

### Happy 2012

We plan to publish this newsletter quarterly to inform you of novel testing and interesting local animal health findings

### Our mission

To safeguard animal and human health by providing excellence in testing companion, production, aquatic, zoological and wild animal species

### Personnel news

A warm welcome to Dr. Belton who joined our joint residency/PhD program this past August

Congratulations to Dr. Courtin for his success on the 2011 American College of Veterinary Pathologists certifying examination

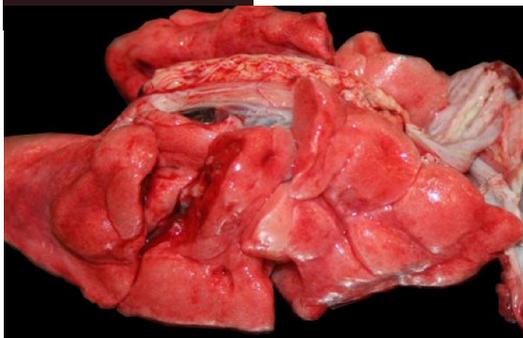


Fig. 1

## CASE REPORT: A HOUSEHOLD OUTBREAK OF FATAL FELINE HERPESVIRAL PNEUMONIA SUPERINFECTED BY MYCOPLASMA SP.

Case submitted by Dr. Alter from the Pets' Friend Animal Hospital in Guilford Ct.

A 7 year-old, castrated male Burmese cat succumbed after a history of acute, rapidly progressive dyspnea that was unresponsive to medical treatment including enrofloxacin, amoxicillin / clavulanic acid, fluids and oxygen. The patient was an indoor cat, from a house with 4 other cats. It had only occasional contact with another cat that became ill at the same time. The patient tested negative for FIV and FeLV and was last vaccinated in July 2004. The cat had been kept indoors since vaccination and there was no recent introduction of cats in the house or evident stressful event. The other sick cat had a less severe respiratory illness that responded to therapy.

Upon necropsy examination, the cat was in good body condition and had pale mucous membranes. The upper respiratory tract and trachea were filled with abundant heterogenous thick fluid mucus. All lobes of the lungs, except the caudal diaphragmatic lobes, were swollen and edematous (Fig 1).

On histologic examination there was a marked, acute, necrotizing tracheitis and bronchointerstitial pneumonia with epithelial syncytial cells and intranuclear viral inclusions. The inclusions stained with Feline Herpesvirus-1 (FHV-1) antibody (Fig 2). A moderate lymphoplasmacytic bronchitis was also present and bacterial culture yielded a pure culture of *Mycoplasma* sp.

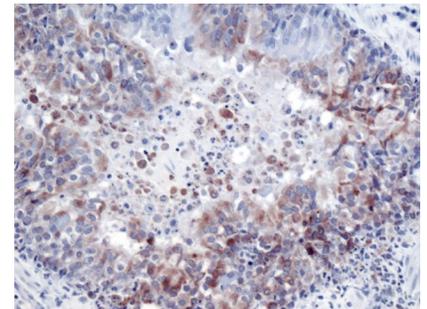


Fig 2

*Mycoplasma*, specifically *M. felis*, are frequently (21%) isolated in cases of feline pneumonias, and rarely in healthy cats. However the damage this infection would cause to the lungs has not been characterized except in kittens. In this case the necrosis caused by FHV-1 was evident while the eventual contribution of *mycoplasma* is more difficult to observe since these bacteria lack a bacterial cell wall and do not stain with classic procedures.

This small household outbreak is a reminder that FHV-1 is not just a pathogen of the upper respiratory tract of young cats and can be occasionally the cause of fatal pneumonia in healthy adult cats as well as a less common cause of ulcerative dermatitis, glossitis, and pancreatitis.<sup>3,4</sup> It underscores the importance of vaccination even in cats kept in indoor protective environments. FHV-1 virus can cause life long problems due to latency (in trigeminal ganglion, optic nerve, olfactory bulb and cornea).<sup>1,2</sup> Reactivation often occurs following natural stresses such as changes in housing, parturition and lactation, other illnesses, surgery and/ or immunosuppressive therapies. Cats in shelters are at particular risk due to the horizontal spread of infection or reactivation of latent infections.<sup>1,2,3</sup> Interestingly, none of these events were found to be associated with this outbreak.

This outbreak is also a reminder of the high prevalence of *mycoplasma* in pneumonias of cats thus, influencing the choice of antibiotics used as treatments.

1. Caswell JL, Williams KJ: Respiratory system. In: Jubb, Kennedy, and Palmer's Pathology of domestic animals, ed. Maxie MG, 5th ed., vol 2, pp. 648-653. Elsevier Saunders, Philadelphia, PA, 2007.

- Chvala-Mannsverger S, Bago Z, Weissenbock H: Occurrence, morphological characterization and antigen localization of felid herpesvirus-induced pneumonia in cats: a retrospective study (2000-2006). *J Comp Path* 141:163-169, 2009.
- Gaskell RM, Dawson S, Radford A: Feline respiratory disease & Mycoplasmal diseases. In: *Infectious diseases of the dog and cat*, ed. Greene CE, 3rd ed. Elsevier Saunders, St Louis, MO, 2006.
- Suchy A, Bauder B, Gelbmann W et al: Diagnosis of feline herpesvirus infection by immunohistochemistry, polymerase chain reaction, and in situ hybridization. *J Vet Diagn Invest* 12:186-191, 2000.

## BIOPSY SERVICE

Our Board Certified Faculty Veterinary Pathologists offer reliable and timely biopsy diagnoses for both small and large animal species. Typical turn around time on biopsies is 3 working days, and we offer competitive prices and easy pre-paid shipping packaging. The relevant individualized comments we provide with our diagnoses, are extracted from sound published scientific studies and references are made available. As an example, a low grade (novel 2-tier classification, grade 2 in Patnaik classification) mast cell tumor (Fig. 3.) would be given a median survival time of 23 months<sup>1</sup>.

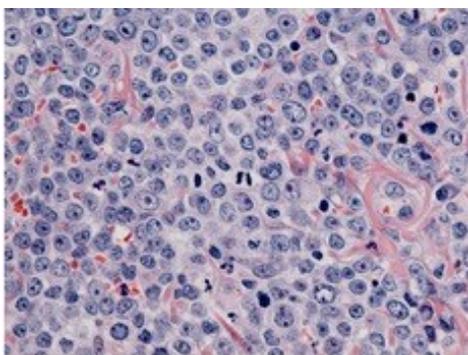


Fig. 3.

Beyond this service, our goal is to develop relationships with practicing clinicians in order to collect sufficient numbers of cases and follow up information on disease entities. When statistically significant information is collected we can together participate in the progress of veterinary knowledge through publications and meetings.

Our new clients get their first submission free! Contact us for prepaid shipping packages (860 486 3738).

- Kiupel et al, Proposal of a 2-Tier Histologic Grading System for Canine Cutaneous Mast Cell Tumors to More Accurately Predict Biological Behavior, *Vet Path.*, 2011, 48:147-155

## STATISTICS

### 2011 LARGE ANIMAL NECROPSY CASES AT THE CVMDL

The CVMDL has always been challenged to diagnose disease in a wide range of large animal species (Fig.4.). Most of our cases originate from Connecticut, with 13% from neighboring Massachusetts and Rhode Island. When these numbers were compared to the 2007 farm inventory, we found that 3% of equine or bovine premises submitted at least one case in 2011, whereas 7.5% of premises with small ruminants

### Number of premises that submitted at least one animal in 2011

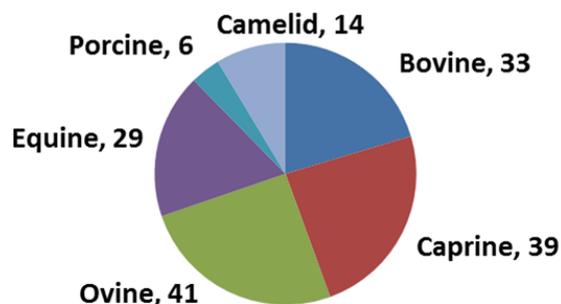


Fig. 4.

did. This significant difference does not mean that small ruminants are more susceptible to diseases than cattle or horses, but it reflects the active surveillance programs for scrapie that are still in place for sheep and goats. Owners participating in these programs get a partly subsidized post-mortem examination, with rabies and scrapie testing.

## FOCUS ON EQUINE HEALTH

Testing for most equine diseases prevalent in New England can be conducted at the CVMDL. The techniques we employ have demonstrated robust performance<sup>1</sup>. The western blot test is still the **gold standard** for diagnosis of Lyme disease<sup>2</sup>. Serology testing for Equine Protozoal Myelitis is in development.

Pathogen	Technique	Specimen
Equine Herpes Virus 1 (including neurologic strains)	PCR	Nasal swab or whole blood
Equine infectious anemia	Serology (Coggins and same day STAT Elisa)	Serum
West Nile Virus	Serology (IgM Elisa)	Serum
Equine anaplasmosis (ehrlichiosis)	Serology (Immunofluorescence)	Serum
Lyme disease	Serology (Elisa and Western Blot)	Serum
Gastrointestinal helminths	Quantitative fecal parasitology	Feces

Volume pricing is available on request. Specimen handling and fees are available at <http://cvmdl.uconn.edu/resources/feeschedule.php>.

1. Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, 2008, OIE World Organization for Animal Health

2. Visit our web site ([www.cvmdl.uconn.edu](http://www.cvmdl.uconn.edu)) for a discussion of Lyme disease western blot vs luminex bead test.