

Hyperthyroidism (also known as thyrotoxicosis) is a disorder of the thyroid gland, and is very common in the older cat population. There are two thyroid glands, situated in the neck, and they produce a hormone that normally acts within the body to control metabolic rate and activity level. In hyperthyroidism, the glands start to produce excessive amounts of thyroid hormone, which can then affect a number of body organs sending them into a state of over-activity and eventually causing irreversible damage.

In cats, this condition is usually the result of a benign tumour of the thyroid gland, and is usually slow to develop. In a small proportion of cats (1-2%) the tumour will be malignant and carries a very guarded prognosis.

Clinical Signs

Hyperthyroidism is most commonly seen in middle-aged to older cats, and very rarely seen in cats under seven years old. There are no breed or sex predispositions.

The signs can vary from mild to severe, with most individuals having problems related to a number of organ systems. Most commonly cats will show:

- weight loss
- poor coat
- excessive drinking
- voracious appetite
- temperament changes (hyperactive, nervous, anxious or aggressive)

Fast heart and breathing rates, vomiting and diarrhoea may also be noticed along with a multitude of other small changes that many owners will attribute to their pet's "old age".

Hyperthyroidism is often associated with secondary complications due to the effect of the hormone on the body organs:

- Heart disease – heart rate increases. Over time the heart muscle will enlarge to compensate for the extra work and may result in heart failure.
- Hypertension – high blood pressure is another complication and can cause damage to the eyes, kidneys, heart and brain.
- Kidney disease – although this is not directly caused by hyperthyroidism, the two diseases often coincide because they are both commonly found in older cats. Hyperthyroidism leads to an increased blood supply to the kidneys, which may improve their function. However, once the hyperthyroidism is under control with treatment, the kidney disease may quickly progress, so it is important to monitor kidney function closely.

Diagnosis

Your vet may suspect the disease based on the history you describe (see above). Sometimes an enlarged thyroid gland may be palpable in the neck (this is called a goitre). Usually a blood test is required to confirm the increased levels of thyroid hormone circulating in the bloodstream. Other laboratory tests may be abnormal eg: increased liver enzymes secondary to hyperthyroidism, and it is also advisable at this stage to check for any concurrent disease with blood and/or urine tests. Blood pressure should be measured if possible, and sometimes further tests, eg: electrocardiograms, x-rays, or ultrasound may be useful to help assess severity of changes. Occasionally, specialist tests may be indicated eg: technetium scanning, but are usually carried out at referral centres.

Treatment

There are three main methods of treatment:

1. **Anti-thyroid medication** – this is in tablet form and must be given every day. This is usually the first treatment to be tried, and can be used long-term for the rest of the cat's life, or once the condition has become stable, other treatment methods may be considered. Once starting treatment, a blood test is required three to six weeks later to assess the response. It may be necessary to alter the dose or frequency of medication at this point to ensure there is adequate control of the hyperthyroidism. Resolution of clinical signs should occur once the condition is stable; however your pet will still need regular check-ups, and repeat blood tests and blood pressure measurements are recommended every six to twelve months to ensure the condition is not progressing.
2. **Surgery** – this involves removal of the enlarged gland. Although usually a relatively simple procedure, it can have several associated complications. Affected cats will also have increased anaesthetic and surgical risks, so it is important to try and stabilise these animals using the anti-thyroid medication first. The thyroid glands are very closely associated with the smaller parathyroid glands, which have an important role in calcium metabolism, and must be preserved if possible. Surgery should result in a permanent cure, although often signs will recur if the second gland then becomes affected, and a second operation may be necessary at a later date. Some cats will have ectopic thyroid tissue elsewhere (usually in the chest cavity) and surgery will not be successful in these cases.

3. **Radioactive iodine** – this is a safe and effective treatment method, including in those cats with ectopic thyroid tissue. It involves a single injection given under the skin. The radiation destroys the abnormal thyroid tissue only, and has no effect on the surrounding tissues or the parathyroid glands. However, this method is only available at a few specialist centres, and requires the patient to be hospitalised for three to eight weeks (depending on the centre).

It is also important to treat any concurrent or secondary problems, eg: hypertension, kidney disease, or heart disease.

Long-term outlook

Providing your cat:

- (a) does not have any other concurrent medical problems,
- (b) has not suffered irreversible heart or liver damage secondary to the increased thyroid hormones,
- (c) has had no complications associated with surgical/medical treatment,

then most of the symptoms should resolve.

However, there may be some residual changes, particularly of heart disease in a small number of cases.

Further Information

If you have any questions about this complicated condition, please feel free to discuss these with your vet, or for further information check the Feline Advisory Bureau website at www.fabcats.org.



Quick Reference Guide



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