Feline acromegaly

Sara Seguí Peiró

January 2018

FACULTAT DE VETERINÀRIA

Universitat Autònoma de Barcelona

Introduction

The excess of growth hormone secretion, **hypersomatotropism**, may induce the acromegalic syndrome. It is caused by the anabolic effects of IGF-1 synthesized in the liver.

Hypersomatotropism is **underdiagnosed and might be the cause of >30% of insulin resistant feline diabetes mellitus.**

Etiology

Feline acromegaly may be caused by either **adenohypophyseal adenoma** or hyperplasia of acidophilic cells.

There are **genetic and environmental predisposing factors** that induce the AIP gen mutation.

There is higher incidence in **european short- hair, middle-aged/older male neutered cats.**

Diagnostic tools

Blood test	Imaging
Serum biochemical analysis and urianalysis	Echography
Serum total IGF – 1 concentrations (false positives and negatives)	Echocardiography
Serum GH concentrations	CT
Serum ghrelin concentrations	MRI
Serum PIIIP (type III procollagen propeptide) concentration	

Surgical treatment

- Hypophysectomy
- Criohypophysectomy

Radiotherapy

Medical treatment

- Dopaminergic agonists
  - L-deprenyl
- Somatostatin analogues
  - Octeotride
  - Lanreotide
  - **Pasireotide**

Objectives

- ✓ Establish the acromegaly prevalence based on retrospective studies and clinical trials.
- ✓ Review diagnostic update.
- ✓ Update treatment alternatives.

CLINICAL SIGNS AND PHYSICAL EXAMINATION FINDINGS IN CATS WITH ACROMEGALY*	
CLINICAL FINDINGS	PERCENT OF OCCURRENCE
Diabetes mellitus (usually poorly controlled)	96 – 100%
PU/PD	83 – 100%
Polyphagia	78 – 100%
Enlargment of head, abdomen and paws	50 – 83%
Prognathia inferior	35 – 71%
Wight gain	35 – 59%
Hepatomegaly and/or renomegaly	26 – 100%
Heart murmur and/or gallop rhythm	17 – 64%
Wight loss	9 – 57%
CNS signs	9 – 14%
Diabetic neuropathy	6 – 26%
Enlargement of the tongue	6 – 21%
Lameness or degenerative arthropathy	5 – 43%
Respiratory stridor	4 – 53%

Conclusions

Feline acromegaly is underdiagnosed: ≥30% of insulin resistant diabetic cats may be acromegalic.

- The environmental factors could be a cause of the increase of the syndrome
- Underdiagnose is due to the variability of clinical signs and the imperfection diagnostic tools

There are many ineffective or inaccessible treatments, but long-acting pasireotide could offer a good pharmacological solution.

*Feldman EC, Nelson RW (Richard W, Reusch C, Scott-Moncrieff JCR, Behrend EN, Feldman EC. 2015. Canine and feline endocrinology.