Accessing Veterinary Literature After Graduation: Affordable Evidence-Based Practice

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William Rand Kenan Jr. Library of Veterinary Medicine

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Potential Resources

- Consultant (Cornell)
- VetMed Resource (aka CAB Abstracts) includes Animal Health & Production Compendium
- International Veterinary Information Service
- VML’s “Keeping Up with Veterinary Knowledge” Web page
- NC LIVE
- Obtaining Books and Chapters from Library
- RefWorks
Case Example: Polymyositis and Neuritis in a Cat

Signalment: 4 yr-old MN DSH cat

History:
• 1-week history of lameness, progressing to tetraparesis
  – Initially had weight-bearing lameness in left pelvic limb, which progressed to lameness in the left thoracic limb and then to generalized weakness
  • Had been treated with meloxicam (dose unknown) two days earlier by another DVM, with no clinical improvement
• No history of prior medical problems, trauma, or known exposure to toxicants.
• Strictly indoors and had been routinely vaccinated

Ginman et al. JAVMA, 2009
Case Example: Polymyositis and Neuritis in a Cat, contd.

Findings:

• **Physical exam**: BAR; TPR WNL
• No overt physical abnormalities detected, other than generalized muscle atrophy
• Palpation of the vertebral column did not elicit a pain response from the cat; however, palpation of the muscles of the appendicular skeleton yielded signs of mild to moderate discomfort.
• Neurologic examination revealed the cat had normal mentation and cranial nerve function but a crouched gait and generalized weakness that was more evident in the thoracic limbs than in the pelvic limbs. **Cervical ventroflexion**, a sign of generalized neuromuscular disease in cats, was also present.
• Myotatic and withdrawal reflexes were diminished in all 4 limbs, but conscious proprioception was intact. On the basis of these findings, a diffuse motor-unit disease was suspected.

Ginman et al. JAVMA, 2009
Case Example: Polymyositis and Neuritis in a Cat, contd.

Key lab findings:
- CBC: neutrophilia (13.0 X 103 cells/μL; reference range, 3.2 X 103 to 12.5 X 103 cells/μL).
- Hyperalbuminemia (3.8 g/dL; reference range, 2.1 to 3.5 g/dL)
- High creatine kinase (CK) activity (785 U/L; reference range, 50 to 250 U/L)
- UA unremarkable
- Serologic tests for FeLV antigen, anti-FIV antibody, and anti-Toxoplasma gondii IgG and IgM (at 1:40 dilution by use of indirect immunofluorescence assay) were negative.
- Findings on thoracic radiographs were unremarkable.

Ginman et al. JAVMA, 2009
Diagnostic workup for suspected myopathy

Ettinger, S. Textbook of Veterinary Internal Medicine: Diseases of the Dog and the Cat. 2010
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## POLYMYOSITIS, POLYMYOPATHY, IN CATS

**Description**

Cats rarely develop polymyositis that might be immune-mediated. There can be: High serum CK activity; generalized EMG abnormalities; negative results of serologic testing for autoimmune and infectious diseases; and inflammatory myopathy on histology.

**Species**

Felidae

**Signs**

- Abnormal forelimb reflexes
- Abnormal hindlimb reflexes
- Anorexia
- Back atrophy
- Back pain
- Dullness
- Dysphagia
- Dyspnea
- Exercise intolerance
- Fever
- Forelimb atrophy
- Eosinophilic myositis
- Generalized weakness
- Hindlimb atrophy
- Hindlimb lameness
- Hindlimb pain
- Improved respiratory rate
- Kyphosis
- Neck weakness
- Paraparesis
- Rupture of one hindlimb
- Sudden onset

**References**


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### 7 Possible Diagnoses

- Diabetes mellitus, diabetic ketoacidosis, in the dog and cat
- Meningoencephalitis, meningitis, meningoencephalomyelitis, meningoencephalitis, myelitis
- Muscular dystrophy, congenital, inherited myopathy
- Polymyositis, polymyopathy, in cats
- Rabies, lyssavirus
- Spinal, vertebral, cord, neoplasia, hamartoma, tumor
- Spongiform, spongy, leukoencephalopathy, leukoencephalomyelopathy

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**Diagnostic tool—Consultant**

- [http://www.vet.cornell.edu/consultant/consult.asp](http://www.vet.cornell.edu/consultant/consult.asp)
You decide to refer this case to the NC State VHC. But you want to do some searching of the literature, so that you can talk more knowledgably to the client about what they might expect. Where to start? $$$$
Potential Resources

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Searching for neuromuscular disease in cats or dogs

One possible broad search strategy:
(post-vaccination or autoimmune or immune-mediated or idiopathic)
AND (polyneuropath* or polyneuritis or neuritis or polymyositis or myositis* or myopath*)
AND (cat or cats or feline* or dog or dogs or canine*)

For this example:
Searched polymyositis AND (cat OR cats OR feline*) • PubMed: 18 results, 8 if you search polymyositis AND (cat OR cats OR feline*)/veterinary. None of the 8 are free via PubMed Central for this topic.
• CAB Abstracts and CAB Abstracts Archive (as VetMed Resource): 19 results. Two are provided full text. (As of March 3, 2013)
VetMed Resource

Fee-based veterinary version of CAB Abstracts content. Provides abstracts, some full-text articles, reviews, news and datasheets for a variety of species' medical needs.
1. Feline polymyositis: determination of creatine kinase in 4 cases.

2. The cat with...
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International Veterinary Information Service (IVIS)

- [http://www.ivis.org](http://www.ivis.org)
- Access to textbooks, proceedings, association news, online course and research materials.
- Free to veterinarians, veterinary students, and animal health professionals; registration required.
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Keeping Up with Veterinary Knowledge

- Veterinary Medicine Library’s Web page: http://www.lib.ncsu.edu/vetmed/research/keepingup
NC LIVE

- [http://www.nclive.org/](http://www.nclive.org/)
- North Carolina residents have free access to many full-text articles through databases in NC LIVE.
  
  **Academic Search Complete**, for example, includes full-text (as of 2/21/13) for the following veterinary titles:
  
  - American Journal of Traditional Chinese Veterinary Medicine – Available from 02/01/2011.
  - Anatomia, Histologia, Embryologia: Journal of Veterinary Medicine Series C - Available from 02/01/1998. Most recent 12 months not available.
  - Equine Veterinary Education – Available from 01/01/2010. Most recent 12 months not available.
  - Journal of Veterinary Emergency & Critical Care - Available from 03/01/2003. Most recent 12 months not available.
  - Journal of Veterinary Internal Medicine - Available from 01/01/2008. Most recent 12 months not available.
  - Journal of Veterinary Medicine Series A - 02/01/1998 to present
  - Journal of Veterinary Medicine Series B - 02/01/1998 to present
NC LIVE

• [http://www.nclive.org/](http://www.nclive.org/)

• Academic Search Complete. List of full-text veterinary journals included, cont'd.
  
  – Journal of Veterinary Pharmacology & Therapeutics - Available from 01/01/1998. Most recent 12 months not available.
  – Medical & Veterinary Entomology - Available from 01/01/1998. Most recent 12 months not available.
  – Veterinary Anesthesia & Analgesia - Available from 01/01/2000. Most recent 12 months not available.
  – Veterinary & Comparative Oncology - Available from 03/01/2003. Most recent 12 months not available.
  – Veterinary Dermatology - Available from 03/01/1998. Most recent 12 months not available.
  – Veterinary Nursing Journal – Available from 01/01/2011. Most recent 12 months not available.
  – Veterinary Ophthalmology - Available from 03/01/1998. Most recent 12 months not available.
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Investigating canine and feline neuromuscular disorders

Obtaining books

• Search Library Catalog, Amazon.
• Example: A Practical Guide to Canine and Feline Neurology, 2nd ed.
  $147
• Use on-site. To see if other libraries own it, use Worldcat.org
• Request chapter delivery ($8)
• Request interlibrary loan from your public library (May be free)
• Local? Join Friends of the Library. Annual borrowing fee ($50), in addition to FOL annual membership cost.
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RefWorks

- RefWorks alumni program: you can still use your NCSU RefWorks account after you graduate or leave the university.
  - "Access will continue to be available to an institution’s alumni as long as that institution subscribes."
- Use NCSU's "group code" when you login.
  - If you lose it, just call us at 513-6218 or e-mail us at libraryvetmed@ncsu.edu, and we'll be happy to send it to you.
Case Example: Diagnosis

The real patient was admitted to the Iowa State University Veterinary Teaching Hospital.

- Electromyography revealed diffuse changes in the thoracic and pelvic limb muscles consistent with myopathy or neuropathy.
- The diagnosis of myositis, with variable severity within and between muscles, was reached by detection of infiltrations of mixed mononuclear cells within multiple muscle biopsy specimens.

Figure 1—Photomicrographs of a section of a fresh frozen biopsy specimen from the triceps brachii muscle of a cat with severe neuritis and polymyositis revealing high variability in myofiber size and mild mononuclear cell infiltration with an endomysial distribution and invasion of myofibers (A) and extensive myofiber loss, fibrosis, and mixed mononuclear cell infiltrations (B). H&E stain, bar = 100 μm.

Ginman et al. JAVMA, 2009
Case Example: Diagnosis, contd.

- **Concurrent neuritis** was also diagnosed because of the detection of mononuclear cell infiltration within the ulnar nerve biopsy specimen.
- Cause never determined. In the absence of an identifiable infectious disease or neoplasia, **immune-mediated myositis (polymyositis) and neuritis** were considered most likely.

![Image of histological section showing infiltrations](image)

*Figure 2— Photomicrograph of a resin-embedded section of an ulnar nerve biopsy specimen from a cat with severe neuritis and polymyositis revealing mixed mononuclear cell infiltrations within the endoneurium. Toluidine blue stain, bar = 100 μm.*

Ginman et al. JAVMA, 2009
Case Example: Treatment and Follow-up

• Treatment was initiated with an immunosuppressive dosage of prednisone (1.5 mg/kg [0.7 mg/lb], PO, q 12 h). Also, range-of-motion exercises.
• Cat was reassessed at the hospital 2 weeks, 6 weeks, and 10 weeks after the initial evaluation. Patient was given decreasing dosage of prednisone over time. The left thoracic limb was the last to recover.
• Fifteen months after the initial diagnosis, owners described him as remaining fully recovered; therefore, the prednisone dosage was tapered to 0.125 mg/kg (0.06 mg/lb) every 24 hours.
• Additional gradual tapering with the ultimate goal of discontinuing prednisone administration was planned.

Ginman et al. JAVMA, 2009
References


