Continuous Catheter Delivery of Bupivicaine Reduces Severe Forelimb Pain in Horses

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Continuous peripheral neural blockade (CPNB) may be useful to reduce severe short-term forelimb pain in clinical patients. The clinician should consider strongly the risk of microbial contamination to the tissue when selecting cases for CPNB. Authors’ address: Clinical Sciences, College of Veterinary Medicine, Cornell University, Ithaca, New York 14853; e-mail: ashleedvm@gmail.com. © 2010 AAEP.

1. Introduction
The purpose of this study was to determine the effect of continuous peripheral neural blockade (CPNB) of the palmar nerves on a clinically relevant model of severe forelimb pain in horses in a randomized, controlled, blinded experimental trial. One forelimb of 14 horses (in vivo) and five forelimbs to document injectate delivery (ex vivo) were used.

2. Materials and Methods
A closed tip catheter was placed from lateral to medial, ~12 cm distal to the accessory carpal bone, between the suspensory ligament and the accessory ligament of the deep digital flexor tendon. Success of catheter placement and anesthetic delivery was documented ex vivo (n = 5). Effective analgesia of continuous (n = 7) versus intermittent (n = 7) local anesthetic delivery [intermittent peripheral neural blockade (IPNB)] was tested in a tendonitis model.

3. Results
CPNB horses were less lame than IPNB horses and had a lower proportion of horses with behavioral signs of pain. Neither technique resulted in distal limb swelling or vasodilation. One catheter was culture positive after removal.

4. Discussion
CPNB and IPNB can be performed with a single catheter and a low volume of anesthetic for the control of severe distal forelimb pain for 3 days. CPNB is more effective than IPNB. Neither technique resulted in complete block of pain sensation. Catheters were easily placed and were not dislodged with normal limb movements.

This protocol was approved by the university’s Institutional Animal Care and Use Committee.