Ultrasonographic features of feline thyroid goitres-association with duration and severity of hyperthyroidism

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OBJECTIVES

To evaluate the ultrasonographic size and structure of thyroid glands in hyperthyroid cats undergoing radioiodine treatment, and investigate association with serum thyroxine (TT4) levels and duration of disease.

METHODS

Data were collected prospectively, and case records reviewed for duration of disease and TT4 levels. Cases were defined as having mild (TT4 60- $\leq$ 124nmol/L), moderate (TT4 125-250nmol/L) or severe (TT4 $\geq$ 251nmol/L) hyperthyroidism.

Thyroid ultrasound was performed by a board-certified radiologist to assess structural features. Thyroid volume was calculated using the rotation ellipse formula [volume(mm³)=length(mm)xwidth(mm)xheight(mm)xTT/6]. Results were analysed descriptively and using Pearson's correlation (significance P<0.05).

RESULTS

There were 38 cats (15 male, 84% mixed-breed, age 9-16 years). There were 11 mild [median TT4 94.3nmol/L (IQR 80.8-107.8)], 16 moderate [median TT4 165.5nmol/L (IQR 143.5-187.5)], and 11 severe [median 310nmol/L (IQR 289.5-339.5)] cases of hyperthyroidism.

Total thyroid volume tended to increase with disease severity (mild [median 508.28mm³, IQR 176.18-840.38], moderate [median 638.21mm³, IQR 395.06-881.37], severe [median 823.29mm³, IQR 323.75-1322.83]).

A strong, positive linear relationship was observed between TT4 level and total thyroid volume (r=0.633, P<0.001) and between duration of disease and total thyroid volume (r=0.647, P<0.001).

Thyroid shape and echogenicity was altered in 55.3% and 76.3% of cases respectively. Heterogeneity, increased vascularity, mineralisation and thyroid capsule disruption were present in 60.5%, 57.9%, 7.9% and 2.6% of cases respectively. 28.9% of cases had cystic thyroid glands (mean 1.8cysts/case).

STATEMENT

Increased duration and severity of hyperthyroidism is associated with increased thyroid gland volume, which may require higher radioiodine doses and longer hospitalisation times to treat.

An owner survey of characteristics of recently diagnosed hyperthyroid cats: a SAMSoc collaborative project

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OBJECTIVES

To evaluate the characteristics of recently diagnosed hyperthyroid cats and assess factors that impact management choices.

METHODS

Owners of cats with hyperthyroidism (diagnosed $\leq$ 3 months) were invited to complete an online survey. Participants were recruited via SAMSoc members, online forums and social media. Prize incentives were available, however respondents could complete the survey anonymously. Data were analysed descriptively.

RESULTS

105 owners completed the survey. 60% (n=63) were from the UK, 19% (n=20) from America and 10% (n=11) from Australia; eight other countries were represented. 47% (n=49) of cats lived indoors or were allowed outside only under supervision. 15% (n=16) were reported to hunt and eat their prey. 25% (n=27) of owners indicated their cat was a fussy eater. 25% of the cats (n=27) were already fed a therapeutic diet. 49% of respondents (n=44) indicated that it would be possible to feed their cat a therapeutic diet for hyperthyroidism, whilst ensuring the cat did not have access to any other food or water sources.

51% of respondents (n=54) indicated that it was difficult or impossible to tablet their cat directly and