



Feline Radioiodine Center

Diane Decker DVM

Program Director, Radiation Safety Officer

9339 SW Beaverton Hillsdale Hwy, Portland, OR 97225

Email: I-131Records@nva.com (preferred)

Tel: 503-616-####

RADIOIODINE AND RENAL DISEASE

OUR PHILOSOPHY

Radioiodine can be an important part of almost every patient's long-term health. Curing hyperthyroidism eases the stress it can place on their system, including those with co-morbidities. However, radioiodine is almost never the right choice for pets with other serious diseases that may make them feel ill within a few months (such as cancer).

We approach patients with renal disease with caution and have in-depth conversations with the owners re: risk vs benefit. Different providers of radioiodine have varying philosophies regarding treating cats with kidney disease, ranging from "no, never" to "always! Cure what you can and pick up the kidney pieces wherever they land". We evaluate each case individually, considering many factors in guiding owners to the right choice for them and their cat. Our goal is the best quality of life and maintaining their bond with their cat. Much depends on if the patient is thriving on the medication or not, the suspected trajectory of kidney disease, co-morbidities, etc.

We can discuss this with clients during a phone consult *or* speak with the primary veterinarian who conveys the information to the owner. We find that owners benefit from the phone consult with 30-40+ minutes of delving deeply into their cat's medical history, even if we decide that radioiodine may not be the right choice (or at least not right now).

THYROID AND RENAL VALUES RELATIONSHIP

Renal disease and hyperthyroidism have a complicated relationship where the presence of one or both diseases can make knowing the true status of the other difficult. This is due to 1. **sick euthyroid** where serious non-thyroidal illness lowers TT4 and 2. **"masked" kidney disease** where hyperthyroidism causes abnormally high blood flow to the kidneys, falsely improving renal values.

We explain the relationship between thyroid and kidneys to clients as a see-saw: "thyroid down, kidneys up". A successful methimazole or y/d trial is a preview of kidney values when euthyroid. However, this may not be a perfect "crystal ball" for post-radioiodine renal status. Owners are advised that renal values may increase post-radioiodine due to muscle mass gain and unmasking, even if the patient had normal renal values on methimazole.

PROS OF RADIOIODINE IN RENAL DISEASE

- Patients are better radioiodine and post-radioiodine isolation candidates earlier in the course of both diseases than if pursued later, when they may be experiencing clinical signs from more advanced diseases.
- Radioiodine has clear longevity and QOL benefits compared to patients maintained on methimazole.



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- As the nodule grows, the hyperthyroidism could become uncontrolled which can cause further damage to the kidneys.
- As the nodule grows, the dose of methimazole needed to control the disease can become so high that the patient cannot tolerate it. The gastrointestinal upset effects may be more pronounced in a renal patient that may already be experiencing nausea or reduced appetite due to azotemia.

POTENTIAL CONS OF RADIOIODINE IN RENAL DISEASE

- Some studies show that radioiodine can advance renal disease a full IRIS level post-radioiodine, in some cases reducing longevity to 6 months instead of years
- **Iatrogenic hypothyroidism**, if it were to occur, can have an exaggerated see-saw with a potentially negative prognostic effect. This is more than unmasking – hypothyroidism reduces the level of cardiac support to the kidneys to an abnormally low level, worsening renal function and increasing renal values.
 - Iatrogenic hypothyroidism is always a risk even with the already low doses that we administer. Studies show that up to 20% of cats experience transient low thyroid state after radioiodine.
 - Many cases of azotemia improve when the TT4 increases – either with more time or with levothyroxine administration.
 - However, for some patients, even if hypothyroidism is temporary, the kidneys may be permanently further damaged and the azotemia does not improve.
 - There are steps that we can take to try to mitigate this risk (e.g. SQ fluids, levothyroxine administration for the 1st month after radioiodine, then assessing if patient can be weaned off).

We appreciate you referring to us and allowing us the privilege of treating your patients.