EVALUATION OF DIFFERENT LOW-DOSE DEXAMETHASONE SUPPRESSION TEST RESULT PATTERNS FOR DIAGNOSING HYPERADRENOCORTICISM IN DOGS

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Introduction

The low-dose dexamethasone suppression test (LDDST) is reported to have high sensitivity but low specificity for diagnosis of spontaneous hyperadrenocorticism (HAC) in dogs. Different LDDST pattern results have not been evaluated individually.
The aim of this study was to evaluate the prevalence and positive predictive value (PPV) of different LDDST pattern results performed during investigation of HAC.

Material and methods

Retrospective study. The hospital database was interrogated for cases undergoing on-site evaluation in which a LDDST was performed and a diagnosis of HAC confirmed or excluded. Cases with basal (time (T) 0) cortisol values <27.6nmol/L were excluded. Each LDDST result was classified as (a) complete suppression (T3 and T8 <27.6nmol/L, respectively), (b) lack of suppression (T3 and T8 >27.6nmol/L and >50% T0 value), (c) partial suppression (T3 and/or T8 >27.6nmol/L but < 50% T0 value), (d) escape (T8 >27.6nmol/L and T3 <27.6nmol/L) or (e) inverse (T3 >27.6nmol/L and T8 <27.6nmol/L) pattern.

Results

61 dogs were diagnosed with HAC and 71 with non-adrenal illness. Prevalence of the different patterns in each group were (a) 4.9% (n=3), (b) 50.8% (n=31), (c) 32.8 % (n=20), (d) 8.2% (n=5) (e) 3.3% (n=2), and (a) 69.0% (n=49), (b) 2.8% (n=2), (c) 11.3% (n=8), (d) 12.7% (n=9) and (e) 4.2% (n=3), respectively. The overall sensitivity, specificity and PPV (95% confidence interval) of the LDDST for diagnosing HAC were 91.8% (84.9-98.7), 73.2% (62.9-83.5) and 74.7% (64.8-84.5), respectively.
The PPV for the lack of suppression pattern was higher (93.9% (85.8-100)) and the PPV of the escape pattern (35.7% (10.6-60.8)) was lower in comparison to the overall results.

Conclusions

The analysis of the pattern of LDDST results may provide additional information to determine the likelihood of HAC in an individual case. A lack of suppression pattern has the highest PPV for the diagnosis of HAC.