Veterinarians with greater caseloads had better accuracy in determining forelimb lameness than hindlimb lameness.

AMY DRAGOO

AAEP Kester News Hour

Part 2

From better nerve blocks, to how good vets are at lameness exams, to treating placentitis, journal topics at the Kester News Hour were well-received.

By Nancy S. Loving, DVM

One of the best-attended presentations at every AAEP Convention is the Kester News Hour that features updates on interesting journal papers about lameness, medicine and reproduction. At the 2018 AAEP Convention, Robert MacKay, BVSC, PhD, DACVIM, reported on medicine; Regina Turner, VMD, DACT, reported on reproduction; and Wes Sutter, DVM, DACVS, reported on surgery.

Following are selected papers that they mentioned in their presentations.

Compression Bandaging With Palmar Digital Nerve Blocks

Diagnostic nerve blocks are important to successful lameness diagnosis by isolating specific areas of concern. However, there are many instances of a palmar digital nerve (PDN) block where, through lymphatic drainage, the anesthetic diffuses upward to affect more proximal tissues. In addition, this results in decreased amounts of anesthetic in the area of the block necessary to effectively reduce transmission in the desired nerve. Both these possibilities serve to confound the results of a diagnostic nerve block.

A study sought to determine if a compression bandage could delay the possibility of anesthetic effusion [Gylling, S.M.K.; Frandsen, S.S.; Østergaard, S.; Thomsen, M.H.; Christophersen, M.T.; Krüger, T.; Jacobsen, S. The effect of a compression bandage on the distribution of radiodense contrast medium after palmar digital nerve blocks. *Equine Veterinary Journal* Aug 2018].

Prior to administration of radio-dense contrast medium injected subcutaneously over the palmar digital nerve to simulate diffusion of a nerve block, the researchers applied compression to the pastern using a small compression bandage similar to 3M's Vetrap. Analysis with radiographic tracking of the movement of the contrast medium identified the presence or absence of upward diffusion of material via the lymphatic system.

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In conclusion, the pastern compression bandage was effective in containing the contrast media in the desired region of the PDN block.

Insect Bite Hypersensitivity Vaccine

About 10% of horses react adversely to *Culicoides* insects, developing intense pruritus and subsequent hair loss from itching. Rather than being mediated by IgE, this syndrome is mediated mostly by eosinophils. Interleukin-5 controls all aspects of eosinophilic function. With that in mind, researchers developed a vaccine versus interleukin-5. This was given over two seasons to 19 Icelandic horses, known for their predisposition to insect bite hypersensitivity. Fifteen other horses served as controls [Fettelschoss-Gabriel, A.; Fettelschoss, V.; Olomski, F.; Birkmann, K.; Thoms, F.; Bühler, M.; Kummer, M.; Zeltins, A.; Kündig, T.M.; Bachmann, M.F. Active vaccination against interleukin-5 as long-term treatment for insect bite hypersensitivity in horses. *Allergy* Nov 7, 2018].

In the first year, vaccine was administered at 1, 2, 3 and 5 months. Within 45 days, titers elevated to 1,000 and stayed elevated for five months and eosinophil counts diminished. Lesions were scored along with blood eosinophil counts. Vaccination was then boosted 420 days later (in the following season). The second booster maintained the titer for the entire season.

No adverse reactions occurred, and the outcomes of those immunized were significantly improved over the control horses. The first season, 50% of horses had substantial improvement; 25% showed marked improvement. The second year, the titers from a single booster were more stable and increased to give better protection.

Reliability of Equine Visual Lameness Exam

In the past, the only means of evaluating lameness was through a visual exam. Today, we have computerized tools to provide objective information as to which leg(s) are lame and the extent of the horse's lameness. A study using computer modeling looked at the accuracy of vets of varying levels of expertise at classifying whether or not a horse was lame, which leg(s) was affected, and the severity of the lameness [Starke, S.D.; Oosterlinck, M. Reliability of equine visual lameness classification as a function of expertise, lameness severity and rater confidence. *Veterinary Record* September 2018. doi: 10.1136/vr.105058].

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Videos of three-dimensional horse animations were presented to 89 vets for assessment. The animated horses had anywhere from zero to 60% asymmetrical gaits. The results demonstrated that there was no correlation between either experience or self-rated confidence by the practitioners on whether or not they identified the horse as lame or sound.

However, the practitioners with greater caseloads had better accuracy in determining forelimb lameness (72% correct) compared to hind limb lameness (28% correct). The tendency was to overanalyze the hind limb as unsound even when the limb was sound. Practitioners who saw 11-20 or more cases per month were more accurate in their assessment than those who saw fewer than 3-10 lame horses per month.

Evaluation of subtle lameness incurred more errors—either not identifying forelimb lameness or identifying the wrong limb (50% of the time) in hind limb lameness. For both fore and rear lameness, asymmetry of at least 40% (Grade 1 out of 5 on the AAEP lameness scale) was necessary before at least half of the practitioners identified lameness in the correct limb. Those veterinarians with large caseloads were able to correctly score forelimb lameness 100% of the time at 50-60% asymmetry.

The conclusion of the study found that: "Visual gait assessment may overall be unlikely to reliably differentiate between sound and mildly lame horses irrespective of an assessor's background."

Ceftiofur to Treat Placentitis

Ceftiofur sodium (Naxcel) or crystalline free acid (Excede) is useful to treat infections in non-reproductive organs such as the lungs, a study looked at the possibility of using these drugs to treat placentitis, particularly caused by *Streptococcus equi* subspecies *zooepidemicus*.

The oil-based ceftiofur crystalline free acid (Excede) does not penetrate placental tissues, so an attempt was made to see if the non-oil based ceftiofur sodium (Naxcel) could be useful for this purpose [Macpherson, M.L.; Giguere, S.; et al. Pharmacokinetics of ceftiofur sodium in equine pregnancy. *Journal of Veterinary Pharmacology and Therapeutics* March 2017].

Ceftiofur sodium was given to pregnant mares (270-326 days gestation) via IM injection at 2.2 mg/kg to six mares or 4.4 mg/kg to five mares once daily. Then eight of the mares were administered 4.4 mg/kg IM daily for at least three days prior to induction of foaling.

Neither ceftiofur nor its metabolites penetrated fetal membranes, fetal tissues or placental tissues. Therefore, it is not an effective antimicrobial for treatment of placentitis. It is still useful to treat bacterial endometritis, but equine reproductive practitioners should be aware that ceftiofur in either form does not pass into the fetal membranes or compartments. EM


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