

Metropolitan Veterinary Hospital

Akron Veterinary Internal Medicine/Oncology Practice

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Hyperadrenocorticism (Cushing's Disease)

What is Cushing's disease?

- It is an excessive secretion of Adrenal gland hormones (glucocorticoids-steroids which affect carbohydrate and protein metabolism, as well as affects the immune system, and mineralocorticoids which maintain blood electrolyte balance). It is seen most often in middle-aged to older dogs. It is rare in cats.

What causes Cushing's disease?

- The most common cause of Cushing's disease is an adenoma (a benign tumor) in the pituitary gland which signals the adrenal gland to make excess steroids.
- A tumor of the adrenal gland can also cause Cushing's disease
- Long-term, daily administration of glucocorticoids (steroids) can lead to the same signs as Cushing's disease
- Breeds that appear to be predisposed to developing Cushing's disease include: Miniature Poodles, Dachshunds, Boxers, Boston Terriers, Labrador Retrievers, German Shepherds, and Beagles.

What are the clinical signs of Cushing's disease?

- Increased thirst, increased hunger, and increased urinations.
- Recurrent urinary tract and skin infections
- Heat intolerance increased panting, and lethargy.
- Weight gain with a pot-bellied appearance.
- Hair loss, especially on the trunk of the body. Thin skin with increased pigmentation and sometimes mineralization of the skin can occur.

What diagnostic tests may be needed?

- Blood work (complete blood count, chemistry profile), urinalysis and urine culture
- Tests of adrenal function include: ACTH stimulation test, low-dose dexamethasone suppression test, high-dose dexamethasone suppression test, urine cortisol/creatinine ratio, and endogenous ACTH concentration.
- Abdominal ultrasound (to visualize the adrenal glands) or CT scan (to evaluate for a pituitary adenoma)

What treatment is needed for Cushing's disease?

- Treatment for dogs with pituitary dependent hyperadrenocorticism (when the cause of the Cushing's disease is due to the pituitary gland in the brain excreting excessive hormones that cause the adrenal glands to secrete too much steroid):
 - o Mitotane (Lysodren, o,pí-DDD) is most commonly used. It helps to destroy portions of the adrenal glands that secrete excess steroid hormones. Animals treated with Lysodren should be closely monitored for signs of hypoadrenocorticism (Addison's disease) such as vomiting, diarrhea, decreased appetite, lethargy, or collapse- if these signs are noted while on Lysodren therapy please contact a veterinarian immediately.
 - o Ketoconazole is an alternative treatment. It affects steroid synthesis. Animals treated with this drug should be monitored closely for signs of jaundice, or decreased appetite.
 - o Other possible treatments include L-deprenyl (selegiline hydrochloride) or Trilostane
- Treatment for dogs with adrenal dependent hyperadrenocorticism (when the cause of the Cushing's disease is due to disease in the adrenal glands and too much steroid is secreted) :
 - o Surgical removal of the affected adrenal gland is often indicated. Side effects may include risk of anesthesia and surgery and development of hypoadrenocorticism (Addison's disease). If the disease is determined to be invasive or if there is evidence that it has spread to other areas of the body (metastasis), medical treatment such as Lysodren can be considered.

What kind of monitoring will be needed?

- Close monitoring will be necessary during the initial treatment. Drug dosages may need to be changed. During treatment for Cushing's disease, the pet should be closely monitored for signs of developing hypoadrenocorticism (Addison's disease) such as vomiting, diarrhea, decreased appetite, lethargy, or collapse- if these signs are noted please contact a veterinarian immediately.

Prognosis

- Asymptomatic dogs can do well for long periods of time with appropriate therapy.
- Treated pituitary-dependent hyperadrenocorticism has a good prognosis in general.
- Adrenal-dependent hyperadrenocorticism that has metastasized has a poor prognosis. Adrenal-dependent hyperadrenocorticism that has not metastasized has a good prognosis with treatment.
- Possible complications of Cushing's disease include: diabetes, hypertension (high blood pressure), calcinosis cutis (mineralization of the skin), pulmonary thromboembolism (blood clot in the lungs) or infections such as urinary tract infections, skin infections.