

Auburn Endocrine Diagnostic Service

ACTH Response Testing in Dogs with Cushing's Disease treated with LYSODREN

Periodic ACTH response testing is recommended in all dogs with Cushing's disease treated with either lysodren.

General guidelines for ACTH Response Testing

1. ACTH response testing is recommended after the initial induction period (7-10 days of daily lysodren), then 3 months, and 6 months later. Periodic retests at 6 months intervals are recommended, if the patient is responding well to treatment (earlier if not).
2. "Ideal" values in a Cushing's dog receiving either lysodren or ketoconazole are pre-ACTH cortisol, 30-110 nmol/L; post-ACTH cortisol, 30-110 nmol/L. In other words, we like to see measurable cortisol levels which do not rise above 110 nmol/L after ACTH.

Interpretation of Specific Results With the ACTH Response Test (circled number indicates recommendation).

At completion of induction therapy (daily loading therapy):

1. Both cortisols are between 30-110 nmol/L; go to maintenance therapy.
2. Cortisols are above 110 nmol/L; continue daily lysodren and repeat ACTH response in 5 days. Continue daily therapy until cortisols are between 30-110.
- *3. Cortisols are below 30 nmol/L; stop lysodren, wait 3 weeks, retest with ACTH, start maintenance lysodren when cortisols increase into 30-110 nmol/L range.

During maintenance therapy:

1. Cortisols are between 30-110 nmol/L; continue as is.
- *2. Cortisols are below 30 nmol/L; stop lysodren, retest with ACTH at 3-4 week intervals until cortisols increase to 30-110 nmol/L range, then resume maintenance.
3. Cortisols well above 110 nmol/L; re-initiate loading lysodren at 50 mg/kg on a daily basis for 5 days. Retest with ACTH after 5 days to see if cortisols have dropped, and continue daily lysodren until they do. Once cortisols have dropped into "ideal" range, restart maintenance (weekly) therapy, but increase dose 50% above that used previously.
4. Cortisols only slightly above 30-110 nmol/L; increase weekly lysodren dose by 25%, retest with ACTH in 4-6 weeks.

*Dog may require glucocorticoid supplement, especially if stressed.
Also, monitor Na/K to see if Addison's has occurred.