Surg. 2017 Aug;19(8):888–96.