Hyperthyroidism in Cats

The thyroid is a two-lobed gland located in the neck region. One lobe of the thyroid gland is located on each side of the trachea (windpipe). The thyroid gland produces thyroid hormone, a substance that is transported to every cell in the body via the blood stream. The primary function of thyroid hormone is to enhance the rate at which cells function; too much hormone makes the cells work very fast while too little causes the cells to slow down.

Hyperthyroidism occurs with excess thyroid hormone production. It is rare in dogs, but is one of the most common diseases diagnosed in cats seven years of age and older.

Clinical signs for hyperthyroidism vary among affected cats. The most common signs are weight loss, increased appetite, patchy hair loss, failure to groom, increases in water intake and urine output and restlessness or nervousness. Vomiting and diarrhea are also common. Panting is rarely seen.

Diagnosis

To diagnose hyperthyroidism blood tests of thyroid activity are necessary. Most hyperthyroid cats will reveal an elevated thyroid hormone (T4) in their blood stream. However, a small percentage of cats do not have a “diagnostic” elevation in their blood T4 level. In these instances follow up testing or additional assessment of thyroid function is indicated.

Treatment

Three different treatments are available for managing hyperthyroidism in cats. Hyperthyroid cats that are not treated tend to become increasingly ill, whereas treatment will usually restore a patient’s health.

One treatment option involves the use of an oral medication called methimazole (Tapazole®). Methimazole works by reducing the thyroid gland's ability to produce T4. This medication is readily available and relatively inexpensive. The major disadvantage to methimazole is that it must be used for the remainder of the cat's life. Moreover, it may also cause vomiting, loss of appetite, liver damage and decreases in white and red blood cells and platelets idiosyncratically. Full blood work is necessary within one week of the introduction of methimazole to ensure that the liver and bone marrow are tolerant to the drug. Finally, serial reassessment of thyroid function is required to confirm the methimazole dose is controlling the hyperthyroidism (usually every three months). Methimazole, if tolerated, is often recommended in patients with concurrent chronic renal (kidney) insufficiency.

Another treatment option is surgical removal of the abnormal thyroid gland(s); this procedure is called thyroidectomy. Although surgery does resolve the hyperthyroidism quickly, it requires anesthesia and hospitalization, and some hyperthyroid cats are at increased anesthetic risk. Rarely parathyroid glands may be accidentally removed during thyroidectomy; a surgical consequence that results in hypocalcemia (low blood calcium) and lifelong calcium supplementation. Finally, surgical correction of thyroid hyperactivity may be detrimental to the patient's kidney health. Rapid reduction in thyroid activity alters renal (kidney) blood flow. In patients with concurrent renal disease this rapid change in blood flow may aggravate the renal disease.

The third and generally best treatment option employs the administration of radioactive iodine (I-131). Iodine is the primary building block of thyroid hormone and is absorbed readily by thyroid gland cells whether the iodine is radioactive or not. Radioactive iodine is taken up by thyroid cells (preferentially gathering in abnormal thyroid cells) and irradiates these abnormal cells, destroying them.

There are few disadvantages to I-131 therapy. Patients receiving I-131 treatment must remain in the hospital until their radioactivity drops below a specified threshold. Visitation during this hospital stay is not permitted because of state and federal mandates. This obligate hospital stay is generally 5 to 7 days. Furthermore, some cats treated with I-131 may become irreversibly hypothyroid, a condition that requires lifelong thyroid hormone replacement therapy. Finally, a small percentage of patients that undergo radioactive iodine therapy may develop overt renal disease.

Your veterinarian can talk through the various treatment options with you to help you make an informed decision about the most appropriate treatment for your cat.

For more information on this subject, speak to the veterinarian who is treating your pet.