

IN OUR COMMUNITY

New Look for FACE

Our Foundation has received a new face lift with a revised logo that aligns the animal/human bond as well as a new tagline "Saving Pets & Helping Families." This year approximately 50 patients have benefited from FACE grants to assist them in receiving treatment that they might otherwise not receive.

For more information, please contact Frank LaBonté, Hospital and Practice Administrator at (858) 875-7500 or frank.labonte@vshsd.com.



TAKE NOTE CURRENT CLINICAL TRIALS

Internal Medicine – Testing a new ACTH product for evaluating adrenal function in dogs.

To evaluate a new ACTH product to assess effectiveness in diagnosing dogs with suspected Cushing's syndrome and suspected Addison's disease. Monetary support is provided to clients, including complete diagnostic work-up and lab costs. *Contact Dr. Richter at (858) 875-7500.*

Surgery – Sliding Humeral Osteotomy

To evaluate the sliding humeral osteotomy (SHO) as a treatment of advanced medial compartment elbow disease. Patients are considered candidates if the response to conventional surgical therapy (fragment removal or OCD lesion curettage) has been less than ideal. Sponsored by VSH and New Generation Devices. *Contact Dr. Pike at (858) 875-7537.*

Internal Medicine – Diagnosis of Acute Pancreatitis

Using the cPL Assay

To evaluate the accuracy of the serum cPLI and Snap cPL assay developed by IDEXX laboratories. Any dog presenting for suspected acute pancreatitis is eligible. IDEXX laboratories to pay for spec cPLI, serum amylase and lipase, C-reactive protein, and Snap cPL test. *Contact Dr. Arnell at (858) 875-7500 or katharine.arnell@vshsd.com.*

Radiation Oncology– Treatment of Oral Squamous Cell Carcinoma and Acanthomatous Epulides in Dogs

To evaluate a novel radiation therapy technique for the reduction of side effects in normal tissue. Any dog with a measurable SCC of the oral cavity or acanthomatous epulis is a potential candidate. *Contact Dr. Burke at (858) 875-7575 x2706.*

Surgery– Micro Total Hip Replacement

VSH is enrolling 25 small dogs in a clinical study to compare the results of micro THR to those of femoral head and neck excision.

If you know of a candidate or to learn more about the benefits of participating, contact any VSH surgeon at (858) 875-7575.

Neurology– Feline Diabetic Neuropathy

In conjunction with the University of California San Diego, VSH is enrolling cats in a study to evaluate the use of Prosapptide™, a neurotrophic peptide. Cats with diabetes mellitus or pelvic limb weakness are eligible. *Contact Dr. Lipsitz at (858) 875-7575 x2707.*

Surgery – Bone Induction Product for Diaphyseal Fractures in Dogs.

To investigate a Bone Induction Product for use in Diaphyseal Fractures in dogs. Patients considered are skeletally mature, client owned dogs (not pregnant or lactating), that have sustained a diaphyseal fracture requiring internal fixation. Patient must be presented to a veterinarian within 24 hours of injury and the fracture must be repaired within 7 days. Patient must be medically stable without head trauma and without chronic use of steroids. Sponsored by a major Global Animal Health Company. Owner will receive free radiographs, bloodwork, recheck exams, and \$500 upon completion of the study. *Contact Dr. Aiken at (858) 875-7500 x315, (858) 245-5769, or sean.aiken@vshsd.com.*

Neurology – Methylprednisolone Sodium Succinate and Polyethylene Glycol in Canine Intervertebral Disc Disease

To evaluate the effectiveness of adjunctive medical treatment of patients who undergo decompressive surgery. Eligible dogs are 2-10 years of age, less than 20 kg/44lbs, known paraplegia of 24 hours or less with loss of deep pain in the tail and pelvic limbs, no more than 2 appropriate doses of NSAID or steroids (dex or pred) in the previous 48 hours. Trial is in conjunction with North Carolina State University. *Contact Dr. Levitski-Osgood at (858) 875-7575.*

Dermatology – Medication for Treatment of Allergic Skin Disease

Dr. Laura Stokking is enrolling cats in a clinical trial investigating a new medication for the treatment of allergic skin disease. Sponsored by a major global health company. *Contact Amie Alatorre at (858) 875-7500 x116.*

Dermatology – Medication to Control Pruritus

Dr. Laura Stokking is enrolling dogs for a new medication to control pruritus. Sponsored by a major global health company. *Contact Karina Benish, RVT, CW2 at (858) 875-7500 x640.*

Dermatology – Treatment of Cutaneous Lesions

Dr. Laura Stokking has an additional phase 1 clinical trial to test the use of an emulsified oxygen cream to treat cutaneous lesions in horses and dogs. *Contact Karina Benish, RVT, CW2 at (858) 875-7500 x640.*

Medical Oncology – Canine Mast Cell Tumor Trail

To evaluate a novel chemotherapeutic agent. *Contact Dr. Phillips at (858) 875-7575 x2713*

WE'RE LISTENING

Based on your great topic suggestions, the VSH 2009 event schedule will include roundtable discussions on IBD, spine disease, osteosarcoma, orthopedic radiology review and emerging toxicities. We will continue to hold dermatology rounds as well as our quarterly continuing education seminars. Please contact Megan Sage at megan.sage@vshsd.com or (858) 875-7544 if you have questions regarding our continuing education program.

We are pleased to announce the expansion of our residency programs to include an emergency and critical care residency in 2009. This residency will provide intensive emergency and critical care training in collaboration with other specialty services, while enhancing the quality of care to our emergency and critical care patients. We look forward to continuing to evaluate and enhance our clinical programs and services offered at VSH for our patients and referring practices.

If you have a comment or concern about an aspect of VSH, please get in touch. Contact Frank LaBonté – Hospital and Practice Administrator at (858) 875-7500 or frank.labonte@vshsd.com.

SAVE THE DATE

**January Roundtable Discussion:
Emerging Toxicities and Their Management**
January 28, 7:00 PM

February Roundtable Discussion: IBD
February 11, 7:00 PM

**March Roundtable Discussion:
Spine Disease**
March 11, 7:00 PM

**Winter CE Dinner and Lecture
Sponsored by Purina**
February 5, 6:00 PM

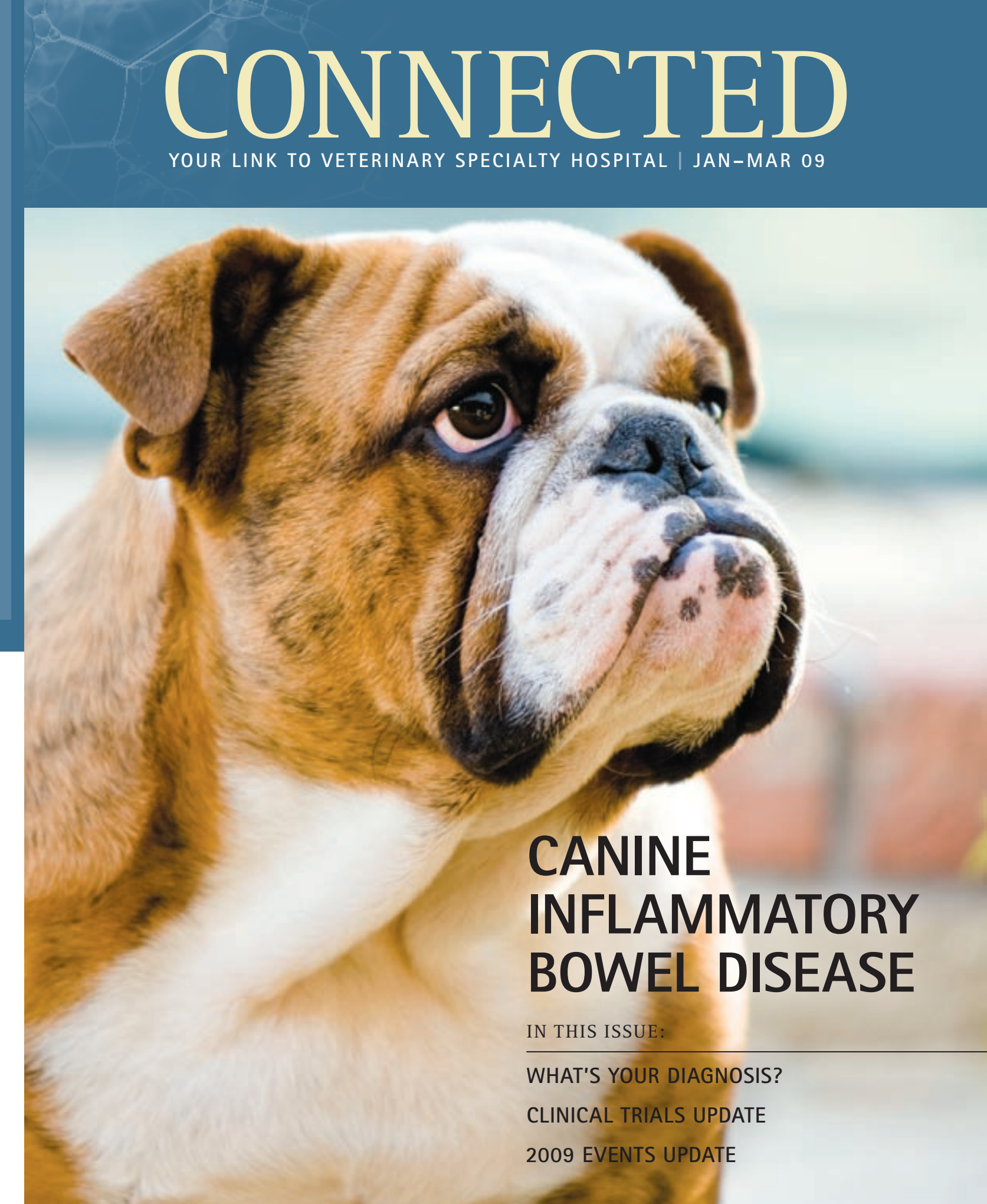
- Dr. Stanley Marks,
Quench the Stench on Infectious Diarrhea in Dogs and Cats
- Dr. Dorothy Laflamme,
Commercial Foods: The Bottom Line

For more information on Continuing Education events, please visit www.vshsd.com/For_Veterinarians or call Megan Sage at (858) 875-7544.

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VETERINARY SPECIALTY
HOSPITAL



CONNECTED

YOUR LINK TO VETERINARY SPECIALTY HOSPITAL | JAN–MAR 09

CANINE INFLAMMATORY BOWEL DISEASE

IN THIS ISSUE:

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FRANKLY SPEAKING

As we enter a new year for *Connected* 2009 we will strive to continue to enhance our partnering efforts and communications with you our referring practices. In this first quarterly issue of *Connected*, Dr. Sotirakopoulos has written an article on "Canine Inflammatory Bowel Disease" and the second article is by Dr. Lipsitz on "What's Your Diagnosis." This article provides information for the reader to make their diagnosis of the patient based on the clinical symptoms and diagnostic tests that were performed. We hope that you will find this format interesting and a bit different than what we have done previously.

As we look back over the past year 2008, we have seen a year of growth, challenges in the economy, expansion in the number of our residency programs and experienced a historical presidential election. Some of the more salient points included Dr. Monica Clare joining our practice, adding our first resident in Ophthalmology, Dr. Nicole Roybal and Dr. Arnell began her second year in our Internal Medicine residency program. We will again expand this year by adding an Emergency/Critical Care residency.

We also had the opportunity to participate in some community events; the Arthritis Walk, Making Strides Against Breast Cancer Walk and the Movember Foundation's prostate cancer awareness fundraiser as well as sponsored several animal fundraising events.

We look forward to continuing to work with all of you our "Partners" as we once again continue the journey together in delivering the best and highest level of quality medical care to your patients.

Frank LaBonté
Hospital & Practice Administrator



CANINE INFLAMMATORY BOWEL DISEASE

by ANDREA SOTIRAKOPOULOS, BVSc, MS

Inflammatory bowel disease (IBD) is the most common cause of chronic intestinal disease in dogs. IBD is a not a single disease entity, but a group of disorders characterized by persistent or recurrent gastrointestinal signs with histological evidence of inflammation in the lamina propria. Nomenclature is based on the predominant cell type, with the most common being lymphocytic-plasmacytic enteritis. Eosinophilic (gastro-) enteritis (EGE) is less common, and granulomatous enteritis is rare. Breed specific diseases such as histiocytic ulcerative colitis of Boxer dogs have also been reported.

Although the pathogenesis of IBD has not been fully elucidated, several contributing factors, either individually or working in concert, have been implicated including: genetic, infectious (bacteria or parasites), allergic (dietary) and immunologic dysregulation. In the healthy dog, the gastrointestinal associated lymphoid tissue (GALT) mounts an immune response to pathogens while maintaining tolerance to harmless environmental antigens. The mucosal barrier separates the GALT cells from endogenous bacterial flora. Disruption of this barrier allows passage of antigens across the mucosa initiating an inflammatory response. Immunologic dysregulation of this inflammatory response leads to uncontrolled inflammation.

Clinical presentation

Clinical presentation differs between patients, and depends on the localization and extent of affected regions of the gastrointestinal tract. The most common clinical signs include: vomiting, diarrhea and weight loss. Severe IBD can be associated with protein losing enteropathies resulting in hypoproteinemia and ascites.

A numeric scoring system, the canine IBD activity index (CIBDAI) has been developed to aid in the management of clinical patients, both as a measure of initial response to treatment and to assess long-term prognosis. Criteria include 1. attitude/activity 2. appetite 3. vomiting 4. stool consistency and 5. stool frequency. These criteria are scored and yield a total CIBDAI score that reflects the presence of mild, moderate or severe IBD. Response to treatment has been shown to correlate with improvement in the CIBDAI score.

Diagnosis

The diagnosis of IBD is based on the exclusion of other causes that could result in similar clinical signs and histological changes in mucosal architecture. A complete diagnostic work-up consisting of a CBC, chemistry profile, urinalysis and fecal analysis is necessary to rule out other causes of intestinal inflammation. Determination of serum cobalamin and folate levels aid in evaluation of absorptive capacity of the small intestine and detect changes in intestinal microflora. While not pathognomonic for IBD, alterations in cobalamin and folate may be responsible for sub-optimal response to therapy. Abdominal ultrasonography aids in evaluation of gastric and intestinal wall thickness, layering pattern and assessing mesenteric lymph node size.

Diagnosis depends on documentation of histopathologic changes in gastrointestinal biopsies which may be obtained surgically, laparoscopically or via endoscopy.



Endoscopic image from a canine patient with diffuse lymphoplasmacytic enteritis.

Treatment

Treatment of IBD involves dietary modification and pharmacologic management with immunosuppressive and antibacterial therapy.

Novel protein diets containing a single, highly digestible protein source can be useful in nutritional management of IBD. Many commercially available prescription diets have altered omega-6 and omega-3 fatty acid ratios which may reduce inflammation in the intestine.

Corticosteroids including prednisone and budesonide are used for their anti-inflammatory and immunosuppressive properties. Budesonide is considered a "locally acting" corticosteroid. It has a high affinity for the steroid receptor in the gut mucosa. Budesonide is associated with fewer systemic side effects due to its rapid hepatic conversion (high first pass metabolism) with > 90% converted into metabolites with minimal to no steroid activity.

In severe or non-responsive cases, combination drug therapy with azathioprine, cyclosporine, chlorambucil or sulfasalazine may be necessary in addition to steroids.

Metronidazole is a common antibacterial used in IBD for its antiprotozoal, anaerobic antibacterial activity, and its ability to inhibit cell mediated immunity.

Successful treatment of IBD can be difficult due to its cyclical nature which is manifested by spontaneous exacerbations and remissions. Despite appropriate therapy, dogs may still have intermittent clinical signs and require long-term management.



WHAT'S YOUR DIAGNOSIS?

by DAVID LIPSITZ, DVM, DACVIM (NEUROLOGY)

Signalment: 3 year, 9 month male neutered Bengal

History & Neurological Examination: The cat was examined by the referring veterinarian because of a sudden onset of anisocoria. The owner also thought that the cat's appetite was diminished. There were no other problems noted. On physical and neurological examination the left pupil was miotic, there was ptosis, enophthalmos and protrusion of the left third eyelid. The remainder of the neurological examination was normal.

Problem: Left Horner's syndrome indicates sympathetic denervation of the eye. In order to localize the lesion, knowledge of the sympathetic pathway is essential. It may be broken down into pre and post ganglionic localizations.

(Preganglionic) Hypothalamus_brainstem/cervical spinal cord_T1-T3 spinal cord segments and nerve roots_vagosympathetic trunk_cranial cervical ganglion.

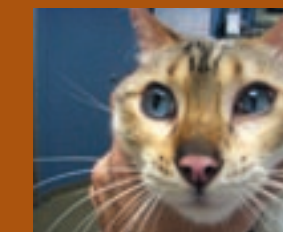
(Postganglionic) _middle ear_ophthalmic branch cranial nerve V_long ciliary nerve_iris dilator muscle_smooth muscle in periorbital, upper and third eyelid.

To localize the Horner's syndrome along this pathway a complete neurological exam and other neurological signs can help determine the location of the lesion. To view a table on the location of lesions resulting in Horner's Syndrome visit: www.vshsd.com/For_Veterinarians-HornersLesionTable/

Lesion Localization: With no other signs on the examination it is difficult to determine a pre or post ganglionic lesion.

Differential Diagnosis: Idiopathic, Mediastinal disease-neoplasia/infectious

Plan: Thoracic radiographs may be done to look for a mediastinal lesion. Pharmacological testing with phenylephrine can be done to help determine if a pre or post ganglionic lesion is present. Topical phenylephrine will rapidly dilate the miotic pupil with a post ganglionic lesion. The cat was discharged with no treatment. Idiopathic Horner's syndrome was suspected which will usually resolve over 2-4 months.



Follow Up: An emergency referral examination was done at VSH 3 months later for progressive left sided ataxia and weakness. The Horner's syndrome had remained unchanged. Complete CBC, chemistry profile and urinalysis were normal.

Neurological Examination: The cat had appropriate mentation. The left Horner's syndrome was present but no other cranial nerve

abnormalities were detected. The cat was non-ambulatory tetraparetic, much worse on the left thoracic and left pelvic limbs. Proprioception was absent in all 4 limbs. The left thoracic limb spinal reflexes were diminished compared to the right. The cutaneous trunci reflex was intact. There was no apparent spinal pain.

Problem: Left Horner's syndrome, non-ambulatory tetraparesis worse on left.

Lesion Localization: C6-T2 myelopathy, worse on the left.

Differential Diagnosis: Neoplasia, Infectious

Plan: Thoracic radiographs, Cryptococcus titer, MRI cervical spine from C1-T3.

Results: The thoracic radiographs were unremarkable and the cryptococcus titer was negative. On the T1 weighted post contrast images there was a uniformly contrast enhancing left sided thoracic inlet mass extending from the first through the third rib. The mass followed the path of the thoracic spinal nerves and was invading the spinal canal through the intervertebral foramen. The mass occupied up to 75% of the spinal canal at its most expansive point and appeared to be both intradural and intramedullary.



Presumptive Diagnosis: The history and MRI findings were most suggestive of lymphoma. An ultrasound guided needle aspirate was performed and cytology confirmed the diagnosis of lymphoma.

Outcome: The owners elected to treat. The initial treatment consisted of L-asparaginase at 400 IU/kg once, prednisone at 0.5 mg/kg orally twice daily, CCNU (Iomustine) at 50 mg/m2 every 3 weeks, and palliative radiation therapy was done starting with a 500 cGy midline dose followed by 5 treatments at 400 cGy every three days for a total of 6 treatments.

The cat is currently ambulatory with no paresis or ataxia but the Horner's syndrome persists. The long term prognosis is fair with an average survival of 6-12 months.

The initial assessment of idiopathic Horner's syndrome was a valid assumption without any other underlying neurological signs. The thoracic radiographs may have been helpful initially but since the thoracic inlet mass was still not visible on radiographs 3 months later it seems unlikely that the mass would have been identified. It was not until the rapid development of a cervical myelopathy that a clear neuroanatomical localization was possible. Once this occurred, a diagnostic plan and an ensuing diagnosis were rapidly made.