Linnet Way
Brickhill
Bedford
Bedfordshire
MK41 7HN
Tel: +(0)1234 261 839
E: info@acornhousevets.co.uk

Cushing's

Cushing's disease is also known as hyperadrenocorticism. It occurs when the adrenal glands produce too much steroid hormone (cortisol). The high level of cortisol in the bloodstream causes the symptoms of Cushing's disease.

What are the symptoms of Cushing's 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
- • Increased risk of contracting infections (particularly urinary tract infections)

RVC Veterinary Practices Ltd. Trading as Acorn House Veterinary Hospital
Registered in England and Wales, company no. 11293077
VAT registration no. GB 295 0971 68
Registered office: 4 Royal College Street, London NW1 0TU

Linnet Way
Brickhill
Bedford
Bedfordshire
MK41 7HN
Tel: +(0)1234 261 839
E: info@acornhousevets.co.uk

What causes Cushing's disease?

There are two types of Cushing's disease:

1. Adrenal dependent Cushing's, in which a tumour of one of the adrenal glands causes that gland to become enlarged and produce too much cortisol; or

2. Pituitary dependent Cushing's, in which a tumour of the pituitary gland in the brain sends hormones into the blood stream that tell the adrenal glands to produce too much cortisol.

Diagnosis

Cushing's disease is suspected on the basis of veterinary examination and descriptions of problems such as excessive drinking and urination at home. However, because other illnesses can cause these signs, blood tests are needed to make a diagnosis of Cushing's disease.

1. Blood and urine samples are tested to rule out some other causes of increased drinking and urinating, and to measure levels of cortisol in the urine. If the urine cortisol level is low, Cushing's can be ruled out. If the level is high, testing moves onto the next step.

2. The next step is a test called the 'low dose dexamethasone suppression test'. Dogs are admitted to the hospital first thing in the morning, and are injected with a short-acting steroid, dexamethasone. Blood samples are taken before the injection,

Linnet Way
Brickhill
Bedford
Bedfordshire
MK41 7HN
Tel: +(0)1234 261 839
E: info@acornhousevets.co.uk

and after 4 and 8 hours to see how the body responds to the steroid injection. The results of this test should be ready within 48 hours and should suggest whether the dog has Cushing's or not, and if so, whether this is adrenal or pituitary dependent.

3. An ultrasound scan of the abdomen is performed for dogs with suspected adrenal dependent Cushing's, to see if an adrenal tumour can be identified.

Treatment

Approximately 85% of dogs with Cushing's have pituitary dependent Cushing's. They are usually treated with a medication known as 'Trilostane' (tradename is Vetoryl). The medication interferes with the adrenal glands' ability to produce cortisol, and thus lowers the amounts of cortisol produced.

15% of dogs with Cushing's have adrenal dependent Cushing's (caused by a tumour on one of the adrenal glands). These dogs can also be treated with Trilostane, but ideally, surgery is performed to remove the faulty adrenal gland (dogs have two adrenal glands, and leaving behind the single normal gland should be perfectly adequate).

Side effects of treatment

Trilostane is a very powerful drug. We are using it to deliberately reduce the amount of cortisol produced by the adrenal glands. However, it is essential for life that the adrenal glands continue to produce a normal amount of cortisol. If the Trilostane dose is too

Linnet Way
Brickhill
Bedford
Bedfordshire
MK41 7HN
Tel: +(0)1234 261 839
E: info@acornhousevets.co.uk

high, the adrenal glands will not produce enough cortisol, and this can lead to life-threatening collapse.

It is impossible to know for sure exactly what dose of Trilostane each dog will need to reduce the cortisol levels back to normal, without making them too low. Different dogs need different doses. Even dogs that are on the correct dose may find that their requirements change over time, so that a dose that has been correct for many months may suddenly lead to a cortisol level that is too high (annoying but fairly safe and likely to cause recurrence of Cushing's symptoms) or too low (dangerous).

Surgery to remove the abnormal adrenal gland can also be dangerous, as the glands are close to important blood vessels and organs. In approximately 50% of adrenal dependent Cushing's cases, the adrenal tumours have spread elsewhere in the body and cannot be completely removed with surgery anyway. Your veterinary surgeon will be able to advise you as to the feasibility of surgery to remove the abnormal adrenal gland in your dog.

Treatment monitoring

If the decision is made to treat your dog with Trilostane, it is important to monitor urine and blood tests regularly to check that your dog is on the correct dose.

These tests should be carried out 10 days, 4 weeks and 12 weeks after starting Trilostane treatment or after any dose changes. Once dogs are stable on treatment, they should continue to be tested every 3 months on a permanent basis.

Linnet Way
Brickhill
Bedford
Bedfordshire
MK41 7HN
Tel: +(0)1234 261 839
E: info@acornhousevets.co.uk

Book an appointment with your vet for a blood test just BEFORE the next Vetoryl dose is due. If you normally give your dog Vetoryl once a day early in the morning e.g. 6am, then the day before the blood test give the tablet a few hours late e.g 9am and you can book an appointment from 8am.

If you give your dog Vetoryl every 12 hours you can book an evening appointment before the next tablet is due.

It is important that your dog has not had the tablet before the blood test and that nothing stressful has happened that morning e.g. vomiting or any injuries. On the day of the test, please collect a urine sample from your dog first thing in the morning, before giving the Trilostane and bring this with you.

The vet will examine your pet and take a blood sample. Your urine sample and the blood sample will be used to check that the Trilostane dose is treating the Cushing's disease effectively, but not reducing cortisol production to a dangerously low level.

The vet will ask questions to ascertain whether the medication is controlling the clinical signs. It would be very helpful if you could monitor the following:

- • appetite
- • drinking and urinating
- • any vomiting or diarrhoea
- • energy levels and general demeanour

Linnet Way
Brickhill
Bedford
Bedfordshire
MK41 7HN
Tel: +(0)1234 261 839
E: info@acornhousevets.co.uk

Special warnings

Trilostane capsules should not be split or crushed as this could lead to you being exposed to the medication yourself, which could be dangerous. In particular, pregnant women should avoid contact with the medication, wearing gloves to administer the capsules if nobody else in the household is able to perform this task.

Conclusion

In the minority of dogs with adrenal dependent Cushing's disease that are suitable for surgery, surgery can be curative and dogs can live a normal life afterwards. For the majority of dogs with pituitary dependent Cushing's, or with adrenal Cushing's that are not suitable for surgery, the disease cannot be cured. However, permanent treatment with Trilostane, and regular safety monitoring will allow the majority of dogs to live a normal life as long as they continue to take the medication.

Trilostane must be stopped if there is any loss of appetite, vomiting or diarrhoea. If your dog is unwell you must call for advice and speak to a vet.

RVC Veterinary Practices Ltd. Trading as Acorn House Veterinary Hospital
Registered in England and Wales, company no. 11293077
VAT registration no. GB 295 0971 68
Registered office: 4 Royal College Street, London NW1 0TU