Best in show but not best weight: using photographs to determine the weight status of show dogs

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Overweight dogs are prevalent in the pet population, but owners may fail to recognise it. Previous studies suggest that owners often wrongly perceive overweight dogs to be in normal condition. The body shape of dogs attending shows might influence owners' perceptions of body shape, with online images of an overweight show winner having a particularly damaging effect. The aim of the current study was to review internet images of dogs, which placed highly at a national UK dog show, to determine breed-specific prevalence of overweight.

The study protocol was approved by the University of Liverpool Research Ethics Committee. First, 28 breeds were selected, 14 of which were obese-prone, and 14 were not. Breeds were chosen from all Kennel Club categories, and non-obese-prone breeds were matched, for shape and size, to the obese-prone breeds. Using an online search engine (Google Images; <http://www.google.com/imghp>),

one operator then identified 40 images of dogs per breed, all of which had appeared at a major national UK show (Crufts). For each photograph, information was collated regarding breed, breed group, year of competition, sex, coat colour, and placing in show. The data were coded and recorded in a computer spreadsheet (Excel, Microsoft), and each photograph assigned an anonymous code. A second observer then independently viewed the coded photographs, and scored body condition using a validated photographic scoring method. Photographs were assessed in a single sitting, and scores recorded in a second spreadsheet, identified by the code only. Afterwards, the images were deleted, and data from both spreadsheets were combined.

A total of 1120 photographs of dogs were obtained, of which 960 proved suitable for assessing body condition, with all unsuitable images being from longhaired breeds. Of the 960 dogs, 0 (0%) were underweight, 708 were in ideal condition (74%) and 252 (26%) were overweight. Conditional logistic regression demonstrated that pugs (odds ratio [OR]=10.7, $P<0.001$), basset hounds (OR=5.6, $P<0.001$) and Labrador retrievers (OR=4.5, $P<0.001$) were most likely to be overweight, whilst standard poodles (OR=0.1, $P=0.01$), Rhodesian ridgebacks (OR=0.2, $P=0.01$), Hungarian vizslas (OR=0.2, $P=0.01$) and Doberman pinschers (OR=0.2, $P=0.01$) were least likely to be overweight.

Given the proportion of show dogs from some breeds that are overweight, breed standards should be redefined to be consistent with a dog in optimal body condition.

Transitioning of porcine insulin lente-treated diabetic cats to a human-recombinant protamine zinc preparation

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BACKGROUND

Feline diabetes mellitus (DM) is currently recommended to be treated through addressing underlying disease processes, twice daily insulin injections and a low carbohydrate diet. Good glycaemic control is one of the few factors that have been associated with diabetic remission, though a proportion of cats fail to achieve this on porcine insulin lente (Caninsulin®, MSD Animal Health), previously the only veterinary-licensed insulin for use in diabetic pets in Europe.

AIM

This pilot study evaluated a protocol for transitioning Caninsulin-treated diabetic cats onto newly licensed human-recombinant protamine zinc insulin (ProZinc®, Boehringer Ingelheim).

METHODS

Recently (<5 months) diagnosed diabetic cats, treated with Caninsulin BID for at least 6 weeks, were recruited. A full history, physical examination, diabetic clinical score (DCS; range 0 [no diabetic signs]–12 [many diabetic signs]), fructosamine concentration and 24-hour blood glucose-curve (BGC) were performed before and 1 month after the transition to ProZinc (start dose: 0.2–0.7 units/kg BID), following a set protocol of weekly BGCs and dose adjustments (0.5–1 unit change/injection/week guided by nadir). Cats were excluded if screening (biochemistry, urinalysis, fPLI, TT4, IGF-1, abdominal ultrasound) identified: ketoacidosis, clinical pancreatitis, glucocorticoid/progestogen administration, hyperthyroidism, acromegaly or other conditions impairing treatment response or compliance with the trial's protocol. Changes were assessed using Wilcoxon Signed Rank test ($p<0.05$).

RESULTS

Fourteen cats were recruited (10 MN, 4 FN; median [range] age: 10 years [6.0–15.4]); cats received a median (range) of 0.5 unit/kg (0.2–1.2) Caninsulin BID and had a median (range) DCS of 2 (0–9). Median (range) BGC value at time of Caninsulin treatment was 11.5 mmol/l (8.8–22.2) and median fructosamine (range) 445 μ mol/l (270–619). One month after transitioning to ProZinc cats were receiving a median of 0.5 unit/kg (0.1–0.8) BID and had a significantly lower median DCS of 1 (range 0–7); median BGC value (7.5 mmol/l; range

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4.2–19.2; $p=0.009$) and fructosamine (377 $\mu\text{mol/l}$; range 256–575, $p=0.035$). Of six cats with a Caninsulin-duration of action ≤ 10 hours, five showed a ProZinc-duration of action >10 hours.

DISCUSSION

It appears effective and safe to transition Caninsulin-treated diabetic cats onto ProZinc using a starting dose of 0.2–0.7 unit/kg BID, with a positive impact on clinical signs and glycaemic parameters in all cats in the study.

Assessment of novel methods of monitoring trilostane treatment of canine hyperadrenocorticism

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AIM

To investigate alternative methods to ACTH stimulation tests to monitor trilostane treatment.

METHOD

Cases of hyperadrenocorticism that been treated with a consistent dose of trilostane for at least 30 days were recruited from first opinion and referral practices. Cortisol was measured at 3 time points in each dog; pre-trilostane, 3 hours post-trilostane and 1 hour post-ACTH injection. Clinical control was assessed using an independently-scored owner questionnaire. Dogs that had an increase in cortisol after trilostane administration were excluded. The Pearson correlation coefficient was calculated to assess relationships between the cortisol measurements and the absolute clinical score.

The clinical scores derived from the owner questionnaire were then categorised into one of four groups: over-controlled, well-controlled, moderately-controlled and poorly-controlled. A scoring system was developed for each of the 3 cortisol measurements. A fourth scoring system was developed using a novel algorithm that combined the pre and post trilostane cortisol (pre-post). The results of each of these 4

scoring systems categorised the dogs into those that would be expected to be over-controlled, well-controlled, moderately-controlled and poorly-controlled. Weighted Kappa was calculated to assess the agreement between the categorisation according to each of the 4 methods compared to the categorisation using the owners score.

RESULTS

In total 70 tests were analysed. One test did not have a post ACTH cortisol. There were significant but weak correlations between the absolute clinical scores and all the cortisol concentrations. When compared to the results of the owner's questionnaire 39, 33, 19 and 16 dogs were correctly categorised using the pre-post, pre alone, post-ACTH and post trilostane cortisol respectively. Amongst the miscategorised results 27, 35, 40 and 42 dogs were incorrect by 1 category and 4, 2, 10 and 12 dogs by 2 categories respectively. All methods correctly recognised the over-controlled dog that had been identified by the owner's score.

The weighted kappas for post-ACTH and post trilostane cortisol categories compared to the owner score categories were 0.16 and 0.27 respectively (defined as fair agreement). In contrast the weighted kappas for the pre trilostane and pre-post trilostane categories were 0.48 and 0.44 respectively (defined as moderate agreement).

CONCLUSIONS

The novel methods of pre-trilostane and pre-post trilostane better reflected the clinical control of hyperadrenocorticism as determined by the owners' questionnaire and should be further investigated as monitoring tools for trilostane.