HYPERADRENOCORTICISM

Cushing’s disease

What is Cushing's disease?

Cushings disease occurs when the hormones produced by the adrenal glands are secreted in excess. There are two causes of hyperadrenocorticism. The first cause occurs when the adrenal glands are diseased and are therefore overactive. The second cause of the disease occurs when the pituitary gland is diseased. This gland is responsible for sending a message to the adrenal glands telling them they need to release more hormones. If the pituitary gland is diseased then it may send too many messages to the adrenal glands so they release more hormones than required.

What causes Cushing's disease?

*Pituitary dependent*: This occurs in the majority of Cushing's cases (80-85%) and is usually as a result of a benign pituitary tumour (adenoma) that causes both adrenal glands to enlarge and secrete a surplus amount of hormone into the body.

*Adrenal dependent*: This occurs when there is an adrenal tumour which secretes excessive amounts of hormone. Approximately 50% of adrenal tumours are benign and 50% malignant.

Clinical signs

- Drinking and urinating excessively
- Increased appetite
- Lethargy/weakness
- Excessive panting
- Pot belly
- Muscle atrophy
- Coat and skin changes

Diagnosis
There are changes that occur on a routine blood and urine test giving a suspicion of Cushings however the use of more specific tests will be required. There are several tests used to diagnose Cushings and a minimum of two will be required to rule the disease in or out and also to decipher whether the disease is originating in the adrenal or pituitary gland. The tests will require the patient to stay with us for a couple of hours to a day in order to take a number of blood samples at specific intervals.

In a selection of cases it may be useful to image the abdomen using radiography and ultrasonography. This is particularly relevant to the less common, adrenal dependent form of Cushings disease.

Treatment

The majority of dogs will suffer from pituitary dependent Cushings disease and this is effectively treated by a tablet which interferes with the synthesis of excess hormone from the adrenal gland. It is usually given once daily. Further monitoring with regular blood tests will be required with possible dose changes. Surgical removal of the pituitary gland tumour is not currently available in the UK and is not without great risk as it is technically very difficult.

For those few dogs suffering from an adrenal gland tumour surgical removal is the treatment of choice as they respond poorly to medical treatment and approximately 50% are malignant so they may spread within the body.

Prognosis

Untreated dogs will die as a result of complications such as clots within the blood, infection, liver and kidney disease. However, if appropriately treated and monitored they can live for years with a good quality of life.