

HYPERADRENOCORTICISM = CUSHING'S DISEASE

Cushing's Disease

Cushing's disease is another name for hyperadrenocorticism, an endocrine disorder where too much cortisol, a type of steroid, is released from the adrenal gland. either by a productive adrenal gland tumor, or by a productive tumor of the pituitary gland in the brain which releases a substance that then over stimulates the adrenal to release excess cortisol. Cortisol is a type of steroid, similar to prednisone, that affects carbohydrate, protein, and fat metabolism in the body. Persistent high levels of cortisol in the body can cause a wide variety of problems such as hypertension (high blood pressure), hair loss, increased thirst & urination, decreases immunity to disease, slower healing, and persistent heavy panting. Occasionally, animals placed on steroids such as prednisone for a long period of time will develop symptoms of Cushing's disease (iatrogenic Cushing's). Once these dogs are weaned off of steroids, the signs will resolve.

Symptoms of Cushing's Disease

- Increased water consumption (polydypsia)
- Frequent urination (polyuria)
- Increased appetite (polyphagia)
- Pot-belly abdomen
- Muscle loss and weakness
- Prolonged wound healing, frequent infections
- Symmetrical hair loss on trunk (alopecia)
- Dark or black skin, can be mineralized
- Persistent panting

Diagnosis

- Cushing's is suspected based on history and clinical symptoms
- Blood work shows an elevation in the liver enzymes, cholesterol, and sometimes blood sugar. (secondary diabetes).
- Urinalysis shows dilute urine and dogs with a high level of cortisol. Also Cushing's patients frequently develop urinary tract infections.
- Cushing's is diagnosed using high and low dose dexamethasone suppression tests which measure the response of the adrenal glands to administration of calculated doses of external steroids, and by ACTH stim test- also a hormone response test.
- These test are also used to distinguish between Cushing's caused by a pituitary tumor in the brain and that of a primary adrenal tumor.
- Ultrasound is used to measure the size of the adrenal glands. With adrenal tumors, one gland will be much larger than the other. With pituitary dependent Cushing's, both glands will be uniformly enlarged. .

Therapy

- If the Cushing's disease is caused by a tumor of the pituitary gland in the brain, a drug called lysodren is used. Lysodren selectively kills part of the adrenal gland so it can only produce a certain amount of cortisol. The dose of lysodren is adjusted so that the amount of cortisol produced is equal to that of a normal dog. Careful monitoring is required when using lysodren, and the dose often needs to be frequently adjusted. If too much lysodren is given, the dog can develop signs of Addison's disease. Lysodren therapy is required for life.
- If the Cushing's is caused by an adrenal tumor, surgery will be the treatment of choice- removing the tumorous gland & preserving the normal gland.

Prognosis

Prognosis depends on proper diagnosis and owner compliance for life long treatment. Careful attention must be paid during the initial loading phase with lysodren and clinical signs monitored throughout the pet's life.