VALIDATION OF A NEW IN-HOUSE IMMUNO-ASSAY FOR CORTISOL MEASUREMENT IN CANINE SERUM SAMPLES

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INTRODUCTION

- Cortisol is analysed for the diagnosis of hyper and hypoadrenocorticism, with Hyperadrenocorticism as the most common adrenal disorder in dogs.
- The use of in-house analysers represents a point of success for clinics or veterinary hospitals.
- It is crucial that the equipments are in accordance with the established prerequisites in terms of precision, accuracy, detection limit and quantification.

OBJECTIVE

- Validate the performance of a new in-house immunoassay based on Surface Plasmon enhanced Fluorescence method for canine cortisol measurement in serum.

MATERIALS AND METHODS

- Serum Samples from 59 clinical cases.
- Dogs of different age, breed and gender.
- Serum Samples from 5 adult, male beagles injected once s.c. with prednisone at 5mg/kg.
- 3 male adult Beagle dogs injected with 0.9% NaCl subcutaneous.

RESULTS AND DISCUSSION

Table 1. Cortisol concentration obtained in Dri-Chem Immuno AU10V

<table>
<thead>
<tr>
<th>Method</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
<th>CV (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intra-assay</td>
<td>19.3</td>
<td>9.5</td>
<td>0.5</td>
<td>19</td>
</tr>
<tr>
<td>Inter-assay</td>
<td>19.5</td>
<td>9.0</td>
<td>0.5</td>
<td>19</td>
</tr>
</tbody>
</table>

Figure 1. Regression equation of all samples measured with the two methods (n=59)

Figure 2. Representative graph of linearity under dilution of a canine serum sample

Figure 3. Median concentration of cortisol before (Sampling 1) and after (Sampling 2-5) administration. Measured with AU10V (solid lines) and Immulite 1000 (discontinuous lines). * P<0.05; ** P<0.01

CONCLUSION

The validated method is precise and accurate when measuring cortisol in canine serum samples. Furthermore, it showed high correlation with previously validated method for cortisol determination in canine serum samples.