



AVHTM Newsletter

Special Events of Interest:

- American College of Veterinary Emergency and Critical Care – Veterinary Trauma and Critical Care Conference: April 3-5, 2020 (Las Vegas, NV)
- European College of Veterinary Emergency and Critical Care (ECVECC) Congress: June 4-6, 2020 (Ghent, Belgium)
- American College of Veterinary Internal Medicine (ACVIM) Forum: June 11-13, 2020 (Baltimore, MD)
- Congress of the European College of Veterinary Internal Medicine – Companion Animals (ECVIM-CA): September 3-5, 2020 (Barcelona, Spain)
- International Veterinary Emergency and Critical Care Society (IVECCS) Meeting: September 16-20, 2020 (Saint Louis, MO)

A 501(c)(3) nonprofit professional association

Volume 3, Issue 3

AVHTM Events at IVECCS 2019

During IVECCS last month in Washington, DC, the AVHTM had a booth in the exhibit hall featuring a new banner and brochures.

Many people stopped by to learn more about the organization and to register as members. The AVHTM also hosted VECCSpert lectures this year on the extracorporeal therapy topics “IMHA – Classic and Novel Approaches to Management” and “Toxicities – Classic and Novel Approaches to Management” (both co-



presented by Alessio Vigani & Alex Lynch), as well as “Platelet Transfusions” (presented by Thomas Edwards). Specialist lectures featured by AVHTM this year included “Novel Transfusion Products” (presented by Thomas Edwards), as well as “Total Plasma Exchange in

Human Medicine”, “Biomarkers of Venous and Arterial Thrombosis”, and “Perioperative Management of Drugs that Affect Coagulation” (all presented by Gow Arepally, MD). The AVHTM Board is currently hard at work planning sessions for 2020, so if you have any suggestions for topics or speakers, please email Dr. Sarah Musulin (semusuli@ncsu.edu).

AVHTM Updates

Our group is continuing to grow – we have more than 280 members!

Please note that AVHTM membership fees will be increasing as of November 1st, 2019. Here is a breakdown of the new fees: \$45 for veterinarians, residents, technicians, in-

terns, and other people in the blood bank industry; \$10 for veterinary or technician students (proof of student status may be requested). Also, the AVHTM has decided to sponsor a research grant starting in 2020. As such, you will be asked when you renew your member-

ship if you wish to contribute any funds towards the grant. We encourage people to donate any amount they choose, which will be used towards a grant for research being completed in the field of hematology or transfusion medicine. Stay tuned for more information!

(continued on page 4)

Don't Drop the Mik! (Actively Seeking Mik-tested cats)

Author: Dr. Marie Binvel

The only blood system currently defined in the cat is the AB blood group system, consisting of the A, B, and AB blood types. This system is characterized by the well-recognized occurrence of natural anti-A and anti-B alloantibodies. The clinical relevance of these alloantibodies manifests as severe acute hemolytic transfusion reactions in type B cats receiving type A blood, as well as neonatal isoerythrolysis, whereby shortened survival of transfused RBCs in type A cats receiving type B blood is reported. Therefore, feline blood donors and recipients should always be blood typed before a first transfusion.

In 2007, a new feline erythrocyte antigen named Mik was recognized in a group of domestic short-haired cats after a type A-matched RBC transfusion resulted in an acute hemolytic reaction in a Mik-negative cat receiving blood from a Mik-positive donor. This study raised the question of the existence and the clinical relevance of other blood antigens independent of the AB system in cats. Since 2007, few studies on the existence of these antigens have been published.



In 2018, McClosky et al. documented major cross match incompatibilities in 14.9% of transfusion-naïve cats that were typed according to the AB system. In another study, Sylvane et al. reported similar results with incompatible major cross matches in 19% of transfusion naïve cats. Our prospective study focuses on feline blood antigens independent of the AB system. Our objectives are to determine the prevalence of feline naturally occurring non-AB

alloantibodies detectable by gel column cross match, but also to identify these new antigens. We include transfusion-naïve type A cats on which we realize cross matches by series of 6 individuals. Like the two previous studies, our preliminary results demonstrated the presence of natural alloantibodies in 13.8% of cats. Thanks to additional major and minor cross matches undertaken between seven cats with natural alloantibodies, four non-AB erythrocyte antigens have been identified. We would like to compare these new antigens with the Mik antigen to prove that one of them is the Mik antigen.

The Mik reagent, which is basically plasma/serum containing antibodies directed against the Mik antigen, is unfortunately no longer available. An alternative solution to this lack of reagent would be to find cats with a known Mik phenotype. We are therefore actively searching for cats with a known Mik phenotype (Mik-positive AND Mik-negative cats are of interest). Finding cats of known Mik status would keep this knowledge alive and maybe rehabilitate our capacity to test cats for this antigen.

If you have a cat or know of a cat that has previously been confirmed Mik-positive or Mik-negative, please contact Dr. Marie Binvel (marie.binvel@umontreal.ca) or Dr. Marie-Claude Blais (mc.blais@umontreal.ca) at the University of Montreal.

Recently Published Articles

The articles listed below are those published **May - September 2019** in the field of veterinary transfusion medicine, blood banking, and hemostasis:

- Dilrukshi NH, et al. Hematological parameters and morphological characteristics of blood cells in turtle and tortoise species within captivity in Sri Lanka. *J Adv Vet Anim Res*. 2019 Jun 6;6(3):266-271. [FREE ARTICLE]
- Mansi ET, et al. Retrospective evaluation of the indications, safety and effects of fresh frozen plasma transfusions in 36 cats (2014-2018). *J Feline Med Surg*. 2019 Oct 2:1098612X19876728.
- Lin TL, et al. Establishment of feline in-house reference intervals for hematologic and biochemical parameters and potential age-related differences. *Pol J Vet Sci*. 2019 Sep;22(3):599-608.
- LeVine DN, Brooks MB. Immune thrombocytopenia (ITP): Pathophysiology update and diagnostic dilemmas. *Vet Clin Pathol*. 2019 Sep 19. doi: 10.1111/vcp.12774.
- Martinez C, et al. Evaluation of red blood cell distribution width in dogs with various illnesses. *Can Vet J*. 2019 Sep;60(9):964-971.
- Fish EJ, et al. Retrospective evaluation of serum/plasma iron, red blood cell distribution width, and nucleated red blood cells in dogs with acute trauma (2009-2015): 129 cases. *J Vet Emerg Crit Care*. 2019 Sep;29(5):521-527.
- Cooley-Lock KM, et al. Assessment of erythrocyte damage and in-line pressure changes associated with simulated transfusion of canine blood through microaggregate filters. *Am J Vet Res*. 2019 Sep;80(9):852-861.
- Foote ML, et al. Coagulation factor activity in units of leukoreduced and nonleukoreduced canine fresh-frozen plasma. *Am J Vet Res*. 2019 Sep;80(9):846-851.
- Kicera-Temple K, et al. Treatment of a massive naproxen overdose with therapeutic plasma exchange in a dog. *Clin Case Rep*. 2019 Jun 28;7(8):1529-1533.
- Wang L, Murison PJ. Attitudes of dog owners in Edinburgh towards canine blood donation. *Vet Rec*. 2019 Aug 19. pii: vetrec-2018-105281.
- Heffner GG, et al. Successful management of acute bilirubin encephalopathy in a dog with immune-mediated hemolytic anemia using therapeutic plasma exchange. *J Vet Emerg Crit Care*. 2019 Sep;29(5):549-557.
- McBride D, et al. Primary hemostatic function in dogs with acute kidney injury. *J Vet Intern Med*. 2019 Sep;33(5):2029-2036. [FREE ARTICLE]
- Kämpf S, et al. Aging Markers in Equine Red Blood Cells. *Front Physiol*. 2019 Jul 17;10:893. doi: 10.3389/fphys.2019.00893. [FREE ARTICLE]
- Guidetti M, et al. Alloimmunization of a dog erythrocyte antigen 1- dog transfused with weakly dog erythrocyte antigen 1+ blood. *J Vet Intern Med*. 2019 Sep;33(5):2037-2045. [FREE ARTICLE]
- Langhorn R, et al. Thromboelastography-guided transfusion in dogs with hypocoagulable disorders: a case series. *Acta Vet Scand*. 2019 Jul 22;61(1):35. doi: 10.1186/s13028-019-0469-x. [FREE ARTICLE]
- Dondi F, et al. Heinz body-related interference with leukocyte and erythrocyte variables obtained by an automated hematology analyzer in cats. *J Vet Diagn Invest*. 2019 Sep;31(5):704-713.
- Donnelly KA, et al. Advancing transfusion medicine in sea turtles: optimization of a cross-matching protocol. *J Zoo Wildl Med*. 2019 Jun 13;50(2):315-321.
- Wilder A, Humm K. Pet owners' awareness of animal blood banks and their motivations towards animal blood donation. *Vet Rec*. 2019 Jun 27. pii: vetrec-2018-105139. doi: 10.1136/vr.105139.
- Hon M, et al. Cryopreservation of feline red blood cells in liquid nitrogen using glycerol and hydroxyethyl starch. *J Feline Med Surg*. 2019 Jun 24:1098612X19850932. doi: 10.1177/1098612X19850932.
- Ghosal RDK, Bos A. Successful management of catastrophic peripheral vascular hemorrhage using massive autotransfusion and damage control surgery in a dog. *J Vet Emerg Crit Care*. 2019 Jul;29(4):439-443.
- Nair R, et al. Hemolytic anemia, spherocytosis, and thrombocytopenia associated with honey bee envenomation in a dog. *Vet Clin Pathol*. 2019 Jun 22. doi: 10.1111/vcp.12747.
- Bosch Lozano L, et al. A pilot study evaluating the effects of prestorage leukoreduction on markers of inflammation in critically ill dogs receiving a blood transfusion. *J Vet Emerg Crit Care*. 2019 Jul;29(4):385-390.
- Gant P, et al. Retrospective evaluation of factors influencing transfusion requirements and outcome in cats with pelvic injury (2009-2014): 122 cases. *J Vet Emerg Crit Care*. 2019 Jul;29(4):407-412.
- Edwards TH, et al. In Vitro Compatibility of Canine and Human Blood: A Pilot Study. *J Spec Oper Med*. 2019 Summer;19(2):95-99.
- Donahue ME, Fernandez AL. Effects of storage over a 36-month period on coagulation factors in a canine plasma product obtained by use of plasmapheresis. *Am J Vet Res*. 2019 Jun;80(6):578-585.
- Francey T, Schweighauser A. Membrane-based therapeutic plasma exchange in dogs: Prescription, anticoagulation, and metabolic response. *J Vet Intern Med*. 2019 Jul;33(4):1635-1645. [FREE ARTICLE]
- Sowry S, et al. Extracellular vesicle concentration and procoagulant activity of canine haemoperitoneum fluid and packed red blood cells. *J Small Anim Pract*. 2019 Jul;60(7):423-429.
- Kehl A, et al. CMAH genotyping survey for blood types A, B and C (AB) in purpose-bred cats. *Anim Genet*. 2019 Jun;50(3):303-306.
- Cole LP, Humm K. Twelve autologous blood transfusions in eight cats with haemoperitoneum. *J Feline Med Surg*. 2019 Jun;21(6):481-487.



AVHTM

PO Box 1234
Sahuarita AZ 85629-1004

Phone: (844) 430-4300

Email: info@avhtm.org

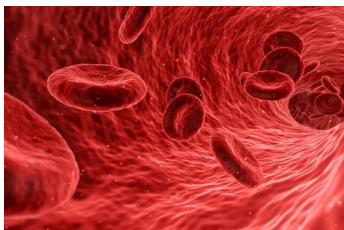
AVHTM is an IRS approved 501(c)(3) nonprofit professional association composed of veterinarians, hematologists, academics, veterinary technicians, blood bankers, and interested public who desire to further scientific advances in transfusion medicine and veterinary hematology.

We engage in veterinary research, promote industry standards, develop guidelines for canine and feline blood collection and processing, and publish scientific research in peer-reviewed publications.

Visit us online to learn more about AVHTM!

We're on the web!

www.avhtm.org



AVHTM Updates (continued from page 1)

AVHTM continues to be an active group on social media and within our private email group. Recently, our email group has shared discussions on several topics including equipment preferences (freezers, thawers, platelet agitators), xenotransfusion in ferrets, culturing of blood products, weight of PRBCs and plasma products, raw food diets fed to donors, and use of blood products for terminally ill patients. We encourage AVHTM members to continue using this fantastic resource by emailing questions or sharing ongoing research endeavors with the group. Please note that access to the Google Group is only for those with membership fees in good standing. Previous discussions can be accessed online signing into your Google account at <https://groups.google.com/>.

We also have more than 870 followers on Facebook and have good engagement with our posts in terms of people liking or sharing them. Please 'like' or 'follow' us on Facebook (www.facebook.com/AVHTM/) and feel welcome to post links, images, and questions pertinent to veterinary hematology and transfusion medicine.

MEMBERSHIP BENEFITS

As an AVHTM member, you are eligible for the following:

- Reduced IVECCS registration fee (veterinarians save \$100 and technicians save \$25!)
- Access the a "Members Only" section of the AVHTM website, which includes access to:
 - o Other AVHTM profiles
 - o PubMed articles
 - o Forum for posting questions, cases, and research
- Ability to ask and answer questions posted to the AVHTM members-only email group.

Please feel welcome to share this newsletter with interested colleagues and encourage them to become an AVHTM member!