CUHA Beat

March 2016

RefVet Portal allows immediate online access to patient records

Cornell University Hospital for Animals is proud to announce the launch of the newly improved **Cornell RefVet Portal**. CUHA's RefVet Portal gives referring veterinarians convenient and immediate online access to their patient's medical records, reports, and results. RefVet has been updated and redesigned to better suit your needs in the interim as we work on the larger website project.

New features include:

- Greater security with the ability to create and manage your own username and password
- Search for your cases by patient name, client first or last name, case number

- Filter by last admission date
- Quickly request a consult or ask a question regarding a mutual patient
- Expanded access to reports
- Save reports as pdfs

To get started using RefVet today go to https://secure.vet.cornell.edu/cuha_refvet/ and register your account.

***Note:**

- **If you were registered with the previous version of RefVet, you will need to re-register your account.**
- **The client must list you as their referring veterinarian for access to that individual patient's records.**

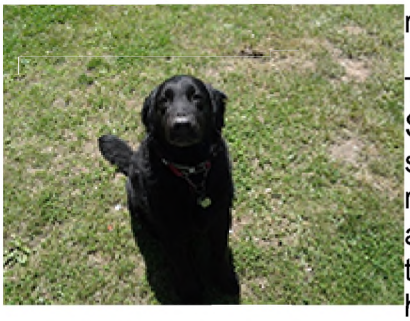
Please feel free to share RefVet with your colleagues and send your comments and feedback to vet-hosp@cornell.edu

March 2016

Case Study: canine patient with immune-mediated thrombocytopenia

Methos, a 9-year-old neutered male Labrador retriever mix, had been more lethargic and panting more frequently since around the end of May. "He's normally a very active dog," says owner Roxann Pressler, "but he had become really lethargic, and didn't want to eat." Pressler took him to his primary care veterinarian, Home Veterinary Care in Elmira, NY, who documented a severe thrombocytopenia anda mild regenerative anemia on a complete blood count. He also tested weakly positive for Anaplasma *phagocytophilum* on a 4Dx. He was started on oral prednisolone and antibiotics but failed to improve, prompting the local veterinarian to recommend Methos be seen at CUHA for further treatment and evaluation.

At the CUHA ER, Methos presented with melena, hematochezia, and lethargy.The only abnormal findings on physical examination were petechia (pinpoint bleeding) on his pale pink gums, areas of bruising (ecchymoses) on his ventral abdomen, and black tarry stool on the thermometer. Quick assessment tests revealed a moderate anemia and severe hypoproteinemia. Coagulation testing revealed no abnormalities. A complete blood count submitted at this time revealed a severely low platelet count of 11 thou/uL. Thoracic radiographs and abdominal ultrasound were unremarkable. Main differentials considered at this time included immune-mediated thrombocytopenia (ITP) or rickettsial infection.



The following day, Methos was transferred to Cornell's Internal Medicine Service, where Methos' clinical team, including Dr. John Lucy and DVM student Stephanie Seller, diagnosed him with ITP, while also treating the rickettsial infection.. Methos had become hypovolemic and severely anemic overnight, so they administered a packed red blood cell transfusion and fluid bolus to boost his red blood cell count and improve his circulation. Vincristine treatment was initiated as a rescue drug for his thrombocytopenia, along with immunomodulatory medications (steroids and mycophenolate), doxycycline, and gastroprotecants.

After several days, Methos' platelet count had not improved and he had new signs of bleeding including retinal hemorrhages. After an additional red blood cell transfusion, his clinical team decided to use a second rescue drug, human intravenous immunoglobulins (hIVIG). He had no adverse effects following treatment, and within 24 hours his platelet counts were normalizing. He was discharged to his owner, with frequent follow-ups as his immunomodulatory drugs were slowly tapered.

While it remains unknown why Methos developed antibodies against his platelets, he is now doing well, with regular monitoring by his owners. "When we first brought him to Cornell, the doctors said he was a couple days away from passing," says Pressler. "Now, he's completely bounced back and doing great. I give all the doctors involved a lot of credit."

March 2016

Dr. Divers talks Theiler's disease and other liver conditions at AAEP convention

Dr. Thomas Divers, Steffen Professor of veterinary medicine and co-section chief of large animal medicine, recently provided the keynote Frank J. Milne State-of-the-Art lecture at the 2015 American Association of Equine Practitioner's 61st Annual Convention in Las Vegas. His presentation, "The Equine Liver in health and disease" gave a thorough and comprehensive overview of the organ, its form, function, and pathology. The presentation was augmented with beautifully-detailed medical drawings done by Dr. Lauren Sawchyn '09 and, the lecture was dedicated to the memory of Divers' friend and colleague, Dr. Doug Byars, a respected equine clinician in Lexington, Kentucky.

One of the many diseases Divers discussed was Theiler's disease, a frequently fatal hepatic disease in adult horses with acute onset of clinical signs and death occurring 1-3 days later. Frustratingly, the true cause of the disease had remained a mystery for nearly 100 years. "It's the most baffling equine liver disease of the last century," Divers says in his lecture. He describes the first documented case in South Africa, November of 1914, when a condition of "acute liver atrophy" was recognized and reported for the first time in horses that were being used in research on African horse sickness by Dr. Arnold Theiler. Twenty-seven horses came down with acute liver failure after being inoculated with anti-serum against African horse sickness virus. The disease was also observed in four horses that never received any inoculations, indicating that Theiler's disease could be both infectious and contagious.

Today, Theiler's disease happens around the world and in the US every year, frequently manifesting as an acute hepatocellular necrosis with rapid progression to either death or in some cases complete recovery. In his talk, Divers describes his collaborative work with his colleague, James Law Professor of Comparative Medicine *emeritus*, Dr. Bud Tennant, in studying the condition. He lists the three types of cases they've encountered:

1) Horses that have contracted Theiler's from blood products (serum or plasma) administered 6-10 weeks earlier

2) Horses that have had contact with horses that had recently received blood products

3) Horses (often broodmares on pasture) with no known recent blood product administration, often in the autumn season.

In the lecture, Divers describes the clinical signs (jaundice, ataxia, head pressing, seizures); laboratory findings (marked elevations in hepatocellular enzymes, SDH, GLDH); and available treatments for both liver failure and the accompanying hepatic encephalopathy.

While the exact cause of the condition is still unclear, its progression in horses with signs of liver failure is anything but. Divers sums up Theiler's as an 'all-or-nothing' disease. "My experience is that horses with Theiler's disease are usually either dead or 'on their road to recovery' within three to five days," he says.

For more than 30 years, Divers and Tennant have discussed the possibility that the disease was caused by an unknown hepatitis virus, and that variable severity of disease may develop 4-10 weeks after infection due to significant antibody development and attempts to clear a virus from the liver.

The two professors, Collaborating with Novartis Human Heath Hepatitis C Research Center; Columbia and Rockefeller Universities; the Cornell Diagnostic Laboratory, and colleagues around the country, have discovered not one, but two previouslyunidentified equine viruses that are associated with the disease. To read in detail about Theiler's disease and many other equine liver diseases , their causes, signs, symptoms, and treatments, read Diver's full lecture here.

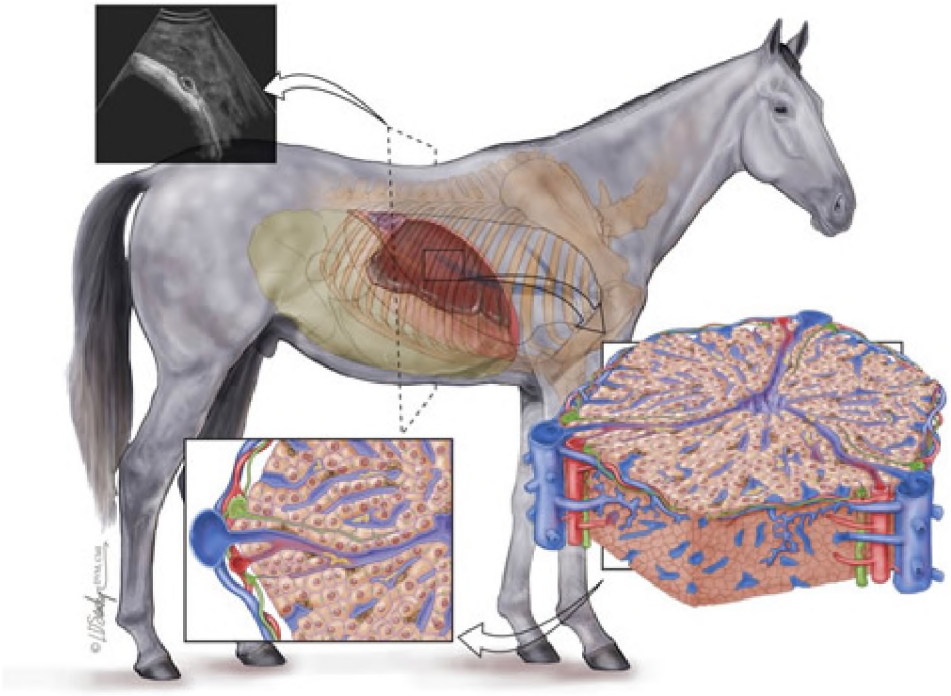


Image credit: Dr. Lauren Sawchyn, Sawchyn Medical Illustration, LLC

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Latest clinical trials at CUHA

CUHA and College rely on the referral community for the successes of our clinical projects. We encourage referring veterinarians to look over the current clinical trials below to see if any of their patients may qualify; when studies are completed, we encourage patients to return to their referring veterinarians for continued care.

- **Dr. Robert Goggs is currently recruiting dogs for who suffer trauma**. Clinicians need better markers of prognosis for injured dogs and a potential option is the measurement of blood concentrations of cell-free DNA. Goggs has previously shown that cell-free DNA is increased in the blood of dogs after trauma. He is investigating if higher blood concentrations are associated with complications and outcome. The study aims to determine if blood cell-free DNA can be

accurately measured at the bedside and to determine if this biomarker is prognostic. Any dog admitted to the hospital with moderate to severe trauma is eligible and the study will pay for a complete blood count and biochemistry panel, worth over $100.

- Dr. Goggs, along with Dr. Erica Behling-Kelly, is recruiting **all dogs with primary immune-mediated hemolytic anemia (IMHA).** Their study examines a possible future treatment for dogs with (IMHA). In an analogous human disease, an inhibitor of the complement system has revolutionized therapy and saved lives. Goggs hopes to eventually treat dogs in a similar way. To achieve that, he and Behling-Kelly are testing inhibitors of canine complement. They also need to be able to identify which dogs with IMHA have high levels of complement activation. They are testing the levels of complement activation in dogs with IMHA and will also determine if blood concentrations of these complement proteins are associated with outcome. They are recruiting all dogs with primary IMHA and all complement testing will be performed free of charge.

- Dr. John Loftus and Dr. Joe Wakshlag are **recruiting dogs with auto immune diseases**. Their research examines vitamin D levels in dogs with auto immune diseases. Vitamin D not only plays a role in regulating calcium in the body, but also promotes a healthy immune system. Low levels have been associated with autoimmune disease in people, however it is unknown if this occurs in dogs and what role that may play in promoting autoimmunity. This study seeks to determine blood levels of vitamin D in dogs with immune mediated disease, and the levels will then be compared to patient outcomes to evaluate relationship to prognosis. The cost of vitamin D level testing is covered by the study and patients enrolled may be contacted for up to two years.

For information on these and other clinical trials, visit our website at vet.cornell.edu/clinicaltrials or email vet-research@cornell.edu.

March 2016

Case study: canine cardiac ablation > RefVet Portal > Companion animal case study > Theiler's disease > clinical trials at CUHA > NYSVC2016

Mark your calendar for the New York State Veterinary Conference

The 3rd Annual Spring New York State Veterinary Conference, co-hosted by the New York State Veterinary Medical Society and Cornell University College of Veterinary Medicine, is fast-approaching. Held May 13-15th at the Hilton Westchester in Rye Brook, NY, this year's event will feature over 50 companion animal sessions for the whole veterinary team.

Speaker topics will range from everyday technology in your practice to end-of-life care. All-new master classes, led by

Dr. Rance Sellon, will allow participants to explore real cases with a small group of colleagues. Additionally, over fifty vendors will be showcasing new products and services, and special events will include a Friday evening welcome reception, as well as the annual Purple Party and silent auction. Register at **www.vet.cornell.edu/nysvc**

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RefVet Portal > Companion animal case study > Theiler's disease > clinical trials at CUHA > NYSVC2016 > New services at AHDC

Animal Health Diagnostic Center provides latest info on canine flu, cutting-edge testing

Fighting the flu: Cornell and the Animal Health Diagnostic Center (AHDC) can help you stay at the forefront of the fight against canine influenza. The AHDC provides a serologic assay that detects antibodies to the newly identified H3N2 influenza virus, and up-to-date surveillance data on where the latest cases of H3N2 have occurred. Stay up-to-date, and keep your patients protected. Visit the AHDC's canine influenza info page for more details.

Helping understand equine hepatitis: There are four equine viruses potentially linked to liver disease that currently prove difficult to establish in an in vitro culture system. The AHDC is actively working to validate PCR tests for detecting these viruses. They provide testing services to practitioners who wish to explore the clinical relevance of these agents. Visit the AHDC's site on the development of the equine hepatitis virus test to learn more.

Quicker testing for clients: The AHDC has launched OpenArray®, a next-generation molecular testing platform that enables streamlined and expanded syndromic PCR panels, while keeping costs down. Additionally, turnaround for additional requested tests may be much faster. Click here to learn more about the new functionality.