Cushing’s Disease in Dogs

Cushing’s disease is also known as hyperadrenocorticism. It occurs when the adrenal glands overproduce certain hormones.

The adrenal glands are located above the kidneys. They produce several vital substances including cortisol, a hormone which regulates a variety of body functions. In Cushing’s disease, the adrenal glands are producing too much cortisol. The resulting excess of cortisol in the bloodstream causes the symptoms of Cushing’s disease.

Cushing’s disease can be triggered by a tumour of the adrenal glands themselves, or by a tumour of the pituitary gland (in the brain) which is responsible for telling the adrenal glands what to do. In approximately 80% of cases Cushing’s disease is caused by a pituitary gland tumour. It is not common for the tumours to cause real problems for the dog other than the Cushing’s disease as they are usually small, slow-growing and benign.

What are the symptoms of Cushings disease?

The excess of cortisol can cause a variety of symptoms. Typically these symptoms arise gradually and may not be noticed for some time. As the condition occurs mostly in older dogs, it is common for owners to think that the symptoms are signs of normal ageing. Symptoms may include:

- Increased drinking and urination
- Increased appetite
- Muscle wastage. The decrease in muscle strength often causes dogs to have a bulging, sagging belly, with spindly legs. It can become difficult for the dog to jump onto the bed or climb stairs.
- Thinning hair
- Thin, inelastic skin
- Excessive panting
- Lack of fertility in entire dogs

If Cushing’s disease is left untreated, dogs tend to become progressively lethargic and weak. They have an increased susceptibility to contracting infections (particularly urinary infections) and the skin is slow to heal after any injury. Osteoporosis has been reported. Dogs with Cushing’s disease also seem to be at increased risk of developing other conditions such as pancreatitis and diabetes mellitus.

Diagnosis
Routine blood tests performed at the surgery may show an increased level of certain liver enzymes which can be suggestive of Cushing’s disease. An ultrasound scan may also be suggestive if it demonstrates an enlarged liver along with two enlarged adrenal glands (pituitary cushings) or one enlarged adrenal gland (adrenal cushings)

However, a blood test known as the “ACTH stimulation test” is required to make a definitive diagnosis. This test requires two blood samples to be taken one hour apart and the samples are submitted to an external laboratory for analysis. The results are usually available in 1-2 days.

In a very small number of cases the ACTH stimulation test is not sensitive enough to make the diagnosis, and a separate test, the Low-Dose Dexamethasone Suppression Test is performed. A dexamethasone suppression test and an ultrasound scan can give more detailed information regarding the type of Cushing’s disease that a dog has.

**Treatment**

There is only one licensed treatment for Cushing’s disease in dogs in the United Kingdom. This is a medication in capsule form, known as trilostane (trade name “Vetoryl”). Trilostane interferes with production of cortisol from the adrenal glands, and thus reduces the blood levels of cortisol so that the symptoms of Cushing’s disease are resolved.

As the medication is designed to reduce cortisol production, and this is important in healthy people and animals, it is important to wash your hands after handling the capsules. It is recommended that pregnant women or those trying to conceive do not handle the capsules at all.

Dogs on treatment require regular check-ups and blood tests to ensure that the medication is working. When a dog starts on treatment or following a dose adjustment, a blood test will be required at 10 days, 28 days and 3 months. Once your dog is stable we recommend a blood test at least every 6 months. It is vital to make sure that the levels of cortisol are not dropping too low as this can make your dog very ill.

*Most dogs with Cushing’s disease have pituitary-dependent Cushing’s disease which can only be treated medically. However, those dogs with Cushing’s disease caused by a tumour of the adrenal glands could theoretically be treated by surgery to remove the adrenal tumour. In reality the surgery involved is suitable only for a very small number of patients, carries a very high risk of severe complications and even death, and can only be carried out at a specialist referral centre. For these reasons we usually choose to manage dogs with both pituitary and adrenal dependent Cushing’s disease with medication. Your vet will be happy to discuss this decision in more detail if you wish.*

**Conclusion**

Because Cushing’s disease can only be controlled and not cured, medication is required every day for the rest of your dog’s life. However, many dogs with Cushing’s disease go on to live several more good quality years after starting treatment.