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10.30–10.45
The effect of exercise on circulating concentrations of inflammatory markers in normal and laminitis-prone ponies

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Aims: To determine whether exercise affects the concentrations of inflammatory markers in normal and laminitis-prone ponies.

Methods: The short (1 day) and longer term (14 days) effects of low intensity (10 min walking and 5 min trotting) exercise on plasma concentrations of inflammatory markers in normal (NL) and laminitis-prone (LP) non-exercised ponies was determined. Plasma TNF-α, serum amyloid A (SAA) and haptoglobin concentrations were measured using ELISAs. Fibrinogen concentrations were determined by heat precipitation and plasma adiponectin and insulin concentrations were measured using radioimmunoassays. Multivariate analysis was undertaken to determine what factors were independently associated with each cytokine.

Results: Pre-exercise, plasma (adiponectin) was significantly (P = 0.0001) lower in LP (2.4 ± 0.1 ng/l) compared to NL (4.03 ± 0.2 ng/l), but exercise had no effect. Exercise had no effect on plasma [TNF-α] or [fibrinogen] in either group. Following short-term exercise, all ponies had an initial decrease in serum [insulin] immediately after exercise, followed by a large increase peaking 10 min after the cessation of exercise, before returning to pre-exercise values. On Day 14 these fluctuations were significantly (P = 0.0001) lower in LP (2.4 ± 0.1 ng/l) compared to NL (4.03 ± 0.2 ng/l). SAA concentrations in all ponies were significantly (P = 0.00001) reduced after long-term exercise compared to Day 1 values. Plasma [haptoglobin] were significantly (P = 0.00001) higher in PL compared to NL on Day 1. This difference was no longer apparent after longer term exercise, such that the [haptoglobin] in PL had decreased to concentrations similar to those in NL.

Conclusions and practical significance: Long-term low intensity exercise significantly decreased [SAA] in all ponies and plasma [haptoglobin] in LP such that it was no longer increased compared to NP. Thus, regular low intensity exercise is sufficient to have an anti-inflammatory effect, which is greater in LP, and so may be beneficial in preventing this putative risk factor in pasture-associated laminitis.

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11.00–11.15
Topical cisplatin chemotherapy in three horses affected by canker

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Aim: To document a new and potentially effective therapy for canker aimed at reduction of hospitalisation period and recurrence rate.

Methods: Three horses (2 Warmbloods, 1 Draught Horse) were treated (two on each occasion) with cisplatin chemotherapy. Horses were treated 10 times every 3 days from July 2011 to February 2012 at the Equine Clinic of the University of Veterinary Medicine, Vienna. One horse was treated with cisplatin chemotherapy underlines this similarity.

Conclusions and clinical significance: The results of this retrospective study are in contrast to reports in the literature that treatment with psyllium will not resolve sand impactions in the large intestine. All 321 horses in our study responded to medical therapy and the sand impaction was cleared with the administration of psyllium powder.

11.45–12.00
Large colon sand impactions in horses: 1996–2008

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Aims: The purpose of this retrospective study was to describe the outcome of 632 sand colic horses, which had presented to the Chino Valley Equine hospital. It was our hypothesis that horses, which did not require an exploratory celiotomy to relieve the sand impaction, would respond to medical therapy.

Methods: Medical records were reviewed and horses were subdivided into 7 groups. The only group considered for this retrospective study was the group with medically treated horses for sand impactions in the large colon (312 horses).

Results: Auscultation of the ventral abdomen on presentation revealed sand sounds in 64% of horses. Abdominal palpation findings were not specific to a sand impaction in the large colon. In 86 out of 312 horses (28.2%), the initial faecal floatation revealed a small amount of sand. The horses were administered psyllium powder until auscultation of the ventral abdomen did not reveal any sand borborygmi. The treatment length depended on the initial amount of sand accumulated in the colon and ranged from 5 days to 37 days. Abdominal radiography appeared to be the only definitive diagnostic tool, in order to diagnose a sand impaction in the large colon.

Conclusions and clinical significance: The results of this retrospective study are in contrast to reports in the literature that treatment with psyllium will not resolve sand impactions in the large intestine. All 312 horses in our study responded to medical therapy and the sand impaction was cleared with the administration of psyllium powder.
11.15–11.30

**Association between enterolithiasis and equine gastric ulceration**

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**Aims:** Enterolithiasis is a recognised cause of acute abdomen in horses, due to partial or complete obstruction of the large intestine. While gastric ulcers have been diagnosed in horses with colic, including horses with enterolithiasis, it is unknown if these 2 diseases are statistically associated. We hypothesised that horses affected by enterolithiasis have a higher prevalence of gastric ulceration when compared to horses with large intestinal simple obstructions due to other causes. To test this hypothesis, we compared the prevalence of gastric ulceration in horses with enterolithiasis to horses with other types of large intestinal simple obstruction.

**Methods:** A retrospective case–control study was designed and medical records from 1999 to 2011 were examined. Horses that had surgery for removal of one or more enteroliths were included as ‘case horses’. Patients that had surgery for large intestinal simple obstructions other than enterolithiasis were identified as ‘control horses’. Patients that had surgery for large intestinal simple obstructions other than enterolithiasis were identified as ‘control horses’ and were matched to case horses for age, sex and breed. Results: A total of 148 horses were identified as ‘cases’. Gastric ulcers were matched to case horses for age, sex and breed.

**Conclusions and practical significance:** Based on the positive association noted in this study, a gastroscopy would be indicated for all horses diagnosed with enterolithiasis.

11.30–11.45

**A comparison of two doses of omeprazole in the treatment of gastric ulceration in Thoroughbred racehorses**

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**Aims:** To compare the efficacy of 2 doses of omeprazole, and to report the healing rate of glandular EGUS with omeprazole. Methods: Thoroughbred racehorses in training with grade II/IV or greater glandular EGUS were identified on gastroscopy. Horses were randomised to either 2.0 g (high dose) or 0.8 g (low dose) omeprazole per os s.i.d., equivalent to 4.0 and 1.6 mg/kg bwt per os s.i.d., respectively for a 500 kg horse. Repeat gastroscopy was performed at 33 ± 7 days. Results: Twenty-four affected horses were randomised equally. No differences between the groups were present. One horse in the low dose group was lost to follow-up for unrelated reasons. All horses, except one in the high dose group, had grade III/IV or greater squamous ulceration at Day 0. Ulcer healing (defined as a return to grade 0–II/IV) occurred in 67% and 44% of the squamous, and 50% and 11% of the glandular ulcers in the high and low dose groups, respectively. A dose effect was present in the squamous (P = 0.03), but not glandular (P = 0.5), stomach. A similar dose effect was observed when improvement of the squamous (P = 0.047), but not glandular (P = 0.15), mucosa was assessed. A relationship between healing of squamous and glandular ulcers existed in the high dose, but not low dose group (P = 0.03 and P = 0.25 for healing, and P = 0.008 and P = 0.13 for improvement, for high and low dose respectively).

**Conclusions:** Healing of EGUS is commonly incomplete at 33 days. A dose dependent response exists in the healing of squamous ulceration. Healing of glandular ulceration is inferior to healing of squamous ulceration. **Practical significance:** A reduction in the dose of omeprazole prior to control gastroscopy is likely to result in inadequate healing, even when 28 days of therapy is completed. Investigation of complimentary and/or alternative therapies for glandular EGUS is warranted.

11.45–12.00

**Is the Combined Glucose and Insulin Test (CGIT) useful for evaluation of endocrinopathic laminitis and monitoring the response to treatment?**

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**Aims:** To evaluate the CGIT in endocrinopathic laminitis and determine whether it is more useful than resting indices of glucose and insulin for monitoring response to treatments. Methods: CGITs were carried out on cases referred for evaluation of chronic laminitis (in remission) to the DVEH, R(D)SVS. Cases were defined as pituitary pars intermedia dysfunction (PPID; n = 7) or equine metabolic syndrome (EMS; n = 6) based on clinical, resting and dynamic endocrine evaluation. Two nonobese controls with no history or signs of laminitis were also evaluated. Seven cases were followed-up over a period of 2–8 months. Results: Resting glucose and insulin were not significantly different between EMS and PPID groups. All cases had an abnormal CGIT curve except one case of PPID. Two controls had a ‘normal’ CGIT despite being non-Thoroughbreds and phenotypically obese. When grouped according to diagnosis, glucose concentration at 45 min (G45) was significantly increased in EMS compared to PPID. Insulin concentrations at 45 min (I45) reached the assay threshold in most cases, so was not significantly different between the PPID and EMS groups. The 2 controls, despite resting values within the normal reference range, had exaggerated insulin response according to the study of Eiler et al. (2005) (171 and 191 miu/l). Resting glucose and insulin values were not significantly affected by treatment. The CGIT improved in all individual cases following treatment. When grouped according to diagnosis and as a whole (i.e. all endocrinopathic laminitis cases), the area under the curve was reduced following treatment. There was no change in G45, but a significant reduction in I45 when all cases were grouped. Conclusions and practical significance: The CGIT may be useful for monitoring the treatment response in endocrinopathic laminitis, whatever the diagnosis, offering more information than resting glucose and insulin values alone. **Acknowledgement:** Colleagues at the DVEH, R(D)SVS.

**Reference**


12.00–12.15

**Interstitial brachytherapy with Iridium-192 for the treatment of periocular sarcoids in horses**

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**Aims:** To evaluate the effect of interstitial brachytherapy with Iridium-192 for the treatment of periocular sarcoids and also to assess the incidence of complications following this treatment. Methods: Twenty-four affected horses were randomised to either 2.0 g (high dose) or 0.8 g (low dose) omeprazole per os s.i.d., equivalent to 4.0 and 1.6 mg/kg bwt per os s.i.d., respectively for a 500 kg horse. Repeat gastroscopy was performed at 33 ± 7 days.
Aims: To determine the long-term outcome following treatment of periocular sarcoids with interstitial brachytherapy with Iridium-192. Methods: Twenty-five horses (n = 25) were included in the study. The owners were contacted and a telephone questionnaire filled out including signalment, time before treatment, response to treatment, complications, cosmetic results and owner satisfaction. Results: Mean age was 7 years. Of these cases 72% were geldings and 28% mares. Following treatment 40% of cases experienced complications which required veterinary attention. The majority of these were prolonged swelling and discharge; however, cases of cataract formation and loss of lid function were noted. Over half of the cases (52%) developed a scar, 60% had a hairless area, 68% had white hair growth, 4% developed a split lid and 4% lost the function of the lid. Maximal regression had occurred at 12 months in 82% of the cases, 13.5% by 24 months and in 4.5% of cases it took longer than 24 months. In those cases that developed eyelid swelling 63% resolved in 0–6 months, 31% in 6–12 months and in 5% it took longer than 12 months. Tumour recurrence occurred in 2 of the cases. Overall 84% of the owners were happy with the treatment. Conclusion: Interstitial brachytherapy with Iridium-192 for periocular sarcoi ds appears to be an efficacious treatment with a success rate of over 90%, with 82% of cases reaching maximal regression by 12 months. Although complications following treatment are common, most of these are relatively mild and well tolerated. Practical significance: Interstitial brachytherapy with Iridium-192 should be considered for the treatment of periocular sarcoi ds in horses.

12.15–12.30
Saddle slip may be an indicator of the presence of hindlimb lameness
Greve, L. and Dyson, S.J.