



AVHTM Newsletter

Special Events of Interest:

- International Veterinary Emergency and Critical Care Society (IVECCS) Meeting: September 6-10, 2019 (Washington, DC)
- Congress of the European College of Veterinary Internal Medicine – Companion Animals (ECVIM-CA): September 19-21, 2019 (Milano, Italy)

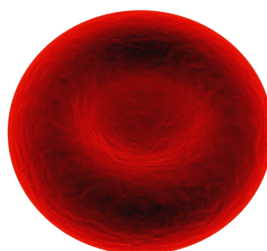
A 501(c)(3) nonprofit professional association

Volume 3, Issue 2

AVHTM at ACVIM

The ACVIM Forum took place June 5-8, 2019 in Phoenix, AZ. The conference had several events in conjunction with AVHTM. On June 6th, there was an AVHTM-sponsored track of lectures including "DIC: Concepts, Challenges, and Conundrums", "Treatment of DIC: An MD Perspective", "TPE as a First-Line Therapy for IMHA", and "Canine Blood Typing 101". The hematology abstract presentations

took place on the morning of Friday June 7th and this year AVHTM awarded Dr.



Melissa Gettinger \$500 and a copy of the *Manual of Veterinary Transfusion Medicine and Blood Banking* textbook for her ab-

stract presentation "Retrospective Evaluation of Splenectomy in the Treatment of Canine Primary Immune Thrombocytopenia". Then on the evening of June 7th, the AVHTM hosted their Special Interest Group Meeting and Dinner that included a review of the recently published CURATIVE guidelines. Thank you to everyone who attended and participated!

AVHTM Updates

Our group is continuing to grow – we have more than 230 members! Recently, our email group has shared discussions on several topics including the use of pumps to deliver blood, what to do with underfilled blood bags, recommendations

for plasma thawing devices, canine donor screening, and canine cross-matching. 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/>.

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1 Column + 1 Hour = 1 Life

By: AimaLojic Animal Health

The science of extracorporeal therapy is experiencing an evolution: imagine being able to quickly and safely remove a toxin from your patients in about an hour with minimal clinic resources.

Activated charcoal is a versatile and potent adsorbent and is used in numerous medicinal devices and formulations. This includes hemoperfusion, food supplements for oral adsorption, and wound dressings. In both human and veterinary medicine, synthetic carbon adsorbents are being developed to address the current limitations of charcoal, dialysis and TPE.

Traditionally, activated charcoal adsorbents are characterized by non-specific, broad-spectrum removal of many substances using inherent microporosity. Their high surface area and porosity allow rapid kinetics and high capacities of removal. Demonstrating this detoxifying effect of charcoal on humans, in the mid- 19th century, French chemist Pierre-Fleurus Touery ingested 10 times a lethal dose of strychnine and 15 g of activated charcoal in front of the French Academy of Medicine. Dr. Touery walked away from the meeting unharmed. In the wild, animals seek out and consume charcoal for self-treatment, presumably to ease gastrointestinal effects from ingesting a disagreeable substance.^{1,2}

Hemocompatibility, adsorbate specificity, and poor removal of protein-bound molecules are some of the significant challenges associated with organic-based charcoal adsorbents. The surface of these carbons has demonstrated negative effects on platelets and can release fine particulates. Coating with collodion, dextran, albumin, cellophane and other compatible membranes can improve hemocompatibility, however typically having a deleterious

effect on the kinetics of adsorption and overall removal capacity. In addition to posing a potential of immediate physical damage to the cell membrane, chemical reactions between membrane constituents and the surface are possible. This cell-wall interaction might facilitate other chemical reactions between plasma solutes and the surface, including adsorption and denaturation of plasma proteins. These reactions may, in turn, trigger reactions among the cells, particularly platelets, leading to thrombosis.³

AimaLojic Animal Health, a division of ImmutriX Therapeutics, will soon make an innovative treatment available for intoxications in companion animals. The Lojic hemoperfusion V100-ATLAS column utilizes a synthetic, tailored carbon that removes small molecular toxins directly from whole

blood in about an hour requiring fewer clinic resources with an improved safety profile. Because the adsorbent is a synthetic, pure carbon, the surface does not need to be coated—a limitation of previous charcoal adsorbents as the coating effectively blocks off most of the porosity, slowing removal and reducing capacity.

ImmutriX Therapeutics, founded on its ability to tailor synthetic carbon adsorbents, is in late-stage development of an innovative hemoperfusion column which will provide rapid kinetics of removal, high capacity, and minimal damage to blood components. For more information, contact info@aimalojic.com.

References

1. Cowgill L. Clinical Application of Extracorporeal Therapy (Hemodialysis and Hemoperfusion) in Dogs and Cats, World Small Animal Veterinary Association World Congress Proceedings, 2011.
2. Struhsaker T, Cooney D, Siex K. Charcoal consumption by Zanzibar Red Colobus Monkeys: its function and its ecological and demographic consequences. *Int J Primatol* 1997;18(1):61-72.
3. Sutura S. Flow-induced trauma to blood cells. *Circ Res* 1977;41(1):2-8.



Recently Published Articles

The articles listed below are those published **January – April 2019** in the field of veterinary transfusion medicine, blood banking, and hemostasis:

- Casenave P, et al. **Modified stall-side crossmatch for transfusions in horses**. J Vet Intern Med. 2019 May 18. doi: 10.1111/jvim.15519. [Epub ahead of print] [FREE TEXT ONLINE]
- Nnamdi OH, et al. **Stability of hematological parameters of canine blood samples stored with citrate phosphate dextrose adenine-1 anticoagulated plastic vacutainers**. Vet World. 2019;12(3):449-453. doi: 10.14202/vetworld.2019.449-453. Epub 2019 Mar 25. [FREE TEXT ONLINE]
- Sowry S, et al. **Extracellular vesicle concentration and procoagulant activity of canine haemoperitoneum fluid and packed red blood cells**. J Small Anim Pract. 2019 Apr 26. doi: 10.1111/jsap.13002. [Epub ahead of print]
- Culler CA, et al. **Clinical use of cryopoor plasma continuous rate infusion in critically ill, hypoalbuminemic dogs**. J Vet Emerg Crit Care (San Antonio). 2019 May;29(3):314-320. doi: 10.1111/vec.12834.
- Kwirant L, et al. **Cooling and Cryopreservation of Equine Platelet-Rich Plasma with Dimethyl Sulfoxide and Trehalose**. J Equine Vet Sci. 2019 Jan;72:112-116. doi: 10.1016/j.jevs.2018.10.009.
- Bozorgmanesh R, et al. **Equine platelet concentrate preparation and validation**. J Vet Intern Med. 2019 May;33(3):1500-1506. doi: 10.1111/jvim.15472. [FREE TEXT ONLINE]
- Zarembo R, et al. **Transfusion medicine: an update on antigens, antibodies and serologic testing in dogs and cats**. Top Companion Anim Med. 2019 Mar;34:36-46. doi: 10.1053/j.tcam.2018.12.005.
- Arroyo LG, et al. **Plasma transfusions in horses with typhlocolitis/colitis**. Can Vet J. 2019 Feb;60(2):193-196.
- Rosenthal MG and Labato MA. **Use of therapeutic plasma exchange to treat nonsteroidal anti-inflammatory drug overdose in dogs**. J Vet Intern Med. 2019 Mar;33(2):596-602. doi: 10.1111/jvim.15420. [FREE TEXT ONLINE]
- Drinkhouse M, et al. **Calculation of the required transfusion volume in anaemic Holstein calves**. J Vet Intern Med. 2019 Jan;33(1):124-131. doi: 10.1111/jvim.15376. [FREE TEXT ONLINE]
- Yang H, et al. **Effects of irradiation and leukoreduction on down-regulation of CXCL-8 and storage lesion in stored canine whole blood**. J Vet Sci. 2019 Jan 31;20(1):72-78. doi: 10.4142/jvs.2019.20.1.72. [FREE TEXT ONLINE]
- Stanley E, et al. **Relationship between cobalamin and folate deficiencies and anemia in dogs**. J Vet Intern Med. 2019 Jan;33(1):106-113. doi: 10.1111/jvim.15348. [FREE TEXT ONLINE]
- Blaine KP, et al. **Impact of different standard red blood cell storage temperatures on human and canine RBC hemolysis and chromium survival**. Transfusion. 2019 Jan;59(1):347-358. doi: 10.1111/trf.14997.
- Reader RC, et al. **Comparison of two intramuscular sedation protocols on sedation, recovery and ease of venipuncture for cats undergoing blood donation**. J Feline Med Surg. 2019 Feb;21(2):95-102. doi: 10.1177/1098612X18760434.



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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.

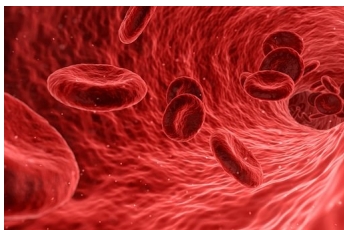
Visit us online to learn more about AVHTM!

AVHTM Updates (continued from page 1)

We also have more than 800 followers on Facebook and have good engagement with our posts in terms of people liking or sharing them. The three most engaging posts from the last few months are "American College of Veterinary Emergency Critical Care (ACVECC) releases guidelines called Consensus on the Rational Use of Antithrombotics in Veterinary Critical Care (CURATIVE) available as open-access articles online (posted May March 11, 2019), "HemoSolutions BloodBank is offering an "Introduction to Volunteer Blood Banking" boot camp on May 3-4, 2019 in Colorado Springs! Check it out and see if veterinarians or technicians / nurses on your team want to attend!" (posted April 10, 2019), and "American College of Veterinary Internal Medicine (ACVIM) releases a consensus statement on the diagnosis of immune-mediated hemolytic anemia (IMHA) in dogs (open-access / free online) (posted May 1, 2019). Please 'like' or 'follow' us on Facebook and feel welcome to post links, images, and questions pertinent to veterinary hematology and transfusion medicine.

We're on the web!

www.avhtm.org



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!