were included. Pre-operative, surgical and post-operative management details were retrieved from hospital records. Follow-up information was obtained by structured client telephone interview.

Results: Nineteen cases were identified: 18 Arabian horses, 14 female of which 10 were pregnant at admission. Enteroliths were in the small colon in 12/19 and 11/12 were removed via small colon enterotomy. Six horses developed post-operative complications and four horses did not survive to discharge. Post-operative complications included swelling of the incision site, incisional infection, laminitis, salmonellosis and thrombophlebitis of the jugular vein. Follow-up information was obtained for 7 horses and all returned to their previous function: 4 of 7 horses were pregnant at discharge, 3 delivered a live foal and 4 conceived again. All the horses had alfalfa in their diet.

Main limitations: Low case numbers available for follow-up.

Conclusions: Arabian horses and pregnant females were overrepresented in the study. Enteroliths were most frequently located in the small colon. Survival to discharge is good (79%). Prognosis for long-term survival and delivery of a live foal were excellent.

Ethical animal research: Research ethics committee oversight not required by this congress: retrospective case series.

Informed consent: Explicit owner informed consent not stated.

Competing interests: None declared.

Funding: None.

33 | Post-operative complications following equine castration: A prospective clinical audit

N. Robinson[1], R. Parker[2], J. Shrubb[3], R. Tucker[2], J. Ashby[4] and R. Dean[1]

[1]VetPartners Ltd, Clinical Board Support Team, Spitfire House, Aviator Court, York, YO30 4UZ, UK; [2]Liphook Equine Hospital, Forest Mere, Liphook, Hampshire, GU30 7JG, UK; [3]Ashbrook Equine Hospital, Middlewich Road, Allostock, Nr Knutsford, Cheshire, WA16 9JQ, UK; and [4]Equivet Limited, Hog's Back, Greyfriars, Guildford, Surrey, GU3 1AG, UK.

Emails: natalie.robinson@vetpartners.co.uk; jack.ashby@equi-vet.co.uk

Background: Equine castration is a common surgical procedure. The techniques used and medications administered vary widely, and there are known potential complications.

Objectives: Quality improvement work aimed to identify how equine castration is currently performed, and the complications seen, to identify interventions which could help reduce the frequency and severity of complications.

Study design: Clinical audit.

Methods: A survey was sent to all vets performing equine work across a large group of UK practices to find out about the surgical techniques used, medications given and complications seen. The results were used to develop a prospective audit of castrations, with follow-up to determine whether horses had a post-operative complication in the week following surgery, and any treatment given. Data collection was conducted in SurveyMonkey, with QR codes on surgical kits to prompt data entry.

Results: There were 60 responses to the initial survey. Most performed open castration and administered peri-operative antibiotics (both 88%). Swelling, infection and haemorrhage were the most frequently seen complications. So far, 150 castrations have been entered into the audit, with variation seen in the treatment and management given advice. 19% advised cold-hosing, 43% advised walking out in-hand and 77% advised box rest of varying lengths. Follow-up data has been received for 55 horses to date. Complications were reported for 15 of these horses (27%), with swelling ($n = 13$), infection ($n = 3$) and bleeding ($n = 1$) reported.

Main limitations: The results explain the frequency of complications, but not why these occur, though further quality improvement work will help us address these questions.

Conclusions: Surgical techniques used and medications administered vary widely across the group, and it is currently unclear whether any of these are associated with an altered frequency or severity of post-operative complications. The prospective audit is ongoing, and as further data are collected, these patterns may become clearer.

Ethical animal research: Research ethics committee oversight not required by this congress: clinical audit.

Informed consent: Not applicable.

Competing Interests: None declared.

Funding: No external funding.

34 | Post-anaesthetic respiratory morbidities in horses: Preliminary results from a CEPEF-4 satellite study

K.R. Loomes[1], J. de Grauw[2], M. Gozalo-Marcilla[3], R. Bettschart-Wolfensburger[4] and J.I. Redondo[5]

[1]Rainbow Equine Hospital, Malton, North Yorkshire, YO17 6SG, UK; [2]Department of Clinical Sciences and Services, Royal Veterinary College, London, UK; [3]The Royal (Dick) School of Veterinary Studies and The Roslin Institute, Easter Bush Campus, The University of Edinburgh, Edinburgh, UK; [4]Department of Clinical Diagnostics and Services, Vetsuisse Faculty, University of Zürich. Switzerland; and [5]Departamento de Medicina y Cirugía Animal, Facultad de Veterinaria, Universidad Cardenal Herrera-CEU, CEU Universities. Spain.

Email: kate@rainbowequinehospital.co.uk

Background: Large-scale studies investigating post-anaesthetic respiratory complications in horses are currently limited. **Objective:** To investigate the prevalence and type of respiratory morbidities detected within 7 days post-anaesthesia.

Study design: Prospective observational multi-centre.

Methods: Nine equine hospitals used an online questionnaire to report every morbidity that occurred within 7 days post-anaesthesia. Data were analysed alongside CEPEF-4 data using descriptive and chi-squared analysis.

Results: Post-anaesthetic complications occurred in 315 of 2161 horses (14.6%) of which 40 of 315 (12.7%) affected the respiratory system. Respiratory morbidities developed in 26 of 1845 horses (1.4%) after non-colic surgery and 14 of 316 horses (4.4%) after colic

surgery. There was a significant association between post-anaesthetic respiratory complication and colic versus non-colic surgery ($\chi^2 = 11.25$, $p < 0.001$). Pneumonia was the most common respiratory morbidity, affecting 10 of 40 horses (25%) with four detected within 48 h and six detected on days 3–7 post-anaesthesia. Eight cases resolved completely with varying treatment. Upper respiratory tract (URT) obstruction (9/40 horses, 22.5%), nasal discharge (6/40 horses, 15.0%), aspiration/ regurgitation (6/40 horses, 15.0%), persistent cough without progression to pneumonia (6/40 horses, 15.0%) and respiratory arrest (3/40 horses, 7.5%) were also reported. Overall, 21/40 (40.5%) of respiratory morbidities were detected in recovery and 31/40 (77.5%) resolved with no/minimal intervention, 5/40 (12.5%) resolved with substantial intervention and cost, 1/40 (2.5%) incompletely resolved with no predicted impact on quality of life (QoL) and 3/40 (7.5%) incompletely resolved with a predicted impact on QoL.

Main limitations: A small number of database inconsistencies required clarification.

Conclusions: Pneumonia and URT obstruction were the two most common post-anaesthetic respiratory morbidities reported. Horses were more likely to develop a respiratory morbidity after colic surgery versus non-colic surgery. The majority of respiratory morbidities resolved completely.

Ethical animal research: Approved by the Association of Veterinary Anaesthetists Ethical Review Committee Certificate 2022-001.

Informed consent: The anonymity and confidentiality of the patients, owners and centres was ensured.

Competing interests: None.

Funding: Kate Borer-Weir Memorial Fund of the Association of Veterinary Anaesthetists and The Horse Trust.

35 | Post-anaesthetic surgical site complications in horses: Preliminary results from a CEPEF-4 satellite study

K.R. Loomes[1], J. de Grauw[2], M. Gozalo-Marcilla[3], J.I. Redondo[4] and R. Bettschart-Wolfensberger[5]

[1]Rainbow Equine Hospital, Malton, North Yorkshire, YO17 6SG, UK; [2]Department of Clinical Sciences and Services, Royal Veterinary College, London. UK; [3]The Royal (Dick) School of Veterinary Studies and The Roslin Institute, Easter Bush Campus, The University of Edinburgh. Edinburgh, UK; [4]Departamento de Medicina y Cirugía Animal, Facultad de Veterinaria, Universidad Cardenal Herrera-CEU, CEU Universities, Valencia, Spain; and [5]Department of Clinical Diagnostics and Services, Vetsuisse Faculty, University of Zürich, Switzerland.

Email: kate@rainbowequinehospital.co.uk

Background: Surgical site complications are an important cause of post-anaesthetic morbidity in horses and large-scale multi-centre prospective studies are currently limited.

Objective: To investigate the prevalence and type of surgical site complications occurring within 7 days post-anaesthesia.

Study design: Prospective observational multi-centre.

Methods: Nine equine hospitals used an online questionnaire to report every surgical site complication (discharge, excessive swelling/ heat/pain, wound dehiscence) detected within 7 days post-anaesthesia. Data were analysed alongside CEPEF-4 data using descriptive and chi-squared analysis.

Results: Post-anaesthetic surgical site complications occurred in 64 of 2161 horses (3.0%) of which 26 of 316 horses (8.2%) were post-colic surgery. The association between surgical site complication and colic surgery versus non-colic surgery was significant ($\chi^2 = 30.34$, $p < 0.001$). Surgical site discharge affected 33/64 horses (51.6%) of which 14 had concurrent excessive swelling/heat/pain and 6 had concurrent wound dehiscence. 10/33 (30.3%) were detected within 48 h, 12/33 (36.4%) on days 2–3 and 11/33 (33.3%) on days 4–7 post-anaesthesia. Surgical site discharge resolved completely with no/minimal intervention in 14/33 horses (42.4%), while 2/33 (6.1%) resolved with substantial intervention, 9/33 (27.3%) incompletely resolved and 8/33 (24.2%) were lost to follow-up. Surgical site excessive swelling/heat/pain affected 27/64 horses (42.2%) of which, 10/27 (37%) were detected within 48 h, 12/27 (44%) on days 2–3 and 5/27 (18.5%) on days 4–7 post-anaesthesia. Excessive swelling/heat/pain resolved completely with no/minimal intervention in 13/27 horses (48.1%), 3/27 (11.1%) incompletely resolved and 11/27 (40.7%) were lost to follow-up. Surgical site dehiscence alone was reported in 4 horses. Co-morbidities (most commonly, post-anaesthetic colic, catheter-associated phlebitis and pyrexia) were present in 52% of horses with surgical site complications.

Main limitations: Loss of cases to follow-up.

Conclusions: Surgical site complications were more likely in horses after colic versus non-colic surgery. Co-morbidities were present in more than half of horses with surgical site complications.

Ethical animal research: Approved by the Association of Veterinary Anaesthetists Ethical Review Committee Certificate 2022-001.

Informed consent: The anonymity and confidentiality of the patients, owners and centres were ensured.

Competing interests: None declared.

Funding: Kate Borer-Weir Memorial Fund of the Association of Veterinary Anaesthetists and The Horse Trust.

36 | Increased risk of fatal laminitis during hospitalisation amongst phallectomy patients compared to laparotomy patients in a UK equine hospital over 10 years

R. Tucker[1], V. South[1], N. Robinson[2], G. Cunningham[3], H. Hemmings[1] and J. Stavisky[2]

[1]Liphook Equine Hospital, Liphook, Hampshire, UK; [2]Vet Partners Ltd, Spitfire House, Aviator Court, York, UK; and [3]Southern Rangitikei Veterinary Services, 233 State Highway 1, Bulls, New Zealand.

Email: rachel.tucker@theleh.co.uk

Background: En-bloc phallectomy and urethrostomy under general anaesthesia (GA) is used to treat extensive neoplasia of the penis and prepuce. Observation of patient outcomes post-phallectomy suggests alarming rates of peracute, severe, and fatal laminitis.