Objectives: The purpose of this study was to describe the radiographic anatomy of both dorsal and ventral conchal bullae in equine cadaver skulls.

Study design: Descriptive imaging study using cadavers.

Methods: The heads of 10 horses (7 horses, 3 ponies) of unknown age were transected sagittally in the midline, and five radiographic projections (left and right laterolateral, left and right latero30°dorsal-lateroventral oblique and dorsoventral) of the sinuses and nasal cavities were obtained, before and after the placement of stainless steel wire moulded inside the bullae. The radiographic appearance of the VCB and DCB was evaluated on both plain and wire radiographs, assessing their anatomical limits in relation to the cheek teeth and describing the variations related to age and type of horse.

Results: The radiographs allowed identification of both bullae in most of the horse heads. The identification of the VCB limits was strongly age dependant, and there were also noted variations in the radiographic appearance of the bullae between horse and pony heads. The latero-lateral projections were the ones that resulted in the best visualisation of the bullae in all the heads that were the subject of the study.

Conclusions: This study showed that the VCB and DCB are radiographically identifiable on plain radiographs in most adult horses, and that pathology of these structures, such as fluid lines and soft tissue opacity, should be identifiable using radiography.

Ethical animal research: The study was performed on material obtained from an abattoir. **Source of funding:** None. **Competing interests:** None declared.

38

EVALUATION OF VETERINARIANS' VIEWS ON THE AETIOLOGY AND TREATMENT OF RETAINED FETAL MEMBRANES IN THE MARE

[1]L. Parrott, [1]S.L. Freeman and [1]M. Duz
[1]*School of Veterinary Medicine and Science, The University of Nottingham, Sutton Bonington, Leicestershire, UK.*
E-mail: svylp4@nottingham.ac.uk

Reasons for performing study: Retained fetal membranes (RFM) is reported as the most common problem in the post-partum mare. As yet, there has been no research providing an insight into the veterinary clinician's knowledge of RFM.

Objectives: Evaluate and quantify views on the definition, aetiology and treatment of RFM.

Study design: Survey of veterinary surgeons.

Methods: Open-question interviews of three clinicians with considerable experience in equine reproduction were performed to guide the preparation of a mixed-method questionnaire prior to dissemination. The questionnaire investigated the demographic of respondents and their opinion of definition, aetiology and treatment of RFM using both general questions and case-based scenarios. The questionnaire was circulated online to equine practices identified from the RCVS database and to diplomats of the European College of Animal Reproduction.

Results: In total, 287 responses were received from veterinary clinicians with 70.3% based in the UK. Less than half (46.6%) of respondents agreed with current literature that the time period to define RFM is 3 h. Dystocia and previous history of RFM were indicated as major risk factors for RFM by 62.6% and 64.5% of respondents, respectively. Over half of respondents (52.6%) selected hormonal imbalance affecting calcium or magnesium as a risk factor for RFM. Oxytocin was the treatment of choice for RFM for 95.0% of respondents. Manual removal was used by 63.0% of respondents in over half of the cases of RFM they saw in practice. A total of 44% of respondents selected that they would use systemic antimicrobials in cases of RFM that had occurred for less than 3 h.

Conclusions: The results showed that the approach to RFM by clinicians has changed little in recent years but that veterinary surgeons often disagree on the best treatment for RFM. Further research is required to support the evidence-based best practice approach to RFM.

Ethical animal research: This study was completed under the approval of the Ethics Review Panel of the School of Veterinary Medicine and Science, The University of Nottingham. **Source of funding:** School of Veterinary Medicine and Science, The University of Nottingham. **Competing interests:** None declared.

39

WEIGHT ESTIMATION OF FOALS

[1]S. Kovacs, [2]B. Toth and [1]Z. Bakos
[1]*University of Veterinary Medicine, Budapest, Hungary;* [2]*Equi-Med Ltd., Nyiregyhaza, Hungary.*
E-mail: zoltan.c.bakos@gmail.com

Reasons for performing study: As scales are rarely accessible for ambulatory equine veterinarians, determination of drug doses is based on subjective methods, most often visual bodyweight estimation. Because of the inaccuracy of this method, several formulas have been published to define the bodyweight of horses by measuring the length of their body parts. These models are recommended for adult horses or foals older than 6 months.

Objectives: To investigate the usability of these previous models on foals and also to establish a new weight estimation method that is suitable for foals under the age of 6 months.

Study design: Method comparison study.

Methods: A total of 98 healthy, Warmblood foals with normal body condition were included. On each foal, several variables were measured and the foals were weighed on a calibrated digital scale. Descriptive statistics, Shapiro–Wilk test and linear regression analysis were done and the variables were substituted in the previously published formulas for adult horses. The formulas were compared with Bland–Altman plots.

Results: The Carol–Huntington formula estimated bodyweight most accurately (mean of differences: 6.47, S_{diff}: 9.037, s.e. of measurement: 6.39) [1]. Two new formulas were created by us, the modified Carol–Huntington formula (mean of differences: −0.45, S_{diff}: 9.36, s.e. of measurement: 6.63) and another based on the volume of a truncated cone in contrast to the Carol–Huntington formula that is based on the volume of a cylinder (mean of differences: −1.035, S_{diff}: 9.77, s.e. of measurement: 6.91).

Conclusions: The most accurate and practical weight estimation formula for foals is the modified Carol–Huntington formula, because it defines the bodyweight of foals in the most accurate way with fewer variables.

Ethical animal research: Owners gave consent for inclusion of their animals. **Source of funding:** The study was funded by private financial support. **Competing interests:** None declared.

Reference: [1] Carroll, C.L. and Huntington, P.J. (1988) Body condition scoring and weight estimation of horses. *Equine Vet. J.* **20**, 41-45.