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### Pain Management Options for Laminitis, Foals, and More

Veterinarians, what's in your little black bag for providing appropriate pain relief to sick or injured horses and foals?

Practitioners took turns answering this question during the Medical Pain Management Table Topic session at the 2015 American Association of Equine Practitioners Convention, held Dec. 5-9 in Las Vegas.

In this conversation-style forum, practitioners relayed their field experience in delivering pain management and discussed the pros and cons of various drugs and drug combinations. They also shared stories about trying new "off the cuff" techniques in cases that did not respond to tried-and-true approaches and learned about new products and drug combinations from session facilitators Lori Bidwell, DVM, Dipl. ACVAA, a certified veterinary acupuncturist from Kentucky-based East West Equine Sports Medicine, and Debra Sellon, DVM, PhD, Dipl. ACVIM, Director of Washington State University's Veterinary Teaching Hospital.

The group unanimously voted laminitis the first pain management topic. Attendees admitted they still struggle with providing appropriate analgesia in the face of this excruciating condition. Some of the drugs they most commonly use include:

- Non-steroidal anti-inflammatory drugs (NSAIDs) such as phenylbutazone (Bute);
- Gabapentin (a drug that helps slow transmission of excitable nerves associated with pain, used for nerve associated pain in people);
- Tramadol (a narcoticlike pain reliever);
- Acepromazine (commonly referred to as Ace); and
- Acetaminophen.

"Don't forget about the value of the local anesthetic lidocaine when treating painful patients," Bidwell reminded practitioners. "Lidocaine can be used as an IV (intravenous) bolus, topically by the patch formulation, or as a continuous rate infusion. It can even be combined with morphine and ketamine in an infusion. In addition, lidocaine is cheap! It only costs approximately 2 cents per milliliter, which will help owners treat their horses for longer when money is a concern."

Attendees also discussed ketamine bolus administration, but the risk of horses falling down had many veterinarians more than a little nervous to try this drug. "Yes, ketamine is short-acting, and there is a risk for recumbency but in my opinion we haven't fully explored the benefits of this drug," said Bidwell. "I've used ketamine to break the pain cycle and regain control over the patient's discomfort."

Bidwell and Sellon also encouraged veterinarians to consider morphine. Although mu agonist opioids, such as morphine, can potentially cause gastrointestinal stasis (ileus, or lack of gut movement), they still have many benefits.

Subcutaneous administration of butorphanol (a k-agonist opioid) is another option, and a new study shows that subcutaneous butorphanol administered at a rate of 0.1 mg/kg body weight lasts longer than IV or IM (intramuscular) administration, said Sellon.

The group then discussed the practice of "stacking NSAIDs," in which veterinarians administer more than one NSAID at the same time, such as phenylbutazone and the cyclooxygenase 2 (COX-2) inhibitor firocoxib. The panel strongly dissuaded veterinarians from stacking NSAIDs and suggested that attacking pain using a combination of drugs with different mechanisms of action was a safer approach.

Attendees universally voted dimethyl sulfoxide (typically referred to as DMSO) "off the island" and deemed it ineffective in laminitis patients, but debated the role of corticosteroids. Even the facilitators were divided in their opinion regarding the value of "BBD" (Bute, Banamine, and dexamethasone) in laminitic patients. Bidwell said she would consider BBD, whereas Sellon adamantly rejected the combination.

The conversation quickly moved forward to address methadone, a  $\mu$ -agonist (like morphine), as an economical analgesic option. "Although the injectable form is expensive, the quick-dissolving tablets are more economic," said Bidwell. "Methadone 40 mg tablets are approximately 96% bioavailable, and when dosed at 0.1 mg/kg, which is one tablet every 12 hours in the average horse, can be used for extended periods of time. This is a great option for keeping laminitic pregnant mares comfortable."

Lidocaine patches taped or glued to horses' fetlocks also earned accolades. Unlike fentanyl, which must be absorbed systemically from a patch, lidocaine acts locally and appears beneficial for laminitic horses.

Wrapping up the laminitis-focused conversation, Bidwell and Sellon broached the topic of topical ketamine for laminitic horses that underwent hoof wall resection.

"Topical ketamine is used in human burn patients and could therefore potentially benefit laminitic horses with exposed laminae," Bidwell suggested.

They also briefly discussed other painful conditions, such as septic (infected) joints in foals, back pain, osteoarthritis, and castration, but far less in depth than they did with laminitis. Many of the above-mentioned drugs were suggested again, in addition to:

- Buscopan for meconium (a foal's first manure) impactions;
- Tramadol for joint disease; and
- Surpass (a topical diclofenac sodium product) for osteoarthritis.

"Surpass is reportedly coming back on the market," noted Sellon. "In the meantime, do not use the human equivalent because it does not work nearly as well."

To conclude, Bidwell and Sellon reminded veterinarians that despite all the newer, fancier analgesics available, NSAIDs, including the tried-and-true phenylbutazone, remain the first-line option for pain management in equine practice and should not be taken for granted.