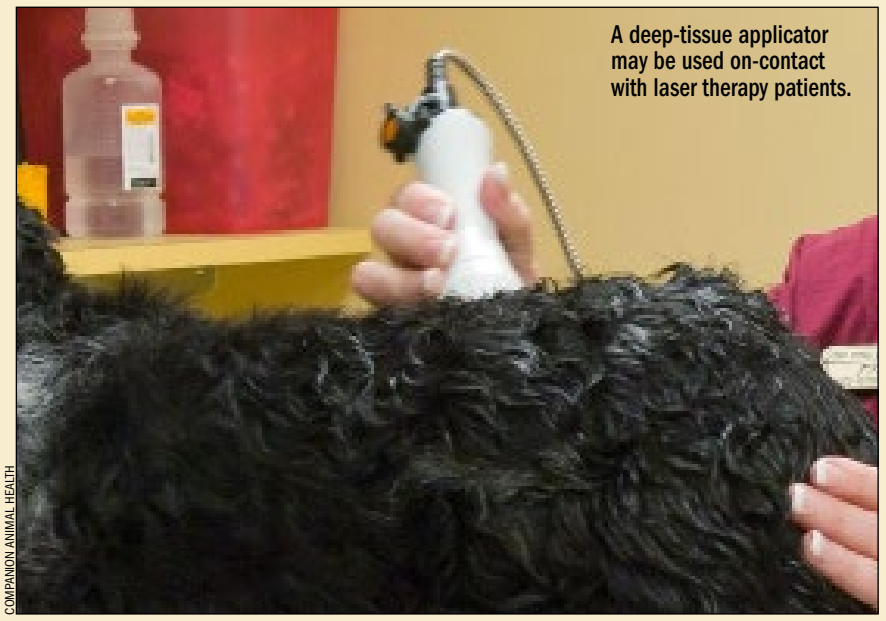
A special advertising section

Case study in pain management

Unraveling the mystery of the anorexic dog.

By Jennifer F. Johnson, VMD, CVPP
For Veterinary Practice News


COMPANION ANIMAL HEALTH

A deep-tissue applicator may be used on-contact with laser therapy patients.

Pain management has always been a priority at Dr. Jennifer F. Johnson's practice, Stoney Creek Veterinary Hospital.

Introduction

In small animal general practice, veterinarians are often presented with baffling cases, incomplete histories and patients who aren't willing to open up about their problems. This pain management case demonstrates the importance of evaluating pain in all patients regardless of the presenting complaint. Highlighting the use of thermal imaging for diagnosis and high-powered laser therapy for treatment, this case illustrates the great benefit laser therapy provides when integrated into a pain management program.

Initial Presentation

Tommie, an 11-year-old male neutered miniature poodle, presented to the clinic with a three-day history of not eating. Although a senior citizen, Tommie has been an agility dog his whole life and normally exhibits a robust appetite and has a high-energy life, with a regular exercise schedule. His body condition is excellent and he continues to have good muscle strength.

Tommie's initial examination revealed a different dog. Although clinically appearing well-hydrated, he was depressed, lethargic and reluctant to move. On palpation, mild to moderate mid-thoracolumbar back pain was appreciated and Tommie was given a pain scale number of 4 out of 10.

Because of previous issues with bladder stones, a urinary tract ultrasound was performed and revealed no urinary tract stones or disease. Comprehensive blood work—CBC, serum chemistries, Lyme/Ehrlichia/Anaplasma tick diseases—revealed no abnormalities. Survey radiographs of the thoracolumbar spine and hips were taken and revealed no obvious abnormalities.

The owners declined referral to a specialty center for an MRI. A tentative diagnosis of midback pain was made and laser therapy was initiated. A Companion Therapy Laser, with its deep tissue applicator to treat on-contact, was used for the deep tissue treatments. The thoracolumbar spine and epaxial muscles were treated with 2,160 total joules (9 J/cm2 target dose) and oral administration of Tramadol 50 mg q 6 hrs was prescribed. Because of previous GI intolerance to multiple types of NSAIDs, an anti-inflammatory was not prescribed.

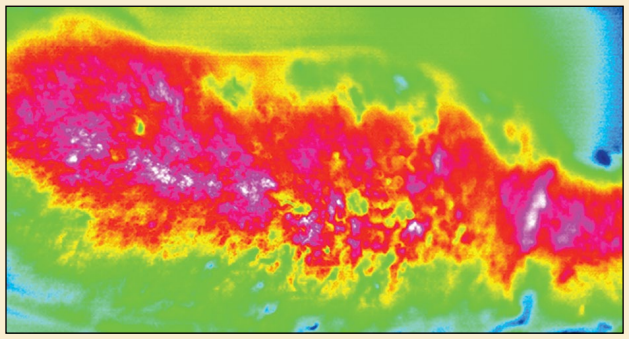


Image 1: Dorsal DTI initial image, head to right. Note the increased thermal gradient in the neck and lumbar spine.

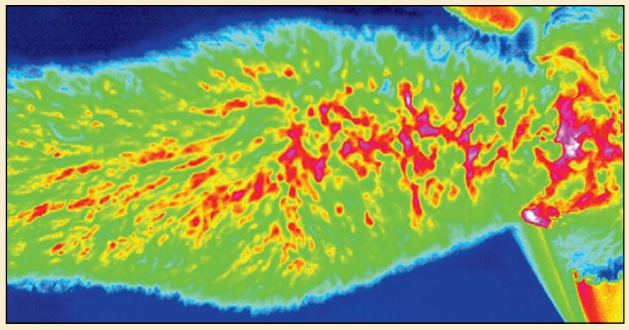


Image 2: Dorsal DTI image, head to right. Note significant decreases in the thermal gradient along the spine. There is still some increased thermal gradient around the neck.

Laser therapy played a key role in achieving good patient health outcome after an acute onset of pain.

Re-Examination

The laser therapy was repeated 24 hours later and the owner reported that Tommie seemed a little brighter but still was not eating. The following afternoon a physiologic examination was performed using a digital thermal imaging (DTI) camera (Image 1). Images showed significant increases within the thermal gradients along the entire dorsal spine, with the most increase around the neck and lumbar area. Digital palpation was repeated with significant painful response to palpation of the cervical spine, especially at the first and second cervical vertebrae. Pain was noted to be seven out of 10 when the neck was manipulated.

Laser therapy was continued every other day for four treatments, now including the cervical spine with a dose of 2,100 joules (10 J/cm2 target dose); thoracolumbar spine, 2,160 joules; and lumbosacral spine, 2,300 joules (10 J/cm2 target dose). Oral Gabapentin, 100 mg twice a day, was added in an attempt to reduce any neuropathic pain component from possible cervical disc disease.

Follow-Up

Tommie was re-examined one week later after the sixth laser treatment. The owner reported that his appetite was completely normal and that he was much more active in the home. Repeated thermal images showed an obvious change in the thermal gradients in just one week, which correlated with palpation (Image 2). Pain scale assessment was three out of 10 when manipulating the cervical spine and one out of 10 for the rest of the body. The owners reported that they had decreased the Tramadol to 50 mg at bedtime, and he continued to take the Gabapentin (100 mg) twice a day.

The owners agreed to continue laser therapy at one treatment per week for the next four weeks, and Tommie was slowly eased back into his normal exercise routine. As an interesting side note, the owners subsequently reported that they had a heavy aluminum dog door for Tommie and they realized that he used his head to slam into the door at high speeds in order to race after squirrels in the yard.

We extrapolated that the continued dog-door impact created the neck and spinal pain and instructed the owners to discontinue use of the door. Two months after initial presentation, Tommie scored zero on his pain assessment and no longer receives laser therapy. The owners continue the Gabapentin (100 mg) twice a day and replaced the heavy dog door with a light rubber flap.

Case Discussion

This is an interesting case where laser therapy played a key role in achieving good patient health outcome after an acute onset of pain. This type of case is not unusual in general small animal practice, where it is often difficult to determine the cause of symptoms as well as the source of pain. The use of hospital-standard pain assessment techniques, such as palpation and the use of both owner and clinician objective pain scales, help to quantify the response to treatment.

Certainly, the addition of digital thermal imaging helped to pinpoint the focus of our pain assessment, and repeated images demonstrated the positive response to our laser therapy. In this particular case, deep tissue laser therapy performs as a primary pain management tool, greatly surpassing the role of pharmacologic intervention, because of this patient's particular intolerance to NSAIDs. Veterinarians can expect similar positive effects if they start to employ the power of laser therapy as a first-line treatment for patient pain. ●

Dr. Johnson, a certified veterinary pain practitioner, became the sole owner of Stoney Creek Veterinary Hospital in Morton, Pa., in 2007. The AAHA-certified hospital employs four veterinarians and 28 team members. Her special interests include general and orthopedic surgery of all pets, pet bird and small exotic pet medicine, and diagnostic ultrasound.

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