

Prospective Evaluation of Thyroid Function in Dogs with Naturally Occurring Thyroid Carcinomas

Study Objectives

Thyroid carcinomas are a cancer that develop in the thyroid gland and are the most common tumor of the endocrine system in dogs. Thyroid tumors can be functional or non-functional, meaning they can produce thyroid hormones or not. In humans with thyroid tumors, the hormonal profile of the tumor greatly impacts treatment outcomes and options. Little is known about the predisposing factors causing these tumors in dogs, but in humans Hashimoto's thyroiditis is associated with thyroid tumor development. In humans the thyroid hormones greatly impact outcome and therapies with TSH suppression being frequently administered to patients with differentiated thyroid carcinomas for its anti-tumor effects.

Data regarding the functional thyroid status in dogs is based on retrospective studies from small numbers of dogs in the past. The ability to measure many of these thyroid hormones in veterinary medicine has greatly expanded in the past 20 years but this has not yet been applied to thyroid carcinomas. Our aim is to prospectively evaluate the thyroid hormonal characteristics of dogs with thyroid carcinomas. This would require a single blood draw from patients diagnosed with a thyroid carcinomas by cytology (a small sample taken with a needle put on a slide read by a pathologist) or dogs with elevated T4 levels on bloodwork without any other cause for an elevated T4 (such as medications or diet). This blood sample would then be sent to Michigan State University to measure multiple thyroid hormones (T4, T3, TSH, free T4, free T3) and antibodies against the thyroid gland. Enrollment is open to clinicians around the country who treat these tumors to better represent a wide range of tumors and presentations.

Inclusion Criteria

Patients must not have received prior therapies for their thyroid tumors, and must have a diagnosis of a thyroid carcinoma either by cytology, or an elevated T4 with appropriate clinical signs and no other obvious cause of the elevated T4.



Exclusion Criteria

Patients are excluded from the study if they received any prior therapies for their thyroid tumor, or are on any medications that can impact thyroid function. Specifically:

- Thyroid supplementation (levothyroxine)
- Steroids (such as prednisone)
- Phenobarbital
- Toceranib phosphate (Palladia®)
- Trimethoprim/sulfamethoxazole (TMS)

Study Benefits

The cost of sampling, shipping and analysis are all covered by the study. No long term follow up is needed but analyzing the different hormones may open up new treatment options for the patients as well.

Contact Information

Dr. Andrew Schlueter
Aschlue2@utk.edu | 865-755-2182

Dr. Rebekah Robert
rrobert@vols.utk.edu

Christina Zukas, LVMT
czukas@utk.edu | 865-320-5713