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vetNEWS



An option for inflammatory bowel disease in dogs OFFERS POTENTIAL FOR FEWER SIDE EFFECTS

By Kelly Diehl, DVM, MS, DACVIM

Ruby was an interesting dog. At only 3 years of age, she was well known on the local agility circuit—not because she was a grand champion, but because she was a pug. Yes, that’s right, a pug that excelled at agility. Around that time, Carolyn, Ruby’s owner, noted that Ruby was not performing at her usual level and that she had lost a little weight. After an extensive workup, Ruby was diagnosed with lymphocytic-plasmacytic enteritis. Carolyn knew that corticosteroids were the first line of therapy for this disease, but she was concerned about side effects. She wanted Ruby to be able to continue competing in the agility trials the dog loved. Would that be possible?

Inflammatory bowel disease (IBD) in dogs makes most veterinarians want to pull their hair out. Treatment choices are limited, and all have side effects. Many veterinarians end up throwing every known GI drug and diet at these patients in hopes that something works. The disease is equally frustrating for pet owners who want their dog to feel better.

Budesonide is a novel corticosteroid that was approved for treating humans with IBD in the late 1990s. The drug was designed to have fewer systemic side effects than other corticosteroids. Preliminary data suggested it might work in veterinary patients as well.

In 2001, a study proposal was submitted to Morris Animal Foundation. The study’s aim was to critically evaluate the effectiveness of budesonide as compared to standard prednisone therapy in the treatment of IBD in dogs. The study was funded, and the first patients were enrolled in the fall of that year.

Dogs newly diagnosed with IBD (via intestinal biopsy) were randomized into two groups. None of the dogs had received any therapy prior to study entrance, and both the owners and clinicians were blinded to treatment. All dogs had physical exams and routine blood work done upon entrance to the study and again at three and six weeks into treatment. In addition, clients filled out

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**Message from
David Haworth, DVM, PhD
President & CEO,
Morris Animal Foundation**

Dear Fellow Veterinarians and Researchers,

There is a lot going on at the Foundation. First, I am pleased to welcome Diane Brown, DVM, PhD, DACVP, as our new chief scientific officer. Dr. Brown brings a wealth of experience and talent, ranging from small animal and exotic clinical practice to clinical pathology in academic and biomedical research, and teaching. She will oversee our research grant selection process, lend her expertise to our veterinary communications team and drive our Golden Retriever Lifetime Study.

As the largest observational study in veterinary medical history, this project will follow 3,000 Golden Retrievers for the complete duration of their lives. If you are not yet registered, I urge you to sign up at www.CanineLifetimeHealth.org and join more than 900 veterinarians who currently have patients enrolled. Be a part of research history!

Morris Animal Foundation is also wrapping up funding approval of \$1 million in new wildlife and exotic pet medical research grants. Another \$2.5 million will be committed in June for veterinary research grants to help dogs and cats. We would not be able to fund the quantity and quality of research that we do without the generosity of the veterinary community. The Foundation is not affiliated with a corporate entity, and we rely on the support of our donors to fund unbiased, peer-reviewed research with the sole goal of improving the lives of animals.

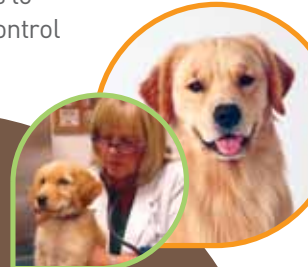
Thank you for all of your support and for taking good care of the animals we all love.

Researchers at Colorado State University contribute to knowledge OF THE DYNAMICS OF CANINE INFLUENZA VIRUS (CIV) INFECTION

By Kelly Diehl, DVM, MS, DACVIM

Since it was first discovered in Florida 10 years ago, CIV has spread rapidly across the country, posing a threat to the general dog population in the United States. Although our knowledge of CIV has markedly increased since 2004, there are still many unanswered questions. Drs. Heidi Pecoraro and Gabriele Landolt at CSU recently completed a Morris Animal Foundation-funded study with three goals. First, they studied the dynamics of CIV infection in dogs arriving and departing from shelters in six different geographic regions across the United States. Second, they evaluated the efficacy of the FLU DETECT Antigen Capture Test Strip in detecting CIV infection in these same dogs. Finally, they genetically analyzed the virus in hopes of advancing vaccine development.

The researchers learned that CIV was introduced from the community through dogs entering the shelter, rather than being perpetuated within the shelter. More importantly, they found that the virus may be starting to mutate into two distinct subgroups, which could negatively affect future vaccine development. An equally important finding was that the bedside test was not very good at detecting infection in dogs entering the shelter when compared with the highly accurate real-time polymerase chain reaction (PCR) test, which takes a day or two and is currently the gold standard for CIV diagnosis. These study results have enabled the researchers to make recommendations regarding control measures against CIV in shelters. ■



Morris Animal FOUNDATION
Golden Retriever Lifetime Study

Morris Animal Foundation recently launched a program to recognize veterinary clinics participating in the Golden Retriever Lifetime Study with three or more patients. The clinics listed received a plaque commending them for their contributions to this groundbreaking study.

- Alpine Hospital for Animals • Animal Clinic Northview Inc
- Arvada West Veterinary Hospital • Banfield Pet Hospital Centennial • Bernville Veterinary Clinic Pet Spa & Resort
- Bonnie Brae Veterinary Hospital • Broadview Animal Clinic
- Brookside Veterinary Hospital • Cambridge Animal Hospital
- Chuckanut Valley Veterinary Clinic • Columbia Animal Clinic
- Conejo Valley Veterinary Hospital • Creature Comforts Veterinary Hospital • El Camino Veterinary Hospital
- Gallatin Veterinary Hospital • Governor Animal Clinic Inc.

- Greens Fork Animal Hospital
- Hampden Family Pet Hospital
- Harbor Veterinary Hospital
- Hawthorne Animal Hospital
- Integrative Animal Health Center
- Limestone Companion Animal Hospital • Loving Hands Animal Clinic • McKenzie Animal Hospital, P.C.
- Monterey Animal Hospital • Natick Animal Clinic
- Prospect Veterinary Hospital • Shippensburg Animal Hospital • Suffield Veterinary Hospital
- Sugar Creek Animal Hospital • The Animal House
- The Pet Clinic, P.C. • Tiger Tails Animal Hospital
- Trooper Veterinary Hospital • VCA Alameda East Veterinary Hospital • VCA Central Expressway Animal Hospital • Wellington Veterinary Clinic, P.C. • Whitefish Animal Hospital

ask THE EXPERT

By Kelly Diehl, DVM, MS, DACVIM

Feline enteric coronaviruses are serious pathogens affecting domestic and wild felines. Morris Animal Foundation recently spoke with Dr. Melissa Kennedy, an internationally recognized expert in the biology of feline coronaviruses such as feline infectious peritonitis (FIP) in both domestic and wild felines, and a recipient of 5 Morris Animal Foundation grants about the biology of these intriguing viruses.

Morris: What do you tell rescue facilities, shelter workers and cattery owners about how to prevent FIP or address an outbreak?

Dr. Kennedy: The first thing that I tell cattery owners is to check their breeding records. We know there is a genetic predisposition to the disease, so finding a commonality in the lineage of affected cats is helpful. I often tell breeders to bring in “outliers,” cats that have no genetic link to their cattery. Promoting genetic diversity makes a big difference in disease incidence. In other group housing situations, like shelters, you can try to identify the cats that might be chronic shedders and get them adopted out to catless households or at least better isolate them from the rest of the cats. Luckily, the virus is easily eliminated by common disinfectants, so other than litter, there is no need to throw out items that can be disinfected.

Morris: Are there any effective treatment options?

Dr. Kennedy: There is nothing really effective out there. There are anecdotal reports of things working, such as interferon omega, isolation of kittens, and propentophylline, but they haven't really been demonstrated to work in controlled studies. What we know from work in both domestic and wild cats is that stressors play a big role in disease outbreaks. This is an area where we do have control and can make an impact.

Morris: What is the most common misconception about FIP?

Dr. Kennedy: I see too much reliance on serology and subsequent overinterpretation of the results. No cat should ever be euthanized on the basis of a single positive FIP test; this holds for all of the available tests, even if you find the virus in a cat.

Unfortunately, there is still no single test that is definitive for the disease. The diagnosis of FIP is like building a brick wall. Each diagnostic test is a brick in the wall, but you don't build a wall with one brick; you need many. You need the appropriate clinical signs and history, as well as various tests such as serology, viral isolation, immunophenotyping, histopathology and PCR that can help either exclude or rule in a diagnosis of FIP.

Morris: Can you tell us about any new developments in our understanding of the biology of feline coronaviruses?

Dr. Kennedy: I think about this as “What makes the evil twin evil?” Are there different strains of viruses with differing abilities to cause disease, or does a virus already present in a cat mutate to a virulent form, or are new strains arising? Given the wide spectrum of disease manifestations, the occasional highly infectious outbreaks we see, and the ability of these viruses to employ many different mutation strategies, the answer is probably “all of the above.”

Melissa A. Kennedy, DVM, PhD,
University of Tennessee



Melissa A. Kennedy, DVM, PhD, is an associate professor of virology and the director of clinical virology at the University of Tennessee's College of Veterinary Medicine. Dr. Kennedy also received her DVM and PhD from the University of Tennessee. Dr. Kennedy's research efforts are focused on infectious diseases of domestic and wild animals, including cheetahs, lions, turtles and giant anteaters.

Viruses are such clever little things, and the feline coronaviruses are adept at fooling, exploiting and evading the immune system. A lot of research is directed at identifying viral components. Researchers have identified non-structural proteins present in these guys that have to be doing something, and we suspect they may be involved in causing disease. A lot of research is directed at figuring out what these proteins do. These nonstructural proteins may be the players involved in the coronaviruses' takeover of macrophages and the subsequent disease development. ■

Continued from page 1

quality of life questionnaires at each time point. Data analysis revealed that budesonide was just as effective as prednisone in resolving clinical signs, as measured by the canine IBD activity index (CIBDAI). The researchers also noted that based on blood work results and owner responses, side effects trended lower in the dogs receiving budesonide.

Carolyn learned about the budesonide study from her family veterinarian and wondered if Ruby would be a good candidate to receive budesonide as a first line of therapy. Given the promising study results, Ruby was given budesonide, and within one month, Ruby had gained weight and was competing at her former level.

Ruby passed away last summer at 15 years of age, but thanks to the funding from Morris Animal Foundation, she was able to live her life to the fullest, engaged in an activity she loved. ■

FOR MORE INFORMATION:

- The results for the budesonide study were published in the November/December 2013 issue of the *Journal of Veterinary Internal Medicine*.
- The results for the CIV study are in press, but preliminary results were presented in abstract form at the 2011 ACVIM Forum and are available in the forum proceedings.
- Visit www.CanineLifetimeHealth.org for more information on the Golden Retriever Lifetime Study.
- Dr. Kennedy's published review of FIP can be found in the August 2009 issue of *Veterinary Medicine*.



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YOU KNOW?

When eagles, hawks, falcons and owls get sick or injured, they often remain stoic until they are severely ill or suddenly die.



Because these avian patients exhibit few behavioral changes, wildlife veterinarians struggle with early disease and injury detection. With Morris Animal Foundation funding, researchers from the University of California, Davis tackled this problem and identified inflammatory markers in blood samples associated with trauma and infections in raptors. This new diagnostic tool has the potential to help veterinarians provide earlier treatment and improve the health outcomes for injured or sick raptors. For wild raptors in rehabilitation facilities, this may mean more successful releases back into the wild. ■

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