discussed clinical signs in the focus groups, with changes in demeanor and lethargy more frequently mentioned by owners than clinicians. Clinical signs were summarised into five categories: drinking, urination, appetite, appearance and attitude/activity. Clinicians and owners reported the tool to be clear, concise and practical for a primary-care setting.

STATEMENT (CONCLUSIONS)

The developed tool standardises the recording of clinical signs of hyperadrenocorticism and could be used in practice to assess medical management of hyperadrenocorticism. Further validation is planned through correlation with biological parameters and patient outcomes.

Breed influence on canine thyroid reference intervals and age-related thyroid decline

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OBJECTIVES

Hypothyroidism is a common canine condition which can be difficult to diagnose. Misdiagnosis can result in unnecessary life-long treatment. One complicating factor may be variation in thyroid hormone reference intervals between breeds, previously shown to be diagnostically important in sighthounds. Increasing age is associated with decreasing thyroxine and increasing TSH serum concentrations, but breed influence on this effect has not previously been explored.

This projects aimed to investigate whether more, non-sighthound, breed-specific reference intervals would be appropriate and to discover whether breed influenced age-related thyroid changes.

METHODS

The study explored total and free, thyroxine and 3-5-3'-triiodothyronine (TT4, FT4, TT3, FT3), and thyrotropin (TSH) in 81,985 euthyroid dogs from 214 breeds using a database of serum thyroid profile results. Breed reference intervals (2.5 to 97.5 percentile) were created for 77 breeds with more than 140 cases.

RESULTS

Breed-specific reference limits differed; the lower limit for TT4 ranged from 7 (Sharpei) to 17 nmol/L (Cavalier King Charles Spaniel; CKCS) and the upper TSH limit from 0.44 (Soft Coated Wheaten Terrier) to 0.63 ng/ml (Keeshond). There was a breed effect on age-related thyroid hormone decline and TSH increase. TT4 decline ranged from –0.021 (Basenji) to –1.324 (CKCS) nmol/L/yr. TSH increase ranged from 0.00097 (Bulmastiff) to 0.0137 (CKCS) ng/ml/yr.

STATEMENT (CONCLUSIONS)

Breeds other than the sighthound group would benefit from their own breed-specific thyroid reference intervals, such as CKCS, as they differed significantly from all-breed intervals with a consequent risk of misdiagnosis. Some breeds also have quicker "thyroid-axis-ageing" than others.

Factors influencing thyroid function and deiodinase indices

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OBJECTIVES

Age, breed, gender and obesity have been shown to influence thyroid function and concentrations of thyroid hormones in the dog. This study investigated whether these factors, breed size and geographical location (climate) influenced deiodinase activity (tri-iodothyronine (T3): thyroxine (T4) ratio) and thyroid functional 'set-point' (T4:Thyrotropin (TSH) ratio).

METHODS

Analysis of a USA database of canine laboratory thyroid function assessments (n > 70,000 euthyroid cases). Regression was used to assess associations between numerical values and Kruskal-Wallis to compare differences between categories.

RESULTS

Age was associated with an increased deiodinase activity ($P < 0.05$) and lower thyroid functional 'set-point' ($P < 0.001$). 'Set-point' was affected by breed ($P < 0.001$) and T4:TSH ratio was lower in overweight dogs ($P < 0.05$). Overweight was associated with higher T3, T4 and TSH concentrations ($p < 0.001$) but there was no difference in