

## MANAGING DOGS WITH CUSHING'S DISEASE: THE TOP TEN QUESTIONS

*Mark E. Peterson, DVM, ACVIM  
The Animal Medical Center, New York, NY  
Animal Endocrine Clinic, NYC & Bedford Hills, NY*

### **1. Why should I treat a dog with hyperadrenocorticism (HAC)?**

Although many dogs with HAC live for long periods without treatment, it seems clear that effective management markedly improves the quality of life for affected animals. Also, potential complications of the disease, such as pyelonephritis, pulmonary thromboembolism and hypertension are mitigated by treatment.

### **2. What diagnostics do I need to do before I start treating a dog with HAC?**

Along with your confirmatory and differentiating tests, you should consider a full CBC, biochemical profile with electrolytes, urine analysis with culture, and blood pressure measurement. These tests will identify pre-existing and concurrent disorders which may need to be addressed.

### **3. I used the LDDST to confirm and differentiate PDH. Do I still need to do an ACTH stim test before starting Vetoryl<sup>R</sup>?**

An ACTH stimulation test is not essential for the diagnosis of HAC. However, performing an ACTH stimulation test prior to starting medical therapy can be useful inasmuch as we will use this test to monitor our treatment and make dose adjustments. In some cases, a pre-treatment ACTH stim test is useful for comparison.

### **4. Should I start my patient on prednisone when I begin Vetoryl<sup>R</sup>?**

No. With appropriate dosing and monitoring, the risk of hypocortisolemia with Vetoryl<sup>R</sup> is small, so routine steroid support is not necessary. Also, we use our physical examination findings and patient clinical signs to assess the therapeutic response; prednisone will cause persistent abnormalities and may limit patient improvement.

### **5. Does it matter what time of day the Vetoryl<sup>R</sup> is given?**

Yes. There are two reasons why morning administration is recommended. Firstly, the drug is probably cleared from the body within 24 hours, so optimal control is achieved during the waking hours if the drug is given in the morning. Secondly, the timing of recheck ACTH stim tests is critical, and this is facilitated by morning administration.

**6. I have read some reports recommending twice daily Vetoryl<sup>R</sup>. Is it better to give this drug once or twice a day?**

The drug manufacturer presently recommends starting patients on once daily dosing, and the dosing chart provided is based on this premise. In some circumstances, a switch to twice daily dosing may be appropriate, but this should be done with caution. Bear in mind that the total daily dose for dogs on twice daily medication may be less than for those on a once daily regimen.

**7. When should I recheck my patient after starting Vetoryl<sup>R</sup>?**

Dogs should be rechecked within 10 to 14 days of starting Vetoryl<sup>R</sup>. A recheck evaluation should include a history, physical examination and ACTH stim test (initiated 4 hours post morning dosing). If the patient is at all unwell, serum electrolytes should be checked, and many clinicians routinely perform a chemistry panel with electrolytes at every visit.

Additional rechecks should be performed 10 -14 days after dose adjustments and at 30 days and 90 days after the effective dose has been determined. Quarterly checks are recommended for the long term.

**8. If my patient is doing well at home, do I really need to do an ACTH stimulation test on the recheck visits?**

An ACTH stimulation test is the best way to evaluate adrenal gland function when patients are receiving Vetoryl<sup>R</sup>. Regular ACTH stimulation tests let us identify patients who are either over-dosed or under-dosed before problems occur.

**9. Why should I check electrolytes if my patient feels unwell?**

A rare but serious side effect of Vetoryl<sup>R</sup> is complete hypoadrenocorticism (Addison's disease), characterized by a severe deficiency of both cortisol and aldosterone. This is usually reversible, but may be permanent. If a dog is becoming Addisonian, the serum sodium levels will be subnormal and serum potassium concentrations will increase. This requires immediate discontinuation of the drug and aggressive supportive care.

**10. I have a patient with HAC and diabetes mellitus. Which disease should I treat first?**

You need to address both issues concurrently. Diabetic dogs with HAC are generally very insulin resistant, and need high doses to prevent ketosis. Optimal regulation of these patients is essentially impossible until the HAC is effectively addressed, but exogenous insulin therapy is still life-saving. It is important to realize that the insulin dose may need to be rapidly reduced as the HAC is managed. Insulin resistance will diminish, putting the patient at risk of hypoglycemia. Careful patient monitoring and effective client education are essential in these cases.