Desert Hills
ANIMAL CLINIC
Family Healthcare for your Pet

Bryan Neidigh, DVM
Cheryl Rahal, DVM ACVIM
Jason Gold, DVM

CUSHING'S SYNDROME (Hyperadrenocorticism)

What is Cushing's Syndrome?

It is a disorder caused by the effects of abnormally high circulating cortisol (natural cortisone) concentrations. Spontaneous hyperadrenocorticism is caused by excessive production of cortisol by the adrenal glands. In 85-90% of patients, the cortisol excess is caused by adrenal enlargement resulting from a tiny pituitary tumor producing excessive amounts of adrenocorticotropic hormone (ACTH).

The remaining 10-15% of patients have cortisol-secreting adrenal tumor, approximately one half of these are cancer. Induced hyperadreno-corticism is caused by excessive administration of gluco-corticoids(cortisones). It is one of the most common endocrine disorders in dogs, but is rare in cats. Breed predilections include: poodle, dachshund, Boston terrier, boxer, and beagle, and none in cats. There is no sexual predilection in dogs with pituitary dependent hyperadrenocorticism (PDH), but two thirds to three quarters of dogs with an adrenal tumor are female. In general, hyperadreno-corticism is a disorder of middleaged to old animals; however, PDH can be seen in dogs as young as one year.

What Are the Symptoms of Cushing's Syndrome?

The severity of the signs varies depending on the duration and degree of cortisol excess. Some of the signs may include: increased water consumption and urine production, pendulous abdomen, enlarged liver, hair loss, lethargy, muscle weakness and atrophy, loss of estrus cycles, obesity, blackheads, panting, testicular atrophy, and hyper-pigmentation and calcification of the skin.

How is It Diagnosed?

The history and symptoms may suggest the disease but blood tests are required to confirm it.

How is It Treated?

Intensity of treatment is dictated by the severity of clinical signs, the animal's overall condition, and any complicating factors (for example diabetes). Mitotane (o, p'-DDD) is the drug of choice for the medical management of both PDH and adrenal tumor in dogs. The initial loading dosage of mitotane is given daily until both basal and post-adrenal stimulated (ACTH) cortisol concentrations are in the normal resting range (1-5 mg/dl); then, the maintenance dose is divided into 2-3 doses per week.

Side effects of mitotane are fairly common but are mild in most dogs and include lethargy, weakness, loss of appetite, vomiting, diarrhea, dizzyness, and induced hypoadrenocorticism.

Response to treatment by ACTH response testing determines dosage and when to convert to the 2-3 times per week dose. Testing is done after the initial 7-10 days of mitotane administration to assure adequate response, then at 1, 3, and 6 months and every 6-12 months thereafter.

Adequacy of any necessary mitotane reloading period is also checked by ACTH response test before a higher maintenance dosage of mitotane is initiated. Some alternative medicines that can be used instead of mitotane include the antifungal agent Ketoconazole (over 25% of dogs fail to respond adequately to Ketoconazole), and L-deprenyl (Anipryl) (a newly-described alternative for treatment of PDH in dogs, but has not been used in cats).

What is the Long-term Prognosis?

Untreated hyperadrenocorticism is generally a progressive disorder with a poor prognosis, but depending on the degree of the problem, clinical signs resolve within several days to several months of treatment. Once stabilized, most Cushnoid pets can lead normal lives providing they are treated regularly and have periodic blood ACTH tests (once or twice yearly).

Special instructions: _____

_____

_____

Call Us If…

- You have trouble giving your pet its medicine.
- Its general health seems to diminish.
- It loses it appetite.
- It is very lethargic and inactive.
- It's water consumption and urine production increases.

Thank You for This Opportunity to Serve You!

Desert Hills Animal Clinic 1039 E. Carefree Hwy, Suite A, Phoenix, AZ 85085
623-581-1558 623-581-1577 (fax) www.dhanimalclinic.com