

HYPERTHYROIDISM IN CATS

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INTRODUCTION

Hyperthyroidism (thyrotoxicosis) is the most common endocrine disorder of the cat. It was first definitively diagnosed in 1979 and its incidence has increased dramatically since. It is unclear whether this is because it is truly a new disease or because it is being diagnosed more frequently as a result of improved awareness, a growing cat population, increased longevity or a combination of these factors.

MATERIALS AND METHODS

These cases were studied and treated at the Medical Clinic of the FMV Bucharest.

For these cases, the steps in diagnosis and treatment were as following: case history, clinical exam, ultrasound, Rx, electrocardiography, blood exam, biochemistry exam and T4 evaluation.

RESULTS AND CONCLUSION

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Level of T4 is measured in $\mu\text{g}/\text{dl}$ and in nmol/L . To convert $\mu\text{g}/\text{dl}$ to nmol/L , multiply by 12, 87. Normal level of T4 is: 1-4 $\mu\text{g}/\text{dl}$.

Case number	Age	Sex	Neutered	Breed	Weight loss	Polyphagia	Pu/Pd	Other symptoms and underlying diseases	T4 level (1-4 $\mu\text{g}/\text{dl}$)	Blood exam
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1. Mita	13	F	No	European shorthair	yes	no	no	Tachycardia Dyspnea Loss of appetite Dehydration Pale mucous membranes Depression	6.3 µg/dl	Normal
2. Miki	13	M	Yes	Burmese	yes	no	yes	Anorexia Dehydration Skin lesions Diabetes mellitus	4.2 µg/dl	Hyperglycemia
3. Misu	9	M	No	European shorthair	yes	no	yes	Tremors of head and legs Pulmonary edema Congestive cardiac failure	7 µg/dl	Lymphopenia ALT ALKP slightly elevated
4. Nae	14	M	No	Burmese	yes	yes	yes	Tachycardia Dyspnea Dehydration Palpable goiter	Very high Device couldn't identify the level of T4	L/M WBC GRANS ALKP (elevated)

Hyperthyroidism is a disease seen almost exclusively in older animals. The average age at onset is 12-13 years. Almost all are in excess of 6 years and less than 5% are younger than 10 years at the time of diagnosis. There is no apparent sex predisposition.

Classically, affected cats are presented with a history of weight loss despite an increased appetite, polyuria/polydipsia and intermittent gastrointestinal signs of vomiting and/or diarrhea.

Notable findings on physical examination include tachycardia (heart rate in excess of 240 beats/min) with or without an audible systolic murmur. Goiter is apparent in over 95% of affected patients.

A small proportion (<10%) of cases presents with apathetic hyperthyroidism, where anorexia and depressions are the most significant features.

Treatment is aimed at controlling the excessive production of the thyroid hormones either by medical inhibition of thyroid hormone synthesis, surgical removal of affected thyroid tissue or destruction through radio ablation or local ethylene glycol administration.

Drugs that were used in treating hyperthyroidism: methimazole (1, 25-5mg/cat/day), carbimazole (2.5-5mg/cat/day), propranolol (2.5-5mg/cat, 3x/day), atenolol (3.125-6.25mg/cat, twice daily), L-carnitine (240 mg/cat/day)

Side effects of methimazole are: **facial excoriation** (localization is head and neck), **g.i. upset** (first 4 weeks of treatment, resolves with dose reduction), **hepatotoxicity, renal decompensation, coagulation abnormalities** (this reaction is rare but should be taken in consideration when the patient presents hemorrhage and is under treatment with methimazole), and **acquired myasthenia gravis**.

CONCLUSIONS

All patients with hyperthyroidism should come for periodic evaluation of T4, blood exam and physical exam

Patients must know that medication for this disease is for a long period of time, that cats with hyperthyroidism are aggressive and is difficult to administer oral medication.

If hyperthyroidism is diagnosed in time and the level of T4 is not too elevated than the patient should be fed with PD feline Y/D and in this case medication is not necessary.

Complications occur in chronic cases such as: pulmonary edema, congestive heart failure, neurological disorders and skin lesions.

Treatment is focused on the disease (specific treatment) and also on complications.

REFERENCES

- Codreanu M. – Patologia Medicala a Animalelor Domestice, Ed. Printech 2008;
Ettinger, S.J., Feldman, C.J. – Textbook of veterinary internal medicine, W.B. Saunders Company, Philadelphia 1995;
John D. Bonagura, Twedt C. D. - Kirk's Current Veterinary Therapy, Saunders 2008;
Carmel T. Mooney, Mark E. Peterson – BSAVA Manual of canine and feline endocrinology, third edition.