Feline Radioiodine Center

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"GREY ZONE" Cats - A Special Case

We receive referrals for patients with "grey zone" TT4 +- elevated fT4 regularly. These cases have their own considerations for radioiodine and deserve special mention.

As noted in the "Thyroid Testing" handout, the diagnosis of hyperthyroidism requires lab tests supportive of hyperthyroidism and consistent physical exam and clinical signs. With TT4 regularly included in lab panels, we are happily able to diagnose hyperthyroidism earlier than in years past with patients less severely affected by the disease. However, including a test without clinical or exam suspicion increases the risk of misdiagnosis.

Clients who contact us seeking radioiodine without a firm diagnosis of hyperthyroidism are advised that **it is safest to wait to pursue radioiodine until the disease is more fully developed.** A *reversible* methimazole or y/d trial is reasonable for suspected cases of hyperthyroidism.

> *NOTE:* in our experience, the standard methimazole starting dose of 2.5mg BID causes side effects, at times severe, in early cases. We recommend starting at 1.25mg BID and titrate up after the 1st recheck if needed.

However, *irreversible* radioiodine has a higher risk of causing permanent iatrogenic hypothyroidism post-treatment in early or subclinical cases. In these cases, normal thyroid cells are at risk of taking up radioactive iodine because they are not down-regulated (high T4 causing low TSH). **A patient not only has to be hyperthyroid, they have to be hyperthyroid ENOUGH for radioiodine.**

In most cases, we recommend maintaining on methimazole for a few more months (if tolerated and positive clinical effect) then stopping and rechecking untreated TT4, T4 and TSH a few weeks later. Alternatively, if the patient does not have concerning clinical signs and has a normal Pro-BNP and blood pressure, it is reasonable to hold on any treatment and recheck TT4, T4 and TSH 3 – 4 months later, sooner if the owner notices more obvious signs of hyperthyroidism.

> *NOTE:* We have started using **lower doses of radioiodine** than our normal lowest dose (2 millicuries, already lower than many providers in the country) **in select cases with compelling reasons**, virtually always in patients that did not tolerate methimazole or when a y/d trial is not workable e.g. patients with cardiomyopathy, apparent hypersensitivity to T4 hormone with more severe clinical signs than expected, life event such as pregnancy or human family member medical treatment that necessitates the patient to be through the process and post-radioiodine radioactivity in a quicker time frame.
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> Results have been good so far, but it is still early. Owners are advised that there may be a less than 95% 1st injection cure rate using lower doses, and that iatrogenic hypothyroidism is still possible.