ANIMAL REHABILITATION

SPECIAL INTEREST GROUP

Hello to all our members! It's hard to believe that another year has almost passed (or may be, by the time this is published!). Hope all of you have a happy holiday season and a happy and successful 2011!

MARK YOUR CALENDARS!

The 2011 Combined Sections meeting is coming up in New Orleans! Our ARSIG Business Meeting is Friday, February 11th, from 7-8 a.m. In addition, we are pleased to have Dr. Janet Van Dyke, DVM, as our speaker this year. Her presentation is entitled, "Veterinary Zoonoses, What You Need to Know Before You Treat That Puppy! and Veterinary Red Flags, Endocrine, Metabolic, and Medical Syndromes That Might Be Lurking in Your Canine Rehab Patient" and promises to be very informative. She will speak on Friday, February 11th, from 8-11 a.m.

ARSIG CONFERENCE CALL MINUTES

There was a conference call on September 30th for board members and committee chairs to discuss several issues. On the education front, there had been discussion about trying to receive "read for credit" through OPTP , but at this time it did not appear to be a feasible option for various reasons, so we are looking into using the Orthopaedic Section's Web site to post information for our members regarding zoonoses, bowel and bladder management for neurological cases, red flags and metabolic disorders, home exercise programs, and information on radiology/diagnostics. We are also looking for contributions from members regarding evaluation forms, functional scales, home exercise programs, and the like to be placed on the Web site so others don't have to "reinvent the wheel." If any of you have documents you would like to share, please send them in pdf format to Lisa Bedenbaugh at LHinerman2@aol.com.

On the legislative side, there continues to be progress made in changing the language in the physical therapy and veterinary practice acts in Nebraska, allowing other health care practitioners to be able to register with the veterinary board to collaborate with veterinarians in treating animals in their specific area of specialty. In California, there was a bill submitted that would interfere with the ability for PTs to practice on animals, but it was temporarily halted, pending further input to legislators from interested parties.

We are also trying to revamp our ARSIG state liaisons, and our goal is to have a representative from each state. If you are interested, please E-mail our liaison coordinator, Charlie Evans at cevans@ivghospitals.com with your contact information.

From a research perspective, we discussed trying to start work on databases, such as range of motion in "normal" dogs vs. those with OA, in order to start tracking trends. If anyone has any interest in this area, please contact our Research Chair, Cheryl Riegger-Krugh at crieggerkrugh@gmail.com for more information. We appreciate all of you who give time and effort to promote our profession!

Lumbosacral Disease: Differential Diagnosis

Tammy Wolfe, PT, CCRP

A common patient problem I encounter in my canine patient load is hind limb weakness resulting in frequent falls and difficulty walking. Spinal cord compression, frequently called lumbosacral disease, LS syndrome, cauda equina, or type II disc disease, is a common occurrence in the aging canine population. Typical history and symptoms are as follows:

- Geriatric populations (over 7 years old in large and mid-size breeds and 10 years old in small breeds)
- Insidious atrophy and weakness in the hind limbs
- Ataxic gait and a wide base of support
- No differences in gender occurrence or in intact vs spayed/neutered
- Frequent falls and difficulty getting up into standing from lying and sitting, especially on slick surfaces
- Difficulty or inability to go up stairs or jump onto furniture or into the car/SUV/truck
- Increased flexion of the spine in standing and during ambulation
- Advanced disease will include knuckling (decreased proprioception)
- Deep tendon reflexes may be normal, decreased, absent or hyper reflexive, depending upon the severity and level of the spinal compression

There seem to be no differences in gender occurrence or in intact vs spayed/neutered. In more advanced stages, symptoms may be accompanied by pain responses, muscle spasms in the epaxial muscles (canine paraspinals) and abdominals, and incontinence of bowel and/or bladder.

Because disc bulges and ruptures occur more centrally in canines, the patient frequently loses hind limb function before showing any signs of pain. Physical therapy is the treatment of choice for these dogs and is very effective in slowing or halting the progression of symptoms and may reverse many of the effects of spinal compression. Treatment will include instructions to the owner to apply manual traction and to progress with home strengthening exercises for the core and extremities. Physical therapy will include decompression techniques, neuromuscular re-education, balance and strengthening exercises, and usually a form of hydrotherapy exercise. If the canine is showing signs of pain and muscle spasms, the owner will be instructed in applications of heat or cold and massage techniques. Medically, the dog may be treated with NSAIDS, and, in more acutely severe episodes, a short round of Prednisone, along with pain medications and possibly muscle relaxants.

A classic patient vignette would read like this: Rocky is an 11 year old male, intact Akita presenting with an ataxic gait at a walk, a wide base of support in the hind limbs, and decreased

stride length. His thoracolumbar spine is mildly flexed. His owners report that Rocky has progressively become weaker in his hind limbs in the past year and now has extreme difficulty going up stairs, getting up from lying on the kitchen floor, and getting into the car. He isn't able to walk as far as he could a few months ago. In the past month, he has had some bowel incontinence. After completely evaluating Rocky, if no red or caution flags are discovered, either in history taking or the examination, I would continue treating Rocky as having the above diagnosis.

A similar vignette I have seen is as follows: Lucy is an 11 year old female, spayed Miniature Schnauzer brought in by the owner's friends because the owner couldn't get off work. History was described as Lucy having difficulty over the last few weeks in jumping up on the couch and bed, and was no longer able to do so. Her owner reported hind limb weakness and frequent falls on smooth floors and bladder incontinence, which was getting worse. She seemed to be sore in her back and didn't want to go on walks any more. Their primary veterinarian saw her 3 weeks prior and started her on Rimadyl (canine NSAID) and some medication for the incontinence. She had continued to get weaker and the incontinence had gotten worse.

Before looking at the dog, a caution flag for me was that a dog this small usually has type I disc disease, in which they suddenly lose hind limb function completely. This is a medical emergency and the patient must have surgery within 24 to 48 hours in order to have a favorable recovery. However, I have seen older, smaller dogs with similar histories from the owners who have spondylosis and become weak from not using the hind limbs secondary to pain in the spine.

Examination threw more red and yellow flags up. Gait was only mildly ataxic in the hind limbs and with a wide base of support in all extremities. Instead of a flexed spine (topline), I observed a sway back posture. Atrophy in the hind limbs was mild, but also slightly present in the front limbs and core musculature. Proprioception was intact. Reflexes were normal. The dog did not respond with any pain responses on evaluation of the spine and hind limbs. Joint and soft tissue evaluations were negative for any findings. This dog did not fit the typical case pattern and appeared to me to be having a more systemic issue going on. She had moderate gum disease, but normal capillary re-fill time. I referred this dog urgently to a veterinarian for blood tests and urinalysis. The tests came back with glucose levels in the 400's. The patient was treated for diabetes mellitus and started on an insulin regimen. Within 3 days she was acting "normal" again as reported by her owner and the "incontinence," which had been brought on by excessive drinking, had disappeared completely.

A third vignette I have seen is as follows: Argo, a 4 year old, intact, male, bomb sniffing German Shepherd police dog, who had previously been treated successfully for lumbar spondylosis and sciatica was brought in with reports of a relapse. His handler said that he had been fine until a couple of nights ago when he fell while running. Since then, he had been unable to get up on his hind limbs and jump into the SUV. His handler was going out of state to a continuing education course for a week and was boarding Argo so he could have physical therapy. Upon initial evaluation, Argo's symptoms were as before when I had seen him. He presented with a mild right hind limb limp, slightly shortened stride length, decreased right L7 nerve mobility with pain response, a mildly flexed thoracolumbar spine, epaxial and oblique spasms, bilateral hind limb weakness, and otherwise, a normal neurological and orthopedic examination. He was treated appropriately on Friday and appeared to be in less pain following treatment. His gait was still with mildly decreased weight bearing on the right, but the topline had returned to normal and strides had lengthened in the hind limbs. However, upon re- evaluation on Monday, Argo presented with different findings. The boarding staff had reported that he was frequently falling down and had urinated on himself once. They were using a towel in front of his hind limbs to assist him with his balance. Examination revealed a moderately ataxic gait in the hind limbs, but with very mild ataxia in the front limbs and core. Proprioception and DTRs were normal, however. Hind limb weakness and control had deteriorated significantly. Argo had begun to have difficulty with total body control and appeared lethargic and even somewhat confused. Concerned about a possible brain or brain stem issue, I immediately conferred with the in-house neurologist. Her findings were the same as mine and she asked for clearance from the police department for a CT or MRI. Because of Argo being government property, it took a few days to get the tests approved. In the meantime, the neurologist was able to get blood work approved. Argo continued to become more lethargic and at times, unresponsive to verbal communication. His proprioception declined, but his DTRs were still normal. The blood work came back normal except for an extremely high chloride level. The attending neurologist took Argo off all medications. He started to improve neurologically within the first 24 hours. When testing his medications, it was discovered that someone in the pharmacy had added the wrong ingredient to his batch of Tylin powder. (GI antibiotic commonly used in canines for controlling diarrhea.) Instead of adding the filler, they had added Potassium Bromide. Argo was inadvertently being poisoned. Unfortunately, until the cause was found and all buyers of that batch of Tylin powder were notified, 2 other canines had been euthanized because of the same symptoms.

I have been fortunate enough to have spent over 7 years working with canines in a physical therapy practice in a world-famous, specialty veterinary hospital. Many of the evaluation findings and caution and red flags are the same as in humans. However, because of the communication gap, and because many times dogs are left by themselves while the owners go to work, the history of symptoms can be incomplete. The owners may or may not see the whole picture, or may be misinterpreting what they do see. Also, because all owners seeking physical therapy for their animals are privately paying, more expensive testing is, many times, not an option during the diagnostic process. Working with animals has sharpened my evaluation and observation skills dramatically and has made me more aware of the need to refer a patient to another professional when the examination, history, and symptoms throw up a caution or red flag.

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