Diagnosis of Canine Hyperadrenocorticism

Medical History and Clinical Examination

Routine Database

Haematology  Biochemistry  Urinalysis

CONFIRMATORY TESTS

ACTH Stimulation Test  Low Dose Dexamethasone Suppression Test  Urinary Cortisol: Creatinine Ratio

DISCRIMINATORY TESTS

• Endogenous ACTH
• Low Dose Dexamethasone Suppression Test
• High Dose Dexamethasone Suppression Test
• Abdominal Ultrasound
• CT/MRI
## Diagnosis of Canine Hyperadrenocorticism

### Test Priniciples Interpretation Notes

#### Screening tests summary based on the 2012 ACVIM Consensus Statement on the diagnosis of spontaneous canine hyperadrenocorticism (HAC)

<table>
<thead>
<tr>
<th>Test</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>Protocol</th>
<th>Interpretation</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low-Dose Dexamethasone Suppression (LDDST)</strong></td>
<td>85 - 100%</td>
<td>44 - 73%</td>
<td>The LDDST should be performed using 0.01 – 0.015 mg/kg dexamethasone sodium phosphate or dexamethasone polyethylene glycol 6000; calculate dose using the parent compound and not the salt. Obtain blood samples before and 4 and 8 hours after dexamethasone administration.</td>
<td>• Cortisol concentrations vary by assay and among laboratories using the same method. Reference ranges and cut-off values must be established by each laboratory; therefore, the Panel does not recommend specific reference ranges and cut-off values.</td>
<td>The Panel considers the LDDST as the screening test of choice unless iatrogenic HAC is suspected. A diagnosis of HAC is determined by the cortisol concentration 8 hours after dexamethasone administration.</td>
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<td><strong>ACTH Stimulation</strong></td>
<td>57 - 85%</td>
<td>50 - 63%</td>
<td>Perform the test using 5 µg/kg of synthetic ACTH with blood samples drawn before and 60 minutes after administration. The Panel prefers IV administration.</td>
<td>The gold standard for diagnosis of iatrogenic HAC. Because of its low sensitivity, its diagnostic usefulness as a screening test for spontaneous HAC is inferior to the LDDST.</td>
<td>The gold standard for diagnosis of iatrogenic HAC.</td>
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<tr>
<td><strong>Urinary Cortisol: Creatinine Ratio (UCCR)</strong></td>
<td>20% (95% Confidence Interval = 94 - 100%)</td>
<td>77% (95% Confidence Interval = 64 - 87%)</td>
<td>Two UCCR tests performed on urine samples taken on two consecutive days. To avoid the influence of stress and false positive results, urine should be collected at home at least two days after a visit to a veterinary clinic. Although a UCCR sample can be collected at any time of day, morning urine may be preferred because it usually represents several hours of urine production.</td>
<td>• No particular assay is recommended. • The Panel believes that current reference ranges and cut-off values should be re-evaluated.</td>
<td>A sensitive test to detect cortisol hypersecretion. When a single, random urine sample is collected in veterinary hospitals, the reported sensitivity and specificity of the UCCR for diagnosis of HAC ranges from 75 - 100% and 20 - 25%, respectively. However, using this protocol, in dogs with physical and biochemical changes consistent with HAC, the sensitivity and specificity of finding two basal UCCRs above the cut-off level is considerably higher.</td>
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