CLINICAL ABSTRACTS 2021 | ORAL PRESENTATIONS

Following on from the success of BSAVA Virtual Congress 2021, we are delighted to present to you the 2021 Congress Clinical Abstracts. The congress programme committee have spent many hours reviewing some excellent clinical abstracts this year, with the quality and breadth of the 2021 abstract programme a testament to the high level of clinical research that was submitted.

From critical care to endocrinology and from orthopaedics to exotics, the submissions this year have covered a wide range of exciting developments in veterinary medicine, 30 years on from the first BSAVA Congress Abstracts in 1991. As a sign of the changing times since then, a number of the abstracts were presented in online poster form at the 2021 virtual congress, whilst more than 140 will also be presented orally at BSAVA's Congress Clinical Abstract Presentations Online programme on 24th-26th May 2021.

We would like to thank all the submitting authors for their hard work and for choosing BSAVA Congress as a forum in which to share their findings. We are also grateful for the willingness of oral abstract presenters to embrace the challenges of online presentations again this year – hopefully the experience is an enjoyable and rewarding one.

Thank you again for interacting with BSAVA Congress 2021 and see you next year!

Joe Fenn

BSAVA Congress Clinical Abstracts Chair

Note – the abstracts displayed are as supplied and BSAVA has not corrected typographical errors or edited the submission text. Any errors are the responsibility of the authors.

TUESDAY 25 MAY 2021

AM Room 1, 08:45 - 12:15 | Primary Practice and the Profession, Ophthalmology

08:45 Photographic, Cytological and MRI Evaluation of The Hard, Soft Palate and Tonsils in Cavalier King Charles Spaniels with Chiari-Like Malformation

Beth Greene¹, Stratos Papakonstantinou¹, Susan Penelope Knowler¹, Pdraig Egan², Clare Rusbridge^{1,2}

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Objectives

Determine if Cavalier King Charles spaniels (CKCS) with Chiari-like malformation associated pain (CM-P) or syringomyelia (SM) are predisposed to oropharynx inflammation.

Methods

Case control study 1) analysis of gross inflammation from oropharynx photographs; 2) cytological preparations from hard palate, soft palate and tonsils assessed for nucleated cellularity, mucus and bacterial presence. Ratio of inflammatory to epithelial cells calculated in 5 fields of view (40x objective); 3) soft palate quantitative measurements from T2-weighted midsagittal MRI 4) visual assessment of presence of soft palate hyperintensity, soft palate, nasopharynx impingement or otitis media with effusion (OME) from T2-weighted midsagittal and transverse head MRI.

Anonymized sample comprised of 26 CKCS presented for diagnostic investigation (ethical approval NASPA-2018-006); 13 with CM-P / SM and 13 unaffected controls.

Data analysis included descriptive statistics, Mann-Whitney U, Independent-Samples T Test and Chi-squared analyses

Results

Analysis of photographs suggested oropharyngeal inflammation was common particularly tonsillar eversion with reddening but was not more likely in CM-P/SM affected CKCS. Cytological analysis suggested a trend for greater inflammation in the affected group; however, the difference was not significant. Soft palate thickness and length was similar between groups. 19 of 24 CKCS had soft palate hyperintensity suggesting inflammation; 14 of 24 had nasopharyngeal impingement and 9 of 24 had OME

Statement (conclusions)

Oropharyngeal inflammation is a common co-morbidity and possible cause of pain in CKCS. However, this small study suggests that although this problem may be predisposed by brachycephalic conformation, it is not more likely with brachycephalic conformation associated with CM-P and SM.

09:00 Tasipimidine, A Novel Orally Dosed Alpha-2 Adrenoceptor Agonist, Alleviates Canine Acute Anxiety and Fear Associated with Travel – A Pilot Study

Mira Korpivaara¹, Mirja Huhtinen¹, Pasi Pohjanjousi¹, Beatrice Carlone², Chiara Mariti²

¹Research and Development, Orion Corporation Orion Pharma, Espoo, Finland. ²Department of Veterinary Sciences, University of Pisa, Pisa, Italy

Objectives

Clinical efficacy and safety of tasipimidine in dogs with anxiety and fear associated with travel was studied.

Methods

Nineteen dogs with a history of anxiety and fear associated with travel were enrolled in a randomised, double-blind, placebo-controlled, crossover study including one car ride with each treatment (periods 1 and 2).

Tasipimidine 30 µg/kg or placebo was administered one hour before the travel. Treatment effect on dog's signs of anxiety and fear was assessed from video by a blinded observer. Owner assessment of treatment effect, dog's alertness and adverse events were also recorded

Results

Tasipimidine significantly reduced signs of anxiety and fear based on both their duration ($p < 0.0001$) and frequency ($p = 0.0134$). Dogs treated with tasipimidine showed significantly less panting ($p < 0.0001$) and lip/nose licking ($p = 0.0003$). Similarly, the owner's assessment of the overall treatment effect was in favour of tasipimidine (OR 23.3; 95% CI 4.58–118.2; $p = 0.0001$).

The far majority of dogs were scored fully responsive in both periods (89.5 and 94.4%, respectively). The ability to stand up and move normally was also highly retained in both periods (100 and 94.7%). Temporary slight ataxia was reported for 3 dogs in the tasipimidine treatment, and it was the most common AE. No serious adverse events were reported.

Statement (conclusions)

In conclusion, in both the objective observer assessment of signs and the owner assessment, tasipimidine was found effective in alleviating anxiety and fear associated with travel and treatment effect was found not dependent on sedation.

09:15 Tasipimidine, A Novel Orally Dosed Alpha-2 Adrenoceptor Agonist, Alleviates Separation Anxiety in Dogs - A 5-Week Study

Mira Korpivaara¹, Mirja Huhtinen¹, Pasi Pohjanjousi¹, Clara Palestrini², Karen Overall³

¹Research & Development, Orion Corporation Orion Pharma, Espoo, Finland. ²Department of Veterinary Medicine, University of Milan, Milano, Italy. ³Department of Health Management, Atlantic Veterinary College, University of Prince Edward Island, Charlottetown, Canada

Objectives

The objective was to study clinical safety and efficacy of tasipimidine in dogs suffering from separation anxiety.

Methods

Sixty-six dogs with a history of separation anxiety were enrolled in a randomised, double-blind, placebo-controlled study. Tasipimidine 30 µg/kg (n=32) or placebo (n=34) was administered 1 hour prior to departure during 5 weeks. Treatment effect was assessed from video. Signs and extent of dog's anxiety and fear, dog's alertness and adverse events (AE) were also assessed.

Results

In the owner assessment, tasipimidine reduced dog's signs of anxiety and fear statistically significantly (odds ratio [OR] 3.74, 95% CI 1.61, 8.65; $p = 0.0021$). Tasipimidine-treated dogs showed continuously lower weekly mean anxiety scores (estimate -9.47; 95% CI -15.9, -3.08; $p = 0.0045$). Tasipimidine reduced in particular restlessness/pacing (estimate -0.64; 95% CI -0.99, -0.28; $p = 0.0007$) and vocalisation (estimate -0.48; 95% CI -0.83, -0.13; $p = 0.0085$).

In the alertness assessment 10 dogs in the tasipimidine group were scored "less alert as usual" or presented short-lived slight ataxia. In order to find an anxiolytic dose for these individuals tasipimidine dose was reduced to 20 µg/kg in 6 dogs and the alertness assessment was repeated prior leaving dogs alone or undertaking efficacy assessments. There were no serious AEs in the study. The most common AE was emesis, which was reported in 15 dogs (46.9%) in tasipimidine group and 8 dogs (23.5%) in placebo group.

Statement (conclusions)

In conclusion, tasipimidine was found to be safe and effective in the treatment of separation anxiety in dogs.

09:30 Do Our Dogs Sleep Enough?

Carrie Tooley, Sarah Heath

Behavioural Referrals Veterinary Practice, Chester, United Kingdom

Objectives

Optimal sleep duration and quality is difficult to define. In humans, chronic inadequate sleep is a risk factor for physiological and emotional problems.

There is anecdotal support in the field of veterinary behavioural medicine for a correlation between dogs diagnosed with anxiety and those achieving a low duration and quality of sleep. No clear data exists however, on common sleep durations and the potential impact of this on emotional health or behavioural presentations in dogs is unclear.

This study assesses care-giver-reported duration of sleep achieved by pet dogs in the UK and the potential for correlation of sleep duration with presentation of care-giver-reported problem behaviours.

Methods

An online questionnaire was distributed via social media using snowball sampling from July-September 2020. Responses regarding 1417 pet dogs were received with 49% female (n=692), 76% neutered (n=1066) and 143 breeds represented.

Results

Most respondents reported dogs achieving either 6-8hrs (50%, n=705) or 8-10hrs (35%, n=491) sleep whilst their care-givers were in bed. Reports of sleep achieved whilst care-givers were out of bed varied substantially, with 21% (n=302) reporting 2-4hrs, 35% (n=487) reporting 4-6hrs, 20% (n=275) reporting 6-8hrs and 11% (n=148) reporting 8-10hrs.

Statement (conclusions)

This data provides a representation of common sleep durations in the UK dog population. Further assessment of the potential correlation of sleep duration with presentation of care-giver-reported problem behaviours will be presented, giving valuable information for use when recommending “down-time” or exercise as behaviour-improving solutions in general practice.

10:00 Establishing Accurate Dead-Space Discard Volumes to Improve Controlled Drug Record Accuracy.

Emily Macnish, Emily Hall

Nottingham Trent University, Nottingham, United Kingdom

Objectives

The Misuse of Drugs Regulations 2001 require accurate, audited records for Schedule 2 controlled drugs used in veterinary practice. This study aimed to investigate the volume of drug discarded in dead space with variable needle/syringe combinations

Methods

Two volumes (10% and 100% syringe fill) of sterile water for injection were withdrawn from a multi-use bottle using combinations of standard slip-tip 1ml, 3ml, 5ml, 10ml and 20ml syringes, with 21g, 23g and 25g needles. Ten replicates of each combination were performed. The injection bottle was weighed before and after each withdrawal to calculate the volume lost in dead-space. After normality testing, data were analysed using unpaired t-tests and one-way ANOVA.

Results

Three hundred measurements were performed. Syringe fill had no significant effect on the volume lost (p=0.574), but there was a significant difference between syringe sizes (p<0.001). For 1ml syringes, there was also a significant difference between the volume lost when using different needle gauges (p=0.001).

The mean ($\pm$ standard deviation) volume lost for each syringe was: 3ml syringe 0.15 ± 0.04 ml, 5ml syringe 0.18 ± 0.04 ml, 10ml syringe 0.18 ± 0.04 ml and 20ml syringe 0.20 ± 0.04 ml. For the 1ml syringe with a 21g needle the volume lost was 0.11 ± 0.03 ml, and with a 23 or 25g needle was 0.09 ± 0.02 ml.

Statement (conclusions)

The use of 0.05/0.1ml as the standard discard volume for controlled drug records fails to adequately record the true volume of drug lost in needle/syringe dead-space. Clinicians should consider recording at least 0.1ml for 1ml syringes, and 0.15-0.2ml for larger syringes to improve record accuracy.

10:15 Recruitment and Retention: Why Do Some Canine and Feline Candidates Not Make It as Blood Donors?

Karen Humm, Marjanne Descamps

The RVC, London, United Kingdom

Objectives

Whilst there is extensive research into selection and retention of human blood donors, veterinary studies in this field are limited. This study therefore aimed to identify the reasons for rejection of potential canine and feline blood donors and the reasons why they left a blood donor programs before retirement age.

Methods

A retrospective analysis of the clinical records of 362 dogs and 134 cats who presented as prospective blood donors and/or donated between 01/01/2014 and 31/12/2019. Reasons for rejection at sign-up were categorised as either medical or temperament. Reasons why animals left before retirement age were categorised as medical, temperament or owner-related. Quantitative categorical data was analysed using Chi-square tests and differences between species were examined.

Results

Cats were more likely to be rejected than dogs at sign-up (20.8% of cats versus 5.2% of dogs), mostly due to medical reasons, with hypertrophic cardiomyopathy (HCM) the commonest cause. Cats were no more likely than dogs to be rejected for temperament at sign up. Cats were more likely to leave before retirement age than dogs (43.4% of cats versus 32.2% of dogs), but they were no more likely to leave early for any particular subcategory (owner, medical or temperament). Animals often left early due to owner factors. 13.4% of dogs and 17.2% of cats left early due to temperament despite passing behavioural screening at sign-up.

Statement (conclusions)

Owner understanding and motivation are essential to ensure successful selection and retention of donors which allows amortisation of recruitment costs. Temperament needs reassessment at each visit.

10:30 A Dog's Dinner: A Survey Investigating the Reasons Behind the Pet Food Choices of UK Dog Owners

Genever Morgan, Nicola Williams, Vanessa Schmidt, Gina Pinchbeck

University of Liverpool, Liverpool, United Kingdom

Objectives

To understand why dog owners choose either a raw meat-based diet (RMD) or non-raw diet (NRMD) for their pet dogs.

Methods

An online survey was conducted from February-March 2020. All UK dog owners were eligible to participate, regardless of dog food preference. Statistical analysis of quantitative data was undertaken. NVIVO 12 qualitative software was utilised for thematic analysis of free text answers.

Results

In total, 1831 dog owners (915 RMD, 916 NRMD) completed the survey for 3212 (1754 RMD, 1458 NRMD fed) dogs.

Most owners (>90%) who fed RMD believed it provided health benefits for skin disease/allergies and coat, dental and general digestive health, with >75% believing it provided health benefits for diarrhoea, anal sac clearance, mobility, performance and behaviour.

Conversely, >50% of owners who fed RMD, believed that NRMD posed a health risk for skin disease, dental disease, digestive health, diarrhoea, anal sac clearance and behaviour.

A lower percentage (50%) of owners who fed NRMD believed their diet choice to be beneficial for skin disease/allergies and coat, dental and general digestive health, while >60% of owners who fed NRMD believed that RMD was a health risk for foreign bodies and bone splinters.

Statement (conclusions)

Dog owners who fed RMD believed it provided a wide range of health benefits compared to NRMD, despite little scientific evidence to support claims. Veterinarians should be aware of owners' beliefs when discussing diet choices with their clients. Further research is needed to ascertain evidence for the perceived benefits or risks.

10:45 A Dog's Dinner: A Survey Investigating the Beliefs of UK Dog Owners Regarding the Wider Health Risks of Raw and Non-Raw Diets

Genever Morgan, Nicola Williams, Vanessa Schmidt, Gina Pinchbeck

University of Liverpool, Liverpool, United Kingdom

Objectives

To understand the perceived health risks of feeding raw- meat-based (RMD) and non-raw (NRMD) diets to pet dogs in the UK.

Methods

An online survey was conducted from February-March 2020. All UK dog owners were eligible to participate, regardless of dog food preference. Data were analysed using Chi-Square Test (significance $p < 0.05$).

Results

1831 dog owners (915 RMD, 916 NRMD) completed the survey. Significant differences in the responses were observed between groups ($p < 0.01$).

Only 1.3% of owners feeding RMD believed it constituted a health risk to their dog, 4.3% to themselves, 0.5% to in-contact dogs and 1.9% to in-contact people, suggesting RMD was perceived as low risk generally. However, 43.8% of RMD owners believed feeding NRMD was a risk to their dog, while few believed it posed a wider risk to themselves (4.3%), to in-contact dogs (3.0%) or to in-contact people (3.4%).

Many owners who fed a NRMD believed that RMD presented a risk to dogs and people; 44.3% believed it to be a risk to their dog, 46.9% to themselves, 33.8% to in-contact dogs and 39.5% to in-contact people, whereas NRMD diets were generally perceived as low risk.

Statement (conclusions)

Owners who feed RMD do not commonly believe it poses a health risk to their dog, or in-contact people and animals. Dogs fed RMD however, have previously been shown to shed zoonotic and antimicrobial-resistant bacteria and could represent an environmental, public health and patient risk. Further evidence is required; nevertheless, it is important that veterinarians educate owners regarding the potential wider-reaching risks of RMD.

11:15 Epidemiology of Prolapsed Third Eyelid Gland (Cherry Eye) In UK Dogs Under Primary Veterinary Care

Yahui Yin, Roser T. Pont, Camilla Pegram, David B. Church, Dave C. Brodbelt, Dan G. O'Neill

RVC, Hertfordshire, United Kingdom

Objectives

To report prevalence, risk factors, management and outcomes for prolapsed third eyelid gland (PTEG) in dogs attending UK primary practices in 2016.

Methods

Anonymised demographic and clinical data were extracted from VetCompass and manually verified. Risk factor analysis used a retrospective case-control study design with multivariable logistic regression modelling.

Results

1,802 PTEG cases were identified from 905,543 dogs, yielding an annual prevalence of 0.20% (95%CI=0.19-0.21%).

Predisposing risk factors included age, purebred status, brachycephaly, breed and bodyweight. Sex and neuter status were not predisposing. The median age at first diagnosis was 7.32 months (IQR=4.08-22.08, range=1.32-216.12). The odds of PTEG decreased as dogs aged. Purebreds had 2.36 times the odds (95%CI=1.48-3.77) compared with crossbreeds. Brachycephalic breeds had 8.18 times the odds (95%CI=7.02-9.53) compared with non-brachycephalic breeds. Dogs weighing 20 to 30kg had 3.00 times the odds (95%CI=2.52-3.58) compared with dogs weighing under 10 kg. British Bulldog had the highest breed odds ratio (22.91, 95%CI=17.15-30.61) compared with crossbreeds. Insured dogs had 1.50 times the odds (95%CI=1.24-1.81) of diagnosis compared with uninsured dogs.

Eyes receiving surgical treatment had 88.02% resolution rate compared with eyes receiving only medical treatment (68.76%) or no treatment (29.60%). Gland replacement anchoring and pocket technique had similar recurrence rates (25.00% and 24.35%), complication rates (50.00% and 50.43%) and keratoconjunctivitis sicca outcomes (2.78% and 4.31%).

Statement (conclusions)

This study reports the largest cohort of primary-care PTEG cases assembled to date. The findings assist veterinarians to diagnose PTEG and explain predispositions to owners of affected dogs. The clinical outcomes can act as useful clinical benchmarks.

11:30 Efficacy Of 0.02% Tacrolimus in Dogs with Keratoconjunctivitis Sicca in Which Topical Cyclosporine Was Ineffective: Preliminary Results.

Thomas Kearns, David Williams

Queens Veterinary School Hospital, University of Cambridge, Cambridge, United Kingdom

Objectives

For thirty years topical cyclosporine has been used as a lacrimostimulant agent in cases of canine keratoconjunctivitis sicca or dry eye. In some cases this drug does not result in adequate increase in tear production either at 0.2% in Optimune or in the 2% solution as originally reported. There is anecdotal evidence that tacrolimus, a similar drug to cyclosporine but with a more powerful immunomodulatory action, is more efficacious but until now we have no objective evidence that this drug works where cyclosporine fails. Here we sought to use 0.02% tacrolimus (Bova Ltd, UK) in dogs with KCS where topical cyclosporine was ineffective.

Methods

10 dogs with KCS where topical cyclosporine at 0.2% in Optimune had failed to improve tear production were given 0.02% tacrolimus and their Schirmer tear tests (STT) were measured before treatment and over a one month period on tacrolimus. The data before and after tacrolimus treatment were compared with a Mann Whitney U test as the data were non-normally distributed when evaluated using the Shapiro-Wilk test.

Results

The dogs were of varying breeds genders and ages but all eyes evaluated had STT below 5mm/min before treatment. The average STT before treatment was 2.8 ± 1.2 mm/min and at 1 month after treatment was 13.3 ± 1.6 mm/min this increase in tear production being significant at $p=0.00018$.

Statement (conclusions)

These preliminary results suggest that topical ophthalmic tacrolimus at 0.02% is effective to stimulate tear production in dogs with KS where topical cyclosporine has not been efficacious.

11:45 Variation in Intraocular Pressure in The Normal Canine Eye Between Different Dog Breeds

David Williams, Lucy Gimson

Queen's Veterinary School Hospital, Cambridge, United Kingdom

Objectives

Intraocular pressure (IOP) is commonly measured in veterinary ophthalmology with normal IOP generally considered to be between 15 and 20mmHg. But does IOP differ across the normal eyes of different dog breeds? Here we sought to determine this by measuring the IOP in normal eyes of 1000 dogs of differing breeds.

Methods

IOP was measured in both eyes of 1000 healthy dogs of various breeds with ophthalmoscopically normal eyes. The average IOP of the two eyes was evaluated. Data was analysed for breeds in which IOP in over 20 dogs had been measured. The difference between mean IOP in dogs of different breeds was determined using the Mann-Whitney U test as the Shapiro-Wilk test showed data to be non-normally distributed. IOP differences between dogs of different genders and ages were evaluated using the Kruskal Wallis test.

Results

IOP values between female entire, female neutered, male entire and male neutered dogs were 16.2 $\pm$ 2.9, 14 $\pm$ 2.6, 16.1 $\pm$ 2.8 and 16.2 $\pm$ 2.4 mmHg respectively, these not significantly different. A weak negative correlation was found between age and IOP with no significant difference across dogs of different ages from 4 weeks to 17.5 years. IOP in eyes of brachycephalic dogs was 17.6 $\pm$ 2.5mmHg and in mesocephalic dogs 15.9 $\pm$ 2.5mmHg, these significantly different at $p < 0.00001$. Pugs had the highest IOP at 19.1 $\pm$ 1.5mmHg while Miniature Schnauzers had the lowest at 14.7 $\pm$ 2.7mmHg.

Statement (conclusions)

Although all mean IOP values were within normal limits there is a significant difference in IOP between dogs of different breeds. Brachycephalic breeds had a significantly higher IOP than non-brachycephalic breeds.

12:00 Evaluation of Blink Rate in The Normal Dog

David Williams, Emma Denny

Queen's Veterinary School Hospital, Cambridge, United Kingdom

Objectives

Blinking is a key factor in maintenance of a healthy ocular surface and much research has been undertaken on blinking in humans, yet little is known about the normal blink rate in dogs. Spontaneous blink rate (SBR) was determined in dogs with ophthalmoscopically unremarkable eyes. SBR was compared between dogs of different breeds and genders.

Methods

SBR was determined in dogs either by an observer sitting 5 metres away from the animal and counting blinks per minute over a 5 minute period or using a video camera set to record the animal over 5 minutes and blinks counted on film later. As no difference in SBR between the two methods was determined the technique with observer present was used in the rest of the study. SBR was compared between brachycephalic and mesocephalic breeds and between male and female dogs.

Results

The overall SBR in the normal dog was 11.5 $\pm$ 2.4 blinks/min, with a range from 4 to 26 blinks/min. SBR for 30 mesocephalic dogs was 9.9 $\pm$ 1.9 blinks/min. SBR for 30 brachycephalic dogs was 13.2 $\pm$ 2.8 blinks/min this significantly different using the students T test at $p = 0.001$. With all breeds considered

together SBR for male dogs was 11.6 ± 1.7 blinks/min and SBR for females was 11.4 ± 2.9 blinks/min these not significant different at $p=0.1$.

Statement (conclusions)

These results document the SBR in the normal dog showing brachycephalic breeds to have a higher SBR than mesocephalic dogs. The importance of this difference has yet to be determined.