Outcomes from hyperadrenocorticism in dogs attending primary-care practices in the UK

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OBJECTIVES

An earlier VetCompass study reported the prevalence of hyperadrenocorticism at 0.28% (95% CI: 0.25 to 0.31) in dogs attending UK primary-care veterinary practices. This study aimed to follow these dogs over time to evaluate risk factors associated with survival.

METHODS

The VetCompass Programme collects electronic patient records from UK primary-care veterinary practices for research. Additional data extracted on 252

hyperadrenocorticism cases included: date of diagnosis, diagnostic testing, clinical signs, blood results, comorbidities, treatments, date and cause of death.

Cox proportionate hazards analysis investigated associations with survival.

RESULTS

Mean age at diagnosis was 11.0 years (SD: 2.5yrs). Median survival time (diagnosis-death) was 604 days (IQR: 209-1116). One-year survival was 65% (95% CI: 58-71%) and two-year survival was 43% (95% CI: 32-51%).

Multivariable modelling showed that increased age at diagnosis (Hazard Ratio (HR): 1.2 per year of age; 95% CI: 1.1-1.3, $P < 0.001$) and being male (HR: 1.5, 95% CI: 1.0-2.3, $P = 0.045$) were associated with increased hazard of death. Compared to dogs with baseline pre-treatment cortisol ≤ 113 nmol/L, dogs with values of 113 - ≤ 147 nmol/L (HR: 7.2 95% CI: 1.9-27.7, $P = 0.004$) had significantly increased hazard. Relative to animals receiving ≤ 2.2 mg/kg/day trilostane, dogs receiving 2.2-3.2 mg/kg/day (HR: 0.6; 95% CI: 0.4-1.1, $P = 0.108$) had decreased hazard of death.

STATEMENT

These findings highlight that hyperadrenocorticism a condition of older dogs and survival time after diagnosis appear reasonable. The results also suggest that increased trilostane dosage is associated with longer survival times.

Prevalence of iatrogenic hypothyroidism in hyperthyroid cats after radioiodine treatment

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OBJECTIVES

To determine the prevalence of iatrogenic hypothyroidism following radioiodine treatment in hyperthyroid cats based on criteria including canine thyrotropin (cTSH) measurement.

METHODS

Cats undergoing radioiodine treatment were prospectively enrolled. Radioiodine dosing was based on a scoring system, including severity of clinical signs, total thyroxine concentration (TT4) and palpable thyroid gland size.

Serum concentration of TT4, cTSH, and creatinine were determined 19 days and 6 to 9 months after radioiodine treatment. Cats were classified as hyperthyroid (increased TT4), euthyroid (normal or decreased TT4 and cTSH) or hypothyroid (decreased TT4 and increased cTSH). The serum creatinine concentration was considered to be increased if >140 μ mol/L in accordance with IRIS guidelines.

RESULTS

Seventy-one cats were initially enrolled of which four cats (6%) were persistently hyperthyroid following radioiodine therapy. Fifty-one cats completed the study. At the end of the study 33/51 (65%) cats were classified as euthyroid and eight of these cats had a TT4 concentration below the reference interval. Iatrogenic hypothyroidism was identified in 18/51 cats (35%) at the end of the study. Thirty-seven cats, 25 euthyroid and 12 hypothyroid, had an increased creatinine [37/51 (73%)]. When examining the 19-day samples, 42% of cats with a low TT4 were subsequently confirmed to be hypothyroid whereas 23% of cats with a normal TT4 at 19 days became hypothyroid.

STATEMENT

Of the cats finishing the study 35% were hypothyroid and 24% were hypothyroid and also had increased creatinine, which has been associated with a shorter survival and therefore may benefit from levothyroxine supplementation.