The clinical abnormalities used by primary care practitioners to direct testing for FeLV and FIV in the UK

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BACKGROUND

Feline Immunodeficiency Virus (FIV) and Feline Leukaemia Virus (FeLV) have a relatively low prevalence in the UK, but testing is frequently performed. Little is known about which cats are tested by primary care veterinary surgeons, and particularly which signs or results influence the decision to test for these diseases.

OBJECTIVES

To determine whether the signalment and presenting clinical signs influence primary care veterinary surgeon's decisions to test cats for FeLV or FIV. Moreover, we aimed to determine which signs were associated with a positive diagnosis.

MATERIALS AND METHODS

Clinical records from four primary care veterinary practices in the UK were reviewed. Two-hundred and seventy-five cats were tested for FeLV/FIV. Information regarding signalment, clinical signs at the time of testing, history and test methodology were collected. To analyse the data, clinical signs and historical findings were assigned to categories based on body systems, but where this was not possible, a category of 'non-specific' was created. Data were analysed for all cases. Cases that tested positive for FeLV or FIV, and cases that tested negative were identified, and data were analysed and compared between these categories.

RESULTS

Out of the 275 cats tested for FeLV/FIV, 4.4% of cats were positive for FIV and 1.8% were positive for FeLV. Signalment did not influence which cats were tested, although more male cats (58.8%) were positive for either FeLV or FIV. Cats with signs in the 'non-specific' category were most frequently tested (121 cats), followed by those with signs relating to the gastrointestinal (GI), respiratory and oral systems (81, 56 and 52 cats, respectively). Neoplasia and haematological dyscrasias were more frequently encountered in cases positive for FeLV or FIV than cases that were negative for either disease (5.9% versus 0.4% for neoplasia, 35.3% versus 8.9% for haematological dyscrasias).

CONCLUSIONS

The majority of veterinary surgeons use non-specific clinical signs to direct testing for FeLV and FIV which results in predominantly negative results (95.6% for FIV and 98.2% for FeLV). This current approach to testing suggests clinicians would gain most value in using FeLV and FIV tests as screening tests to rule out both diseases, given the low prevalence. If attempting to use the tests in a confirmatory way, cats with signs related to the GI, oral and respiratory systems along with neoplastic disease or haematological dyscrasias should be selected.

What is the best method of estimating energy intake for weight loss in obese dogs?

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The main therapeutic approach for canine obesity is restricting caloric intake, this succeeds provided that the energy intake (EI) during weight loss is less than the dog's energy expenditure. Many methods exist for predicting the starting EI required for weight loss in obese dogs. Methods can incorporate either resting energy requirement (RER = 70 kcal/kg$^{0.75}$/day) or maintenance energy requirement (MER = 105 kcal/kg$^{0.75}$/day), and be based upon either starting body weight (SBW) or target body weight (TBW, estimated from body condition score). In addition, some methods make adjustments for sex and neuter status.

In this retrospective study, the performance of predictive equations were assessed:

- **Equation 1 (Eq1)**. EI = 0.80 x RER/day, using SBW.
- **Equation 2 (Eq2)**. EI = 0.80 x RER/day, using TBW.
- **Equation 3 (Eq3)**. EI = 0.60 x MER/day, using TBW.
- **Equation 4 (Eq4)**. EI = 0.55–0.65 x MER, again using TBW, with the coefficient differing by sex and neuter status (entire male 0.65; entire female or neutered male 0.60; neutered female 0.55).

Predictions were compared with retrospective weight loss data from 74 obese dogs that had attended the Royal Canin Weight Management Clinic, University of Liverpool. All dogs had successfully reached TBW, and rate of weight loss had been >0.5%/week in the first 28 days. Associations were assessed with simple linear regression, whilst Bland-Altman plots were used to determine accuracy.

For all equations, there was strong positive correlation with actual EI (R2 = 0.93-0.97, *P*<0.001 for all). On average, Eq1 over-estimated actual EI (median +13%; −26% to +82%, *P*<0.001), with only 27/74 (36%) of estimates being within ±10%. Eq2 under-estimated actual EI on average (median −6%, −32% to +42%, *P*<0.001), although results were more accurate than for Eq1 (44/74 [59%] of estimates within ±10%). Eq3 over-estimated actual EI on average (median 6%, −23% to +59%, *P*<0.001), but its accuracy was marginally better than Eq2 (49/74 [66%] within ± 10%). Eq4 performed best of all, with average results not being significantly different from actual EI (median 2%, −19% to 46%, *P*=0.089),

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and the best accuracy (53/74 [72%] within ±10%).

Of the predictive equations tested, those based upon MER and TBW predict initial EI requirement for weight loss better than those based upon RER or SBW. Factoring in sex and neuter status improves the accuracy of predictions, and such equations can be easily used in general practice.

Proof of longer life?: Exceptional longevity in a cohort of 39 Labrador retrievers

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The aim of this study was to describe the longevity of 39 pedigree adult neutered Labrador retrievers enrolled in to one study group with a median age of 6.5 years at the start of the study on 16 July 2004. As of 01 October 2015, 1 dog remained alive. The longevity of this group of dogs was compared to 3 other groups of pedigree Labrador retrievers taken from previously published studies:

- Longevity study group fed to maintain a body condition score between 2 and 4 on a 5-point scale
- Kennel Club (KC) survey dogs owned as pets and by breeders and kept by owners/breeders
- 'Restricted' group fed 25% less than a sibling pair in 'control' group
- 'Control' group initially fed ad libitum and then fed a restricted amount of food to prevent excessive weight gain

After excluding 32 KC survey dogs that died at <3.50 years of age, Kaplan-Meier analysis revealed significant differences in median survival time (MST) (P<0.00001) with the study group living longer than each of the other groups.

In spite of the limitation of using historical control groups, this study shows that the study group lived significantly longer than previously published Labradors. The reason is unclear but it may be that life-long maintenance of lean body mass and attenuated accumulation of body fat are key factors in achieving a longer lifespan. These Labradors had a combination of a high quality plane of nutrition with appropriate husbandry and healthcare and a greater than expected proportion of Labrador retrievers living well beyond that of the expected breed lifespan. Further work will include Cox proportional hazards regression analysis to identify factors associated with longevity, including gender, neuter status and age at neutering, as well as to include data from other published studies.

Group	N	Descriptive statistics		Kaplan-Meier analysis	
		Median age	(Min–Max)	MST*	(95% CI)
1. Longevity study	39	14.01	(9.68–17.90)	14.01	(13.18–14.77)
2. KC survey	574	12.25	(0.17–19.00)	12.58✗	(12.17–12.92)
3. 'Restricted'	24	13.09	(4.30–14.56)	13.00✗	(12.38–13.50)
4. 'Control'	24	11.16	(3.50–13.29)	11.14	(10.80–11.99)

*Overall P<0.0001; all pairs significantly different (≤0.004) from one another other than
✗ (P=0.5)

Prevalence and clinical significance of ESBL/AmpC producing Enterobacteriaceae from companion animals, N-W England

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Multidrug resistant (MDR) *Escherichia coli* and other *Enterobacteriaceae* are known to be emerging in companion animals. Particularly concerning is the production of extended-spectrum beta-lactamases (ESBL) and/or AmpC beta-lactamases, which give resistance to all clinical relevant extended-spectrum cephalosporins. Furthermore, the lack of specific guidelines regarding the management of ESBL/AmpC animal infections, leads to an important dilemma faced by the veterinary microbiologist on how to correctly advise clinicians on their clinical significance and therefore when is appropriate to treat these isolates. Although ESBL/AmpC producing *E. coli* can be associated with disease, some animals may only be colonised but not infected with these organisms and it is critical to identify these cases in order to avoid unnecessary use of antimicrobials in only colonised patients.

ESBL and AmpC beta-lactamase producing *E. coli* are routinely found in clinical specimens submitted to our Microbiology Diagnostic laboratory and their prevalence seems to be increasing. Six hundred and seventeen *Enterobacteriaceae* (n=617) were obtained from companion animal