Canine Thyroid Tumors

Client Informational Handout

VETERINARY MEDICAL CENTER
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Overview

Canine thyroid tumors are relatively common in dogs. Malignant thyroid tumors are more common in the dog than benign tumors, with carcinoma being the most common malignant type. These tumors can carry an excellent prognosis when they are small, thus it is important that any masses that you detect in your pet are assessed by your veterinarian. Thyroid tumors typically grow locally in the neck but they can metastasize (spread to other sites) to the neck lymph nodes and lungs.

Clinical Signs

The most common presentation is a visible or palpable mass in the neck region, although large tumors may cause signs such as gagging, difficulty swallowing regurgitation, and altered bark. Functional thyroid tumors in the dog that cause hyperthyroidism are uncommon.

Diagnosis

The "gold standard" diagnosis occurs following removal of the mass or a piece of the mass for histologic diagnosis. However, fine needle aspiration cytology, where a small collection of cells is taken from the mass, is often performed first and can lead to a presumptive diagnosis of thyroid carcinoma. In some cases, the tumor in not sampled due to the risk of bleeding as thyroid tumors can be quite vascular. We then rely on imaging such as CT scan to have diagnosis of suspicion. Palpation of the tumor with your pet under anesthesia is an important part of the evaluation. If the tumor is mobile, surgery is likely a very good option but if the tumor is extremely fixed to the surrounding tissues, surgery may not the best course of action due to the risk of complications. Staging, where your pet is evaluated for evidence of metastasis for canine thyroid tumors typically consists of complete blood count, serum chemistry profile, urinalysis, imaging of the lungs/thorax (radiographs or CT scan), regional lymph node cytology and/or biopsy/histology and advanced imaging of the primary tumor (usually a CT scan). Thyroid gland function may be performed if clinical signs are indicative of a functional tumor. Because dogs with thyroid cancer tend to be older and often have other cancers, sometimes it is useful to do additional tests (imaging of the abdomen). Your oncologist can discuss the pros and cons with you.

Treatment Options & Prognosis

Definitive-Intent Treatment for Long-Term Control:

1. The treatment of choice for canine thyroid tumors is surgical resection. For mobile (not fixed), unilateral or bilateral tumors, we expect an excellent prognosis with average survival times > 2-3 years with surgery alone. We still advise routine monitoring because some thyroid tumors can be very late to spread to other sites such as lung. General risks of surgery include discomfort after the procedure, bleeding during surgery (these are often close to large blood vessels), postoperative infection (rare), dehiscence (falling apart of the incision), and inability to completely remove the tumor.
2. For tumors that cannot be excised (usually fixed, invasive tumors), definitive-intent radiation therapy (RT) can offer long-term control and may make some tumors amenable to surgical removal after 1-2 years. The majority of dogs (>65-75%) will have a good response to therapy with tumor and the prognosis with response

to therapy is good. It is important to recognize that these tumors tend to shrink slowly after radiation and some tumors will continue to shrink over 2 years. Survival times are similar to surgery in that most dogs survive > 2-3 years after radiation treatment. RT involves daily radiation to the tumor and a rim of surrounding tissue where we think tumor exists. Treatment involves daily radiation for approximately 20 treatments administered daily (Monday through Friday for 4 weeks). Fast-acting anesthesia is used to ensure that the tumor is appropriately targeted with each treatment. Acute side effects with this type of protocol are common by the end of treatment and can include skin effects (dermatitis) and irritation to the esophagus (esophagitis). Acute effects are managed with anti-pain medications and occasionally topical creams on the skin; all are expected to heal within 2-4 weeks after radiation is finished. Late radiation effects (permanent, irreversible changes) typically occur months to years following radiation. The goal of this type of radiation (small doses given over 4 weeks) is to minimize the likelihood of late toxicity. Common late radiation changes include haircoat color change (usually to white), hair loss in the irradiated field (which can be permanent), and thickened skin. Uncommon but possible late changes include stricture (narrowing) of the esophagus and rarely of the trachea. This can cause problems for dogs when they are eating if food cannot pass down the esophagus. The likelihood of significant radiation changes is < 5% in the dogs that we treat. Following treatment, we recommend routine recheck examinations approximately every 3 months for 18-24 months, particularly if additional therapy like surgery is considered.

3. Chemotherapy or targeted therapy is often combined with surgery or external beam RT for large, bilateral tumors or when there is evidence of metastasis. The true role of chemotherapy is unclear however it may help to delay the time to metastasis or slow progression in some cases.

Palliative-Intent Treatment:

1. RT can also be administered in larger doses less frequently to try and alleviate clinical signs secondary to a tumor (difficulty eating, pain, regurgitation, etc). Radiation given as a palliative treatment typically involves radiation once daily for 5 days in a row or once weekly for 4 treatments. The goal with palliative radiation is not to obtain long term control but rather to improve quality of life for as long as possible. Because larger doses of radiation are administered, the possibility of late radiation effects is higher as these larger doses are more damaging to normal tissue like the esophagus. However, it is unusual that pets will develop severe late effects as their prognosis tends not to be as good. Many pets will have improved quality of life for 6-12 months following this type of treatment.
2. Chemotherapy or targeted therapy (tyrosine kinase inhibitors) may provide palliation for tumors that cannot be resected. There are several drugs which may be used; your oncologist will discuss these options with you.

Monitoring:

No further therapy is always an option, should you elect not to consider definitive or palliative treatments. Palliative options will almost always remain an option to you should your dog have progressive disease and develop clinical signs. For dogs with clinical signs, we can help you manage this and determine how well your pet is doing. For dogs with metastasis to lymph nodes or lungs, many of these tumors will continue to slowly grow over time, but this allows many dogs to compensate well for the disease. Survival times even in the face of metastatic disease can still be prolonged (>12 months) so we typically still recommend definitive therapies for tumor control.

It is important to discuss all options with your oncology team as alternative treatments may be more appropriate for your pet. Please do not hesitate to let us know if you have questions or concerns.