

# BEVA 2022 7 - 10 Sept ACC, Liverpool

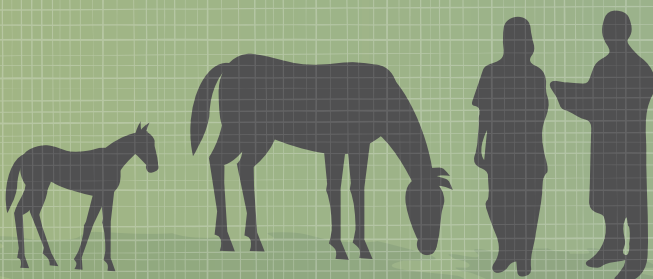
# CONGRESS

Championing the Equine Vet



## 60th

## Handbook of Presentations





## CLINICAL RESEARCH: ENDOCRINE, OPHTHALMOLOGY AND MEDICINE

Chair: Sally Cobbald

13.30

### A cohort study of horses diagnosed with pituitary pars intermedia dysfunction in the United Kingdom

**R.C. Tatum, C.M. McGowan and J.L. Ireland**

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**Background:** Expected progression of pituitary pars intermedia dysfunction (PPID) has previously been identified as an important research priority. However, information regarding progression and prognosis is currently limited. **Objectives:** To describe changes in clinical signs and treatment over time in PPID-affected horses, as well as incidence of co-morbidities and mortality. **Study design:** Retrospective and prospective cohort study. **Methods:** For PPID cases diagnosed by the University of Liverpool Equine Practice between 1 January 2014 and 31 August 2018, data were obtained from clinical records and regular owner telephone questionnaires. Descriptive statistics were used to evaluate changes from baseline during follow-up. **Results:** 72 PPID cases were enrolled in the prospective cohort, with owner-reported follow-up data obtained for 62 cases, contributing 53.4 horse-years-at-risk ([HYAR]; median follow-up 11 months; IQR 8–13). Horses had been diagnosed with PPID a median of 2.1 years (IQR 1.1–3.3) previously. At baseline, 81.9% of cases received pergolide and during follow-up, pergolide dose was unchanged for 78.2%, increased in 10.9%, decreased in 7.3%, and treatment discontinued in 3.6%. At baseline, the most prevalent signs were abnormal coat shedding (26.4%; and persisting during follow-up for 17.4% of affected horses), history of laminitis (23.6%) and hypertrichosis (22.2%). Recurrent/persistent infections (19.4%), abnormal coat shedding (16.1%) and laminitis (12.9%) were the most common signs reported to develop in previously unaffected horses during follow-up. Laminitis incidence was 15.7 episodes per 100 HYAR (95%CI 6.8–30.9). Mortality rate was 20.6 deaths per 100 HYAR (95%CI 10.3–36.9), with colic the most common reason for euthanasia (63.6%). Probability of survival at 16 months was 79.8%. **Main limitations:** Single-centre study. Small sample size. Potential for owner recall bias. **Conclusions:** Prospective changes described in this field-based cohort provide useful information for veterinarians advising on long-term management and prognosis of PPID, and for owner education regarding monitoring cases for development or progression of clinical signs. **Ethical animal research:** Approved by the University of Liverpool Committee on Research Ethics (reference number VREC667). **Informed consent:** Owners gave consent for their animals' inclusion. **Competing interests:** None declared. **Sources of funding:** None.

13.45

### Laminitis risk categories for serum insulin concentrations differ between two analysers

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**Background:** Measured serum insulin concentrations ([insulin]) are dependent on the assay used. Low, intermediate and high-risk categories for laminitis development are reported for basal and oral sugar test (60 minutes after 0.3ml/kg Karo syrup) (OST) [insulin] using a benchtop analyser (Tosoh AIA 360) [1]. Equine

Endocrinology Group (EEG) recommends ranges for insulin dysregulation (ID) diagnosis of: <31uIU/ml (non-diagnostic), 31–75uIU/ml (suspect) and >75uIU/ml (ID) are proposed for non-fasting basal [insulin] using a different analyser (Immulite 2000XPI), commonly used in UK commercial laboratories.

**Objectives:** To determine the agreement between the Tosoh and Immulite 2000XPI analysers at diagnostic thresholds to categorise laminitis risk and to compare these with consensus thresholds for ID diagnosis. **Study design:** Method comparison.

**Methods:** A convenience sample from a research study [1] and routine clinical analysis (n = 51) was analysed concurrently using the Tosoh and Immulite 2000XPI analysers. Assay results were compared by Bland-Altman analysis. Equivalent diagnostic thresholds were extrapolated using non-linear regression.

**Results:** Bland-Altman analysis revealed bias between the analysers ( $p < 0.001$ ) that changed throughout the sample range (3.7–191 uIU/ml (Tosoh). Median (95%CI) difference = 18.8 uIU/ml (13.2–22.8 uIU/ml). The relationship between the assays was quadratic and modelled as  $\text{Immulite} = 0.42 \times \text{Tosoh} + 0.0029 \times \text{Tosoh}^2 - 2.9$  ( $r^2 = 0.74$ ). Using this equation to convert the published Tosoh-derived ranges [1], corresponding Immulite 2000XPI thresholds (95%CI) for basal samples are: low risk < 7.6 uIU/ml (3.5–11.7 uIU/ml), high risk > 22.7 uIU/ml (18.5–25.9 uIU/ml); and for OST samples T60: low risk < 28 uIU/ml (24–32 uIU/ml), high risk > 130 uIU/ml (118–142 uIU/ml) with intermediate risk categories between these thresholds. **Main limitations:** A wider range of samples would improve comparisons for very high [insulin].

**Conclusions:** Basal [insulin] classified as non-diagnostic for ID using the EEG consensus ranges encompasses a wide spectrum of laminitis risk. Lower diagnostic thresholds may be clinically useful to characterise laminitis risk. **Ethical animal research:** Approved by the Royal Veterinary College Ethical Review Board and CVS Ethics Committee. Samples were collected under a Home Office Licence. **Informed consent:** Informed consent was obtained from owners of all animals. **Competing interests:** E.J. Knowles is employed by CVS Group and provides diagnostic laboratory services through Axiom Veterinary Laboratories. P.A. Harris is employed by WALTHAM/MARS Petcare UK. **Sources of funding:** Tosoh analysis of research samples was funded by a grant from MARS Petcare during a PhD study part-funded by a bequest to the RVC from the Mellon Trust. Immulite analysis of all samples was performed free of charge by Axiom Veterinary Laboratories.

**Reference:** [1] Knowles, E.J., Elliott, J., Harris, P.A. and Menzies-Gow, N.J. (2022) Predictors of laminitis in non-laminitic ponies. *Equine Vet. J.* Epub ahead of print; <https://beva.onlinelibrary.wiley.com/doi/full/10.1111/evj.13572>

14.00

### Equine retinal detachment in the UK: 24 cases (2010–2020)

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**Background:** Few reports exist describing the aetiology, presentation, diagnosis and outcome of retinal detachment in horses. Equine recurrent uveitis (ERU) and trauma are cited as the most common causes of retinal detachment within horse populations in North America [1], but no studies have characterised the disease within the UK. **Objectives:** To describe clinical presentation, aetiology and diagnostic examination findings of horses with retinal detachment within a UK-based population. **Study design:** Retrospective case series. **Methods:** Medical records of horses presented to a single UK referral

centre between 2010 and 2020 were reviewed. Horses were diagnosed with retinal detachment by clinical examination and/or ultrasonography, and details of clinical presentation, aetiology and examination findings were recorded. **Results:** 24 horses were included. There were 14 geldings and 10 mares with a median age of 9 at presentation (range 4 days – 17 years). Warmbloods were the most common breed ( $n = 7$ ). Unilateral cases ( $n = 22$ ) were more common than bilateral ( $n = 2$ ). ERU was the most common aetiology ( $n = 11$ ) followed by trauma ( $n = 8$ ). Three cases were secondary complications after intraocular surgery, one was congenital and one was secondary to primary glaucoma. Two cases had partial detachment on presentation, whereas all others had complete detachment on presentation ( $n = 22$ ). Ultrasonography confirmed diagnosis in 22 cases, but only 9 could be visualised by direct ophthalmoscopy. Details of the diagnostics were not recorded in 2 cases. **Main limitations:** Single centre retrospective study which may not be representative of the entire UK population. **Conclusions:** Causes of retinal detachment in the UK are similar to North America and most cases present with complete detachment. Ocular ultrasound is more consistent and reliable in the diagnosis of retinal detachment than direct ophthalmoscopy. **Ethical animal research:** Research ethics committee oversight not required by this congress: retrospective study. **Informed consent:** Not stated. **Competing interests:** None declared. **Sources of funding:** None.

**Reference:** [1] Strobel, B.W., Wilkie, D.A. and Gilger, B.C. (2007) Retinal detachment in horses: 40 cases (1998–2005) *Vet. Ophthalmol.* **10**, 380–383.

### 14.15

#### Something specific or just not right: how owners decide to seek veterinary advice for their ageing horse

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**Background:** In an ageing equine population at risk of chronic conditions, reduced veterinary involvement means opportunities to improve equine welfare are being missed. Owners of older horses make accommodations for their care, yet changes indicative of disease amenable to veterinary intervention can go unmanaged without presentation to a vet. **Objectives:** This study sought to understand the decision-making process around veterinary advice-seeking for older horses, to highlight opportunities for improved care. **Study design:** Qualitative methodology using a constructivist grounded theory approach. **Methods:** Data included open-access online discussion forum threads containing 280 comments around older horse care, and in-depth interviews with 25 horse owners exploring management and health care. **Results:** Through their horse-keeping experience and past interactions with the veterinary profession, owners constructed a unique understanding of what constituted a veterinary issue requiring advice. In ageing horses, recognition of change took place alongside expectations of ageing, meaning some changes were not considered by owners to be problematic. Problem-solving involved localisation of an issue, assessment of severity and attribution of cause, alongside lay interventions. The perceived problem, and relevance of veterinary expertise, impacted on the timing and nature of advice-seeking. This process was shaped by socially produced norms within the horse-keeping environment, lay knowledge, the horse's use and lifestyle, and owner relationships with non-veterinary professionals. An owner's conceptualisation of their vet as a professional was influenced by the vet's communication style, interaction with and familiarity with their horse, technical skills and knowledge. Vet-owner relationships impacted on the information

relayed to vets and on veterinary advice-seeking behaviours. **Main limitations:** Results are self-reported, the horses discussed were not assessed. **Conclusions:** Findings demonstrate the web of influences impacting veterinary advice-seeking. Being sensitive to the social context which surrounds veterinary consultations can foster better vet-owner relationships and encourage veterinary involvement in care decisions for horses as they age. **Ethical animal research:** Not applicable. **Informed consent:** Participants gave consent prior to interviews. **Competing interests:** Not applicable. **Sources of funding:** The Horse Trust.

### 14.30

#### Equine obesity: Vet client communication

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**Background:** Equine obesity remains one of the leading welfare concerns of UK horses. There is limited research into equine-specific veterinary communication techniques, and exploring the challenges veterinarians face discussing obesity with clients is vital to tackling the equine obesity issue. **Objectives:** To explore the experiences, perceptions and challenges of UK veterinary professionals discussing equine obesity with clients. **Study design:** Qualitative study with thematic analysis. **Methods:** Four semi-structured interviews and two focus groups were conducted (total  $n = 13$  veterinarians and one veterinary nurse), exploring participants' experiences of discussing equine obesity with clients. An iterative thematic analysis was used to identify common themes, and a conceptual model was created to understand the diverse approaches to the equine weight consults. **Results:** Veterinarians observed obese/overweight horses daily, yet many did not approach the topic with every owner. Participants described that an "ideal" weight consult required adequate time, follow-ups and tailored weight management strategies. However, prohibiting factors such as time limitations, potentially offending a client and their current horse keeping environment, prevented the ideal conversation from taking place. Veterinarians implemented coping strategies such as humour, catchphrases and "straight-talking" to maintain dialogue with the client about their weight concerns. The clients' response could affect if and how future discussions occurred, with vets feeling either emboldened or jaded and frustrated. **Main limitations:** A small sample size was obtained for this study; a greater number of participants of different ages, genders and educational backgrounds could be beneficial. **Conclusions:** This study demonstrated the complex interplay of client understanding, veterinarian communication style and interpersonal factors, which evolve within the equine weight conversation. The results have contributed to what we as a profession know about communication during difficult discussions and how it not only affects the present conversation outcome, but future approaches to discussing weight. **Ethical animal research:** Approved by the University of Liverpool ethics committee. **Informed consent:** All participants gave consent. **Competing interests:** BEVA supported the study concept and advertising. **Sources of funding:** G. Lindley was funded by the Wellcome Trust; T. Furtado is funded by The Horse Trust.

### 14.45

#### Diagnosis of *Colchicum autumnale* poisoning using colchicine detection in urine

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**Background:** Colchicine is used as an antiphlogistic and analgesic drug for gout treatment in human medicine, among others. For horses, colchicine is marked as banned on the FEI prohibited substance list. Ingestion of roughage contaminated with *Colchicum autumnale* (autumn crocus) can lead to colic, bloody diarrhoea and circulatory disorders and even death. While colchicine in blood has a short half-life of 12–30 min, it is mainly taken up into the tissues and eliminated retarded through faeces and urine. **Objectives:** To develop a method for colchicine detection from urine to aid in diagnosing *Colchicum autumnale* poisoning. **Study design:** Assay development. **Methods:** Colchicine analysis was performed in 95 excess urine samples sent to a diagnostic veterinary laboratory from horses with no suspicion of colchicine poisoning. For positive controls, 25 urine samples from a farm where horses showed clinical signs after ingesting *Colchicum autumnale*-contaminated hay were used. **Methods:** Urine samples were precipitated with methanol. LC-MS/MS analysis was carried out on a Water Xevo TQ-XS equipped with electrospray ionisation and a Waters

ACQUITY UPLC I-Class. Chromatography was performed using a Waters UPLC BEH C18 column. For compensation of matrix effects Thiocolchicine was used as internal standard. **Results:** 83 of 95 samples with no suspicion of colchicine poisoning had urine colchicine concentrations below the lower limit of detection of the test. The mean colchicine concentration was  $1.21 \pm 1.00$  ng/mL, with a maximum of 8.80 ng/mL. The horses known to have ingested *Colchicum autumnale* had urine colchicine concentrations between 1.60 and 152.80 ng/mL and a mean of  $13.20 \pm 32.12$  ng/mL. **Main limitations:** Detection of colchicine in urine is possible, but further studies are needed to determine toxic or lethal limits in urine samples and the elimination rate after *Colchicum autumnale* ingestion. **Conclusions:** Colchicine detection in urine can help to diagnose *Colchicum autumnale* poisoning. **Ethical animal research:** Research ethics committee oversight not required by this congress: the study was performed on archived material collected previously during clinical procedures. **Informed consent:** Not stated. **Competing interests:** None declared. **Sources of funding:** None.