



Feline Hyperthyroidism

micro drip study guide

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CriticalCareDVM

Educating Pet Parents & Promoting the Triad of Care



Tackling Thyrotoxicosis Feline Hyperthyroidism

This is Christopher Byers from CriticalCareDVM.com. Welcome to Tackling Thyrotoxicosis, part of Endocrine 411, brought to you by Drip Learning Technologies.

Poppy, 13 yr FS DSH

- Preventative healthcare examination



Please meet Poppy. She's a 13-year-old female spayed domestic short hair, who was presented to you for her preventative healthcare examination.

Physical Examination

Vomiting

- Generalized sarcopenia (BCS 3/9)
- II/VI bilateral apical holosystolic murmur
- Tachycardia (HR 210 bpm)
- Intermittent gallop
- Bilateral thyroid "slip"



At this point, based on Poppy's history and physical examination, ...

Physical Examination

TENTATIVE DX

1. *Hyperthyroidism*
2. *Secondary hypertrophic cardiomyopathy*

I think it would be very logical to make a tentative diagnosis of hyperthyroidism and secondary hypertrophic cardiomyopathy.

Diagnostic Investigation

- Complete blood count
- Serum biochemical profile
- Urinalysis
- Retroviral status
- tT4
- Blood pressure
- SNAP feline proBNP

So how do we prove our clinical suspicion of hyperthyroidism and secondary hypertrophic cardiomyopathy? Well obviously, we need to run some tests. A logical minimum database for a patient like Poppy includes a complete blood count, serum biochemical profile, and a urinalysis. I think it's always good to know the retroviral status of a sick cat.

Because we're worried about hyperthyroidism, we should measure a total thyroxine level and we should measure her blood pressure because many patients with hyperthyroidism and cardiovascular disease have hypertension. Because we're concerned about secondary hypertrophic cardiomyopathy, measuring her feline proBNP via SNAP modality would also be very appropriate.

So let's look at some results.

Diagnostic Investigation

COMPLETE BLOOD COUNT

- Lymphopenia (0.068 K/uL)

tT4

- 3.9 ug/dL (high normal)

SERUM BIOCHEMICAL PROFILE

- Elevated ALT (254 U/L), normal CREA (1.3 mg/dL), elevated ALP (176 U/L), elevated PHOS (5.9 mg/dL)

BLOOD PRESSURE

- 148 mmHg systolic via Doppler

URINALYSIS

- USG 1.037, no proteinuria, inactive sediment

SNAP feline proBNP

- Abnormal

RETROVIRAL STATUS

- FeLV negative / FIV negative

Her CBC identified a lymphopenia, her serum biochemical profile identified a mild elevation of ALT at 254 U/L, her creatinine was normal, her alkaline phosphatase was mildly elevated at 176 U/L, and her phosphorus level was similarly mildly elevated at 5.9 mg/dL. Her urine specific gravity was concentrated at 1.037, and there was no evidence of proteinuria and she had an inactive urine sediment.

She tested negative for both feline leukemia virus and feline immunodeficiency virus. Her total thyroxine level was at the high end of the normal reference range at 3.9 ug/dL. Her blood pressure was acceptable for an in-clinic measurement at 148 mmHg systolic via Doppler and her feline proBNP via SNAP modality was abnormal.

So based on these results, you continue to be concerned about secondary hypertrophic cardiomyopathy for Poppy. But interestingly, despite your clinical suspicion, her total thyroxine level was normal. It was at the high end of the normal reference range, but nevertheless it was normal.

So does that mean we have completely ruled out hyperthyroidism for Poppy at this time?