Treating Osteoarthritic Lameness & Pain

Many veterinary NSAIDs are available for management of osteoarthritis. This study used a urate crystal synovitis model of lameness and evaluated the efficacy of firocoxib compared with carprofen, deracoxib, and meloxicam. The urate crystal model of lameness is often used to assess NSAID efficacy, and although the inflammatory response is an acute process, many components are similar to those of chronic conditions. This was a positive-control, blinded, 4-period crossover study using a randomized block design based on body weight. Baseline lameness was scored and was similar among the groups. Force plate gait analysis of ground reaction force (GRF) was used to assess efficacy within 24 hours after lameness induction. Fourteen hours after NSAID treatment, there was a significant difference between the lameness scores reported for each of the carprofen, deracoxib, and meloxicam groups relative to that treatment group’s baseline scores. However, the difference in the lameness scores for the firocoxib group was not significant. Numeric values also indicated less lameness and more weight-bearing capacity in the firocoxib-treated group.

Study funded by Merial

COMMENTARY: NSAIDs are available for practitioners from several classes that provide safe and effective control of pain associated with osteoarthritis. This study compared the efficacy of one of the newer NSAIDs, firocoxib, with others on the market. Firocoxib, a highly selective inhibitor of COX-2 developed specifically for veterinary use, compared favorably with carprofen, deracoxib, and meloxicam in controlling pain. Although there was no significant difference in efficacy among groups, the firocoxib group was the only one to show no significant difference between lameness at the peak of lameness effect and its own baseline score.—Perri Stark, DVM, MBA


Incorrect Microchip Placement

A 2-year-old, neutered male domestic shorthair cat presented for acute onset of tetraparesis. The owners had implanted a pet identification microchip themselves and used forceful restraint during the injection. The cat immediately became recumbent, urinated, and began breathing rapidly and panting. Examination of the cat revealed it to be alert and recumbent with an increased respiratory rate. No evidence of swelling or hemorrhage was noted at the implantation site, and no pain was elicited on manipulation of the surrounding soft tissues. Multiple abnormalities were noted on the neurologic examination, including partial Horner’s syndrome on the left side. The clinicians suspected a left-sided C6–T2 spinal segment localization with a primary differential diagnosis of spinal cord trauma. Survey cervical spinal radiographs revealed a metallic radiopacity compatible with a microchip located in the vertebral canal dorsal to the C5–C6 intervertebral space on the left side. No vertebral misalignment or fracture was seen. Thoracic imaging also revealed hemidiaphragmatic paresis. The microchip was removed via dorsal laminectomy. Over the next 10 days, the cat remained unable to stand but recovered voluntary movement in all limbs. The partial Horner’s syndrome also resolved during this time. The cat was discharged and, at an 11-month recheck, was able to bear weight in all limbs but still had mild residual paresis in the left thoracic limb.

COMMENTARY: Reports of adverse reactions after implantation are generally infrequent and benign. The Microchip Advisory Group (MAG) in the United Kingdom has recorded a total of 308 voluntarily reported reactions from 1996 to 2007, including failure, loss, local swelling, infection, and migration. There have been 2 reports of tumor formation and 1 of hair loss. This is the first known documentation of spinal cord injury, and one wonders why the owners were performing this procedure. It would be interesting to see whether any of the other adverse reactions involved owner implantation. Fortunately, there is a movement to standardize many aspects of pet identification (for more information, see the BSAVA and WSAVA Web sites), and it is hoped that the Code of Practice created by the MAG, which includes recommending training for implanting and scanning microchips, will further decrease the chance of adverse reactions.—Jennifer L. Schori, VMD