Proceedings of the 48th British Equine Veterinary Association Congress
BEVA

Sep. 9 – 12, 2009
Birmingham, United Kingdom

Next Congress:

8th-11th September 2010 • Birmingham, UK
"The Art and Science of Veterinary Medicine"

Reprinted in IVIS with the permission of the British Equine Veterinary Association – BEVA
http://www.ivis.org/
11.10–11.25
Associations between physiotherapy findings and subsequent diagnosis of hindlimb fracture in racing Thoroughbreds

Hesse, K.L. and Verheyen, K.L.P.
Rossdales Diagnostic Centre, Rosdalle and Partners, UK; and Department of Veterinary Clinical Sciences, Royal Veterinary College, UK. kate.hesse@rossdales.com

Aims: To establish whether physiotherapy assessment findings in Thoroughbred racehorses referred for routine physiotherapy could be predictive of (impending) hindlimb fracture. Methods: Retrospective veterinary and physiotherapy data, recorded between July 2003 and July 2007 in a cohort of Newmarket (UK) Thoroughbred racehorses, were used. A case-control study compared physiotherapy assessment findings of racehorses with and without a subsequently diagnosed hindlimb fracture. Uni- and multivariable logistic regression was used to investigate and quantify the strength of association between physiotherapy findings and subsequent fracture diagnosis. Statistical significance was set at P<0.05. Results: A total of 513 horses provided 25 fracture cases for analysis. Presence of pelvic bony asymmetry, reduced reflex movements of dorsi- and/or ventroflexion, and spasm or tenderness on palpation of the gluteal muscles were significantly associated with subsequent fracture diagnosis in univariable analysis. Cases were also 3.6 times more likely to have muscle atrophy in the quarters and/or lumbar epaxial muscles than controls (P = 0.06). Multivariable analysis indicated that horses subsequently diagnosed with hindlimb fracture were 6.8 times more likely to show pelvic bony asymmetry (95% CI = 1.0–46.6; P = 0.05) and 5.8 times more likely to have spasm or tenderness on palpation of the gluteal muscles (95% CI = 2.2–15.6; P<0.001) than those that were not. Conclusions and Practical Significance: Racehorses presented for physiotherapy that have pelvic bony asymmetry and/or spasm or tenderness on palpation of the gluteal muscles should alert the physiotherapist to the potential presence of (impending) hindlimb fracture. Earlier detection of (impending) hindlimb fracture in racing Thoroughbreds could decrease prolonged suffering and reduce the incidence of catastrophic fractures. Acknowledgements: The Clinical Research Outreach Programme at the Cambridge Infectious Diseases Consortium, University of Cambridge Veterinary School.

11.25–11.40
Use of content analysis software and free text clinical records to determine the prevalence of cervical vertebral myelopathy in a population of Thoroughbred horses

Oswald, J., Love, S., Parkin, T.D.H. and Hughes, K.J.

Division of Companion Animal Sciences; and Boyd Orr Centre for Population and Ecosystem Health, Institute of Comparative Medicine, Faculty of Veterinary Medicine, University of Glasgow, Bearsden Road, Glasgow G61 1QH, UK. julie.oswald@ntlworld.com

Aims: To determine the prevalence of cervical vertebral myelopathy (CVM) in a population of Thoroughbred horses. Methods: A retrospective descriptive analysis of free text records of horses over a 7 year period maintained by a Thoroughbred breeding establishment. Content analysis software (Provalis Research, Canada) was used to determine CVM prevalence and disease type (type I, type II, unknown), animal sex, age at diagnosis and outcome data. Chi-squared (Fisher’s exact test where appropriate) and Mann-Whitney Tests were performed. Results: Twenty-three cases of CVM were identified in the database resulting in an overall prevalence of 1.4% in this population of horses. There were significantly more male (n = 17) than female horses (n = 6) in the CVM group (P = 0.003). The age at diagnosis was significantly greater for type II (1188.6 ± 95 days; range 1085–1299) than for type I CVM (433.8 ± 220 days; range 48–702) (P = 0.002). The 23 horses with CVM had one of 4 outcomes: died (n = 17), went on to training (n = 2), lost to follow-up (n = 3) or retired to pasture (n = 1). Conclusions and Practical Significance: The prevalence data for this population suggests that CVM is an important disease of Thoroughbred horses and leads to wastage to the Thoroughbred industry through inability to race and loss of affected horses. Further investigations of the prevalence of CVM in other equine populations, determination of risk factors for development of the disease and intervention studies are warranted in an effort to reduce the prevalence of this important neurological disease. Content analysis software utilising defined search terms is useful for searching large databases comprised of free text records and could be applied to routinely collected clinical data in veterinary practice. Acknowledgements: The Beaufort Cottage Educational Trust.

11.40–11.55
Sudden death in racing Thoroughbreds: An international multicentre post mortem study

Royal (Dick) School of Veterinary Studies, University of Edinburgh, UK; The Boyd Orr Centre for Population and Ecosystem Health, Faculty of Veterinary Medicine, University of Glasgow, UK; California Animal Health and Food Safety Laboratory System, University of California Davis, USA; Department of Medicine and Epidemiology, School of Veterinary Medicine, University of California, Davis, USA; Pennsylvania National Racetrack and Pennsylvania Animal Diagnostic Laboratory, Harrisburg, USA; Veterinary Clinical Centre, University of Melbourne, Australia; Hong Kong Jockey
Thursday 10th September 2009

Aims: To improve the understanding of the causes of sudden death (SD) associated with exercise in Thoroughbred racehorses, and to provide information to facilitate the design of future risk factor studies. Methods: Post mortem findings (including gross and histological examination) of 255 cases of SD were assessed. The cases originated from 5 racing jurisdictions around the world (California, USA; Pennsylvania, USA; Victoria, Australia; Hong Kong and Japan). Inclusion criteria were acute collapse and death in a closely observed and previously apparently healthy Thoroughbred racehorse, during, or within one hour after, exercise. Data included horse signalment, event description, post mortem examination findings and the cause of death as determined by the attending pathologist. Results: The causes of SD included cardiac failure, pulmonary haemorrhage, disseminated haemorrhage, massive haemorrhage secondary to pelvic fracture or to unknown aetiology, and central nervous system injury associated with skull and vertebral fractures. Importantly, the cause of death remained undetermined in a large number of cases: varying between 18.2% and 70% of cases in the 5 different populations. Conclusions and Practical Significance: Post mortem examination can provide a definitive cause of SD in some cases. In other cases the significance of pathological changes is more difficult to determine and interpretation varies between pathologists. Cases in which the cause of SD remained undetermined may be attributable to cardiac arrhythmias. Acknowledgements: The Horserace Betting Levy Board, The Havemeyer Foundation, The California Horseracing Board, Racing Victoria, the centres involved in the study and all of the contributing pathologists.

11.55–12.10

Owner perceptions of working equid health and disease in Ethiopia: Participatory situation analysis (PSA)

Faculty of Veterinary Science, University of Liverpool, UK; Royal (Dick) School of Veterinary Studies, University of Edinburgh, UK; Faculty of Veterinary Medicine, Addis Ababa University, Ethiopia; SPANA, London, UK; and The Donkey Sanctuary, Sidmouth, UK. andrew.stringer@liv.ac.uk

Aims: Participatory approaches were used to identify and prioritise the diseases and health concerns of working equids in Ethiopia. Methods: A Participatory Situation Analysis (PSA) was conducted in the Amhara and Oromia regions of Ethiopia. Sixteen sites were selected in a range of agro-ecological zones (8 urban towns with predominantly cart horse owners and 8 rural villages with predominantly donkey owners). Sites were classed as exposed (previously exposed to an equine veterinary NGO or education programme) and nonexposed (those with no previous exposure). Information was gathered from groups of owners, using an animal health worker as a facilitator regarding their knowledge on the health issues and diseases that affected their equids. Owners’ perceptions on prevalence, morbidity and mortality of the volunteered diseases and the clinical signs that owners attributed to each disease were obtained. Owners also provided information regarding the socio-economic impact of these diseases and health concerns. Results: Forty separate disease ‘entities’ were described by horse and donkey owners. Donkey owners ranked nasal discharge, coughing, Sarcoidosis and wounds as the most frequent diseases of their animals. Horse owners ranked eizootic lymphangitis (EL), colic, a musculoskeletal entity and coughing to be of most concern. Further information regarding the impact these conditions had on their equids working ability, and the associated clinical signs seen were also collected. Conclusions and Practical Significance: This PSA has lead to increased knowledge regarding owner perceptions of the significant health and disease concerns that affect working equids. Information gathered during this PSA will be used alongside other data sources, such as published literature and clinical records, to inform decisions regarding the targeting of diseases and health concerns. This is of benefit to veterinarians, government and NGO’s in identifying areas requiring the education of equid owners and also those requiring further research. Acknowledgements: Wellcome Trust.

12.10–12.25

Identifying the major causes of loss in the Thoroughbred breeding industry

Yates, J., Mellor, D.J., Reid, S.W.J. and Parkin, T.D.H.
Boyd Orr Centre for Population and Ecosystem Health, University of Glasgow, UK. J.yates@vet.gla.ac.uk

Aims: There is limited research detailing the precise reason for foals failing to achieve different life-stages from birth to racing, even though almost 50% of foals do not reach flat race training in the UK (Wilscher et al. 2006). In order to increase the proportion of the Thoroughbred foal population that reach the racecourse, a better understanding of the reasons behind failure and associated risk factors is required. The primary aim of this project was to identify veterinary reasons for foals failing to reach training and racing. Methods: Content analysis (Wordstat: Provalis Research, Canada), was used to extract information from a free-text dataset that included the histories of 1044 foals born within an international breeding operation between 2000 and 2004, inclusive. Chi-squared tests were used to identify associations between type of early year injury and subsequent career progression. Results: Of the 1044 foals included in the study population, 583 (55.8%) entered training while still under the ownership of the breeding operation. One-hundred-and-six horses (10.2%) sustained a fracture before reaching an age when they would have entered training. Of these, 40 (37.7%) horses successfully entered training. A total of 312 horses (29.9%) sustained a soft tissue or joint injury before reaching training age. Of these, 172 (55.1%) horses successfully entered training. Horses that sustained a fracture during their early years were significantly less likely to enter training compared with the remainder of the cohort (P<0.001). Horses that sustained a soft tissue or joint injury were as likely to enter training as the remainder of the cohort (P = 0.76). Conclusions: These analyses demonstrate the importance of avoiding serious injury, such as fracture, during the first 2 years of life for Thoroughbred racehorses.

Reference

A seroepidemiological study of *Theileria (Babesia) equi* and *Babesia caballi* infection in donkeys from selected sites in Spain

Thiemann, A.K., Rickards, K. and Burden, F.
The Veterinary Department, The Donkey Sanctuary, Sidmouth, Devon, UK. alex.thiemann@thedonkeysanctuary.com

**Aims:** To assess the prevalence of infection with *Theileria equi* and *Babesia caballi* in donkeys in Spain, and investigate any relationship with haematological and biochemical parameters.

**Methods:** 139 donkeys in Spanish sanctuaries were clinically examined for signs of piroplasmosis and blood sampled. Indirect immunofluorescent antibody testing (IFAT), haematology and a panel of biochemical parameters was performed on each sample at the Veterinary Laboratory Agency, Weybridge and The Donkey Sanctuary, Sidmouth.

**Results:** 17.3% of the population were positive for *B. caballi*, 25.9% positive for *T. equi*, and 12.95% positive for dual infection. The prevalence of infection increased significantly with age from 8.3% in the 1–5 year age range, to 71.2% in the 30–35 year age range. There was no effect of gender on infection status. The data were not normally distributed and so were analysed using nonparametric methods; the level of significance being set at P = 0.05. In infected donkeys mean cell volume, total protein and globulin were significantly higher, while red cell count and mean cell haemoglobin was significantly lower, than in uninfected donkeys. Clinical signs of babesiosis were not observed in any donkeys examined.

**Conclusions and Practical Significance:** There are few reports of natural *T. equi* and *B. caballi* infections in donkeys. In areas with endemic stability, a high proportion of donkeys may be infected with minimal clinical and haematological evidence. There is significant movement of donkeys throughout Europe, and evidence of entry of *Babesia*-positive donkeys to the UK; hence the equine population in this country may be at risk. There is no requirement for either equine *Babesia* screening or inspection for ticks in equines imported from Europe. In addition, donkeys may act as clinically asymptomatic carriers, the importance of which needs to be investigated further.

**Acknowledgements:** This project formed the dissertation element of the MSc in International Animal Health (University of Edinburgh), supervised by Dr Michael Thrusfield and Dr Karen Rickards. The assistance of V.L.A. Weybridge is gratefully acknowledged.