Happy Fall to everyone! I know as the cooler weather flows in, the dogs and I are all much happier. This has been such a busy year for the Collie Health Foundation. It seems new possibilities present themselves frequently with the fast-paced changes in canine health research. This gives the CHF opportunities to help not only the Collie, but all canines and then mankind too. Your support of CHF is more important than ever. We still need your financial support and your time as a volunteer. But, it’s now time for you and your Collies to step up to be part of the Martha E Hoffman CHIC DNA Banking Project.

First, a big thank you to the “Madam of Sunnybank”, Gerrie Oliver. This year’s Gathering was the best yet! We celebrated Gerrie’s 20th year as Chair of this fabulous event. She is the “hostess with the mostess”! I want to thank all the people who attended, the volunteers, CHF members, and most of all the Northern New Jersey Collie Club members. Didn’t we have fun!!! This event wouldn’t be what it is, or even happen, without you! Thank you all!

Shortly, the Board will be voting on continuing rebates, adding new rebates, and on rebate levels for 2019. We should have them available to you before the end of November. We will post on our FaceBook page and an email will go out from me on the new rebates and any changes. If you know you need to have specific tests done, it’s always better to do them now instead of waiting.

I want to apologize for any long delays you might have had on rebate payments or DNA banking reimbursements. We are an all-volunteer group, and we are just as busy as you are every day. We have a new assistant treasurer who had to learn her way around QuickBooks and the virtual server. I think Kate Long is up and ready for what you send her. Remember, treasurer, Karen Anderson, is a CPA. She helps individuals and businesses with their business accounting and their taxes. I’m just saying, she’s been a little busy lately around tax deadlines. This is still no excuse for having things fall through the cracks. We are trying to improve the way we pay you and part of it’s up to you. Give us all the information we need the first time, and then we won’t have to get back to you with questions. If you are applying for a rebate, you may send in your test results, blacked out if you want, as your receipt. If you have questions, ask any of us including all the officers. We will be happy to walk you through the process.
Please take part in the Martha E. Hoffman CHIC DNA Banking Project. We especially need your senior Collies and any Collies with health issues. Remember, you will be reimbursed fully for your costs up to $125 per dog. We do ask for you to send multiple dogs at one time if possible since overnight shipping is so expensive. This is not only DNA banking, but a database from which we can obtain health information from at any time. You’re not finished at the time of banking, because it’s up to you to keep your dogs’ medical records up to date. Make a difference with the breed you love, participate!

I want to thank everyone who has worked so hard this year and contributed in making the Collie Health Foundation a little better than it would have been without you. I hope your holidays are filled with many joyous moments, a fire in the fireplace, and a Collie at your feet!

- Robette

Report on DNA Banking and Rebates

CHIC DNA Banking: Eddie Dziuk, OFA Chief Operating Officer, reports that as of October 31, 2018, they have 275 Collies banked! The Collie Health Foundation paid $1,687.92 for this CHIC DNA Banking. Remember to report any changes in your dog’s health to OFA to keep the database up to date.

Rebates: From January 1 through September 30, 2018, CHF has issued rebates in the amount of $1,150 for 23 CEA tests, $200 for 4 CN (Gray Collie or Canine Cyclic Neutropenia) tests, $12,379.75 for 209 DMS tests, $2,520 for 126 MDR1 tests, and $3,350 for 67 PRA tests. Keep up the good work. Let’s continue to make a difference through health testing!

*****Rebate requests should be sent to Kate Long at assistanttreas@colliehealth.org*****
“We need to talk about the elephant in the room,” said my husband.

I gulped and nodded. It was a conversation I had tried to avoid for some time, but it was clear that there was no putting it off any longer. This was something that was not going to get better on its own. It had to be addressed. “The elephant has got to go,” he said decisively.

We both looked over at the dog lying on the rug, sleeping blissfully with a tattered stuffed elephant clamped in his mouth. It wasn’t just “a toy.” It was the love of his life. He greeted everyone who came in the door with the elephant, crispy in some places and wet with drool in others—just what every guest wanted to receive upon entering our house. He carried it from room to room just in case he decided to stay there so it would always be nearby. And, just like a child, he took it to bed with him every night.

The elephant had definitely led a tough life. He was missing one leg, had no eyes, and a very sad little hairless tail. There was a hold in the side I kept sewing shut that we would reopen, leaving tufts of toy elephant stuffing around the room. I washed it as often as possible, yet the scent of dog slobber lingered, no matter how much doggie detergent I used. But the dog loved the elephant, three legs, no eyes an all, and was unwilling to trade up to another brand of stuffed moose or squirrel. When we hid the elephant, he sniffed around the house until he found it. Apparently the dog had a better memory than an elephant.

When the kids were little they each had their own blankies that they dragged around, slept with and sucked on, just like the dog. Kid number one had a special, one of a kind blanket that was impossible to replace when it started to fall apart. We finally had to give him another, lesser blankie, which scarred him for life. We wised up with kid number two and gave her a blanket that was mass produced and could be found in every kids’ store in the country. When we finally told her at age 18 that we had swapped out her blankie about a dozen times when she was little, she said she knew and was on to us from the beginning. When I asked her how she knew, she would reply, “The new ones were too clean.”

So, now we had this situation with the dog and I was desperate to find a replacement elephant so he wouldn’t be scarred for life, too.

Dragging the crunchy, three-legged, blind elephant around with me, I sent to half a dozen pet stores, but no one carried the exact one. Then I looked online, but the darn stuffed elephant was nowhere to be found. Finally, on an obscure pet website, I found it. It was the same brand and the same material and squeaked in all the right places. The only problem was, it wasn’t a gray elephant. It was a pink bunny.

“I don’t know,” I said to my husband showing him the image on the website. IT’s exactly the same but it’s not an elephant, it’s a bunny. Do you think he’ll mind?
My husband looked at the picture and shrugged.

“Just pull off a leg, leave it out in the rain, and poke its eyes out, and he’ll never know the difference.”

GRAY DAWN: A STUDY IN BLUE

So maybe Gray Dawn isn’t the only silly, embarrassing, clown-like, mischievous, elephant-loving dog. But he certainly was the favorite blue merle collie of The Mistress! He was always trying to get it right and certainly meant no harm but he sure got himself into lots of mischief according to the tales told in Terhune’s book.

Well, Gray Dawn surely exerted his mischief over his 100th Anniversary Celebration on August 18 & 19 by spreading gray skies and trouble throughout. Sadly, the heavy rains Friday night left the grounds of Sunnybank very soggy but, thankfully, they didn’t dampen the spirits of everyone who attended the 22nd Annual Gathering. And, a faulty generator that kept interrupting the Saturday morning speakers didn’t chase anyone away. And, the light mist falling on Sunday morning only added to the solemn Memorial tribute.

The first event of the weekend is the ever-popular walking tour of the famous Sunnybank grounds. This year debuted a new approach with each of the Terhune experts stationed at key spots—Evening Lookout, Champion Rock, Sheep-nosed Tree, Puppy Pen, and so on. Expertly herded by Heidi Wirtner, the group was once again treated to the wonderful stories of the early days.

Judy Leathers, President of the Terhune Sunnybank Memorial, reported on the recent activities of the Wayne YMCA whose group of youngsters organized a Spring clean-up of the park. Judy sent a lovely thank you note to the leader acknowledging their efforts. Judy also sent greetings from our own favorite Terhune Sunnybank Memorial leader, Claire Leishman, who turned 96 this year and has recently moved to Florida to be close to her daughter. Although Claire no longer resides in New Jersey, a part of her will always be at Sunnybank.

In keeping with the fine work the TSM group has always done, Judy announced a remembrance of Barb Backer through a donation of Terhune books to the Pompton Lakes Children’s Library in her name. For years Barb personally answered all the letters children sent to Albert Payson Terhune long after he had gone. What a fitting tribute!

Long-time Gathering theme designer and Terhune Sunnybank Memorial Archivist, Kathy George highlighted the reasons “Why we fell in love with Gray Dawn.” Echoing my own sentiments, she used Terhune’s words to describe Dawn as clumsy, bumptious, trouble-making. Mr. Terhune didn’t even like blue merles! But, because Mrs. Terhune loved Gray Dawn he allowed him to stay. Once he did he soon learned to appreciate and love the other side of this silly dog. He discovered him to be loyal and faithful to all—especially to Terhune himself when he stayed by his side throughout his auto accident recovery.
It was a special treat to welcome back Noralee Smiley as a guest speaker. If you recall, Noralee was the one who provided everyone a reason for being a “Laddict”! This year we learned of Anice Terhune’s love of Gray Dawn. Truly if it wasn’t for her Dawn would have been sold for a “plugged nickel”. But he was her “heart dog” and could do no wrong in her eyes. Even when he collected newspapers from every porch in the neighborhood and delivered them to her, she claimed he had an elfin charm, was lighthearted, young, gay and bumptious.

Marilyn Horowitz expounded on why he was HER favorite. But everyone fell in love with Dawn despite the fact that he tore up the beautiful croquet lawns chasing after moles, ruined their beautiful clothes as they left for a wedding and constantly sought to please the Mistress with his special gifts of things like “an excessively dead skunk” that he discovered in the woods. Marilyn enjoyed bragging about her pride in learning how to correctly use the word “bumptious” thanks to APT. (Webster: presumptuously, obtusely, and often noisily self-assertive) Perfect description of Gray Dawn!

Krissy Marshall compiled “A Study of Blues”. “At the time Albert Payson Terhune entered the dog fancy, the blue merle had recently been rescued from extinction as a Collie color. The first blue that caught his eye was CH Grey Mist, who impressed Terhune so much that he had a daughter of Grey Mist bred to Bruce. From that breeding came the beloved Gray Dawn, the dog that taught generations of readers about blue merles. Terhune’s other blues included Sunnybank Graystone, a granddaughter of Gray Dawn; as well as Sunnybank Donald Gray, who was purchased from future CCNNJ member Marie Himwich only months before Terhune’s death. Donald Gray became a comfort to Anice after her husband’s passing, and is the puppy named “Don” in the book Across the Line.”

CGC and Therapy Dog certifications were also held on Saturday morning. There were 16 dogs passing the Bright & Beautiful Therapy Dog test and eight CGC and one CGCA awards handed out. These talented dogs and owners are a credit to all.
Local Wayne resident and sheltie owner Linda DeYoung organized the 2018 Group Photo. It never ceases to amaze me that she can herd all these dogs and people into one place! Can you count the collies?

The Elephant Virtues Match had the most wonderful entries with a table full of sweet, funny, handsome, talented elephants in the room. Judges Nancy McDonald and I had the most difficult task of selecting just the right candidate for each virtues category. I think we had the most fun of all!
Elephant Virtues Match Winners

*Photos courtesy of Ron Sherr*

**Longest Trunk, Biggest Ears:**
#24 “Rosie” owned by Ellen Clifford (Pati’s Sister)

**Whitest Tusks:**
#13 “Babar” owned by Kathryn Leenhouts
**Most Like Gray Dawn’s:**
#18 “Peanut Jr.” owned by Kathryn Leenhouts

**Most Cuddly:**
#9 “Creston’s Snowy Dawn” owned by Gail Currie & Katrina Warsick

**Loudest Trumpet:**
#15 “Niko” owned by Marilyn Baumgardt
A tradition began five years ago to honor special people who do things “just for the collie” when the Collie Health Foundation established the “Noah” Award. Deserving recipients don’t look for attention but just make things nicer for all of us.
For those of you who may not know, Noah is the CHF logo mascot. He also “made things nicer”. Noah was born at Camloch Collies with a serious heart defect and not expected to live. But he fooled everyone by growing up and showing us he had a really big heart. He took it upon himself to leash break all the puppies that came along and teach them how to behave. What better example of CHF’s mission than to have Noah leading the next generation to a healthier life!

The Noah award recognizes this same heart in us. Earlier winners were Leigh Cohen in 2013; Les Canavan in 2014; Kathy George in 2015, Susie DeLorenzo in 2016 and Diane Mierz in 2017. I’m proud to announce the 2018 Noah Award recipient is Susan Chandler.

Sue has been alongside me from the early Gathering days and shared her musical talents every Saturday morning. In addition, Sue was in charge of creating the CD recording of Anice Terhune’s songs sold back in 2004. Nowadays Sue has taken over the enormous task of scheduling all the CGC and TD appointments and organizing the events. Sue is a reliable volunteer who just accepts a task with a smile and you can relax knowing it will be done and done well! Sue starts the scheduling as early as March/April and she’s still around when we are breaking down the set-up at the end of the day Sunday. Congratulations and thank you Sue!

With no formal events scheduled, the relaxing afternoon on Saturday allowed everyone to visit and simply enjoy the peace and quiet of Sunnybank and get ready for the big banquet dinner at Portobello’s. The highlight for me was an authentic game of Croquet on the Sunnybank lawn just as Anice would have enjoyed. Big thank you to my challenger—and best player with the red ball, David!

Sunday’s gray mist was a fitting setting for the well-attended Collie Memorial hosted by Susie DeLorenzo, aided by Corinne Boerth, Pati Merrill and Johanna Lance. While the bagpiper played, each placard was gently planted below Champion Rock as the names were called out. The entire service was videoed live by Gail Currie so even those who could not be there could watch and listen for the names of their memorials. The ceremony is sometimes difficult for those still grieving but a wonderful way to pay tribute to those we’ve lost or honor those we admire.

The famous Virtues Match followed with Nancy McDonald introducing this year’s judges. Kris Mulligan of Glenshire, Annette Rawlings of Sealore and Candace Ardizzone of Travler. These three had the enviable task of going over all the entries to find the best virtues in the class of 2018. They searched for the best examples of a good outline, expression, profile, skull, muzzle, front, rear, and side gait. What pretty puppies! A special thank you to Carrie Lenhart for stepping in to MC.

Photo courtesy of Ron Sherr
Best Overall in Virtues/Best Expression/Best Puppy Dog in Lad Match

Jimmy
(CH Riverrun Galatean Unleash The Lion x CH Riverrun Galatean Dreamlight)
bred/owned by Mary & Jill Jackson and Mary & Rose Robischon

Best Profile
Nikko
(CH Fantasy’s Beyond The Stars x Fantasy’s Harmonic Rhythm)
bred/owned by Eiko Watanabe & Debbie Holland

Best Skull
Creedence/Beast
(GCHS Windkist's Ain't No Rest For The Wicked, RAE2 PT NA NAJ OAP OJP OF XFP CA x
GCHB Millknock's Firework At Mello-D, RN HT NAJ NF NFP CA)
bred/owned by Babbi Dilbeck, DVM

Best Muzzle
Marshall
(GCH Taliesin The Masterplan x Fantasy’s Sassy Pants)
bred/owned by Debbie Holland

Best Front
Fernando
(CH Creekwood Thornacre Rock My World x GCHB Creekwood Hot Chocolate)
bred by Robin Reed, Virginia Reed Mehr, Dona Williams, Taylor Williams & Elena Geldkop
owned by Robin Reed & Virginia Reed Mehr

Best Rear/Best Side Gait
Faye
(Cadenza Bandor Dancing In The Rain x CH Cadenza's Don't Cha Know)
bred by Cathy Keefer Meier, Robert Meier & Helene Robbins/owned by Cathy Keefer Meier & Robert Meier
The Lad Memorial Match was judged by **Hanna Rawlings** of Sealore and **Jennifer Mulligan** of Glenshire who had the delightful job of selecting top dog from an incredible entry from puppies to adults. The Lad Match Winner received the Alexander Frasier Draper Memorial Trophy.

![Photo of Edie courtesy of Ron Sherr](image)

**Best in Lad Match/Best General Appearance**

Limerick Angel Vision “Edie”  
(CH Tavern Hill Limerick Celtic Classic x West Point Army Brat)  
bred/owned by Cookie Jones

Thanks to Hanna for also judging the 12th Annual Gathering Juniors Match. Congratulations to Best Junior **Piper Reynolds** with Lillian.

**Live Auctions**

The Live Auctions items were amazing and the events very well attended. Congratulations to all the lucky winners and sincere thanks to the generous donors.

- Gray Dawn Sculpture and “He Slept With It” Branson print donated by Donna McKoy
- Original 1932 General Electric Print of APT with Graystone, Sandy, Lochinvar the II & King Coal donated by Barbara Robinson
- Original 1932 Terhune Letter with Gray Dawn Photo Framed, CHF
- His Dogs by Kristina Marshall, CHF Estate donation
- Handmade Gray Dawn Elephant, by Noralee Smiley
- Blue Merle Collie Monoprint including Jack the Frog, by Heidi Wirtner
- Gray Dawn Framed Photo, donated by Gerrie Oliver
- Gray Elephant Basket, donated by Karen Laudati
Okay, back to that toy elephant. Who of us hasn’t washed, repaired or fetched a favorite toy out of the backyard because our beloved collie HAD to have it? Well, you’re in luck because CHF is now selling brand new commemorative Gray Dawn elephant toys. You can find him and all the 2018 Sunnybank Gray Dawn premium items on the website www.colliehealth.org under “Shop”. Stock up now!

Gerrie Oliver
aka The Madam

Photos courtesy of Ron Sherr
Grant Updates!

Andrea Fiumefreddo, MS, AKC CHF Programs Director, has provided progress reports on several AKC CHF grants the Collie Health Foundation has helped to fund:

**Grant 01986: Profiling the Metabolic and Lipid Imbalances that are Causative of Gallbladder Disease in Dogs**
Principal Investigator: Jody Gookin, DVM, PhD; Research Institution: North Carolina State University
Grant Amount: $135,354.00

**Original Project Description:**
The gallbladder mucocele (GBM) is one of the most common, poorly understood and deadliest biliary diseases of dogs. A GBM develops when the gallbladder secretes abnormal mucus that eventually obstructs or ruptures the gallbladder. GBM formation affects all dogs, but especially Shetland Sheepdogs, Miniature Schnauzers and Cocker Spaniels, and in general, dogs with disorders of steroid hormone or lipid metabolism. By the time a diagnosis of GBM is made, emergency surgery to remove the gallbladder is often required. After surgery only 22-50% of dogs survive to be discharged from the hospital. There is a critical need to determine why dogs form a GBM so we can prevent the high cost and lost lives of these dogs. Based on the breeds and diseases that predispose to GBM, Dr. Gookin hypothesizes these dogs have a unique disturbance in cholesterol or lipid metabolism. If the cause of this disturbance can be identified we will be able to understand why GBM form, develop tests for early diagnosis and design diets or drugs to prevent GBM formation.

**Report to Grant Sponsor from Investigator:**
To localize this disturbance we will examine the serum of dogs with and without GBM for differences in cholesterol and lipid metabolism using a technique called mass spectrometry. We have identified and enrolled 30 dogs with a GBM and 30 control dogs that have met the stringent inclusion criteria. Study samples have undergone a major analysis of lipid and metabolic pathways. One manuscript is already published, one is under review, and another is currently in preparation. We will concurrently examine the gallbladder epithelium of dogs with and without GBM to determine the function of genes that are active in dogs that form a GBM. We are actively collecting samples of only the highest quality with which to conduct these studies and have identified a laboratory to perform this analysis. Upon completion of these studies we expect to have located the mechanistic origin of GBM formation. These results will then allow us to investigate specific molecular targets for prevention of GBM formation.

**Grant 02165-MOU: Identification of Biomarkers and Therapeutic Targets for Canine Degenerative Myelopathy: The Search for A Cure**
Principal Investigator: Joan Coates, DVM; Research Institution: University of Missouri, Columbia
Grant Amount: $154,077.00

**Original Project Description:**
Degenerative myelopathy (DM) is an adult onset disease of the spinal cord causing progressive weakness and paralysis of the hind limbs and eventually all limbs. Mutations in an enzyme that converts superoxide to water and hydrogen peroxide, superoxide dismutase 1 (SOD1), have been linked to DM and amyotrophic lateral sclerosis (ALS-Lou Gehrig's disease). DM is associated with degenerative loss of axons, which transmit signals from the brain and spinal cord to their targets (muscle). Currently no diagnostic test exists that would allow for repeated measurements with minimal invasiveness. Dr. Coates is proposing to develop a test that would assay the blood and cerebrospinal fluid (CSF) for proteins that are exclusively found in axons under non-disease conditions, referred to as neurofilament proteins. They will correlate the concentrations of neurofilament proteins in CSF and blood with disease stage, and anticipate that neurofilament protein concentration in blood and CSF will increase as disease progresses. Such a test will allow for minimally invasive monitoring of disease. Furthermore, such a diagnostic test could be used to measure the success of therapy, which may be underway in
a cohort of DM-affected dogs [Boxers and Pembroke Welsh Corgis (PWC)] (funded by NIH/NINDS). They will complement the test for neurofilament proteins with other studies that measure disease progression such as specific MRI techniques to evaluate the brain and spinal cord and electrical testing of the muscle and nerves. These are functional disease markers that are also being studied in ALS patients.

**Report to Grant Sponsor from Investigator:**
Degenerative myelopathy (DM) is an adult onset disease of the spinal cord causing progressive weakness and paralysis of the hind limbs and eventually all limbs. Mutations in an enzyme that protects the spinal cord from oxidative stress are linked to DM and amyotrophic lateral sclerosis (ALS Lou Gehrig’s disease). DM is associated with degenerative loss of axons, which transmit signals from the brain and spinal cord to their targets (muscle). Monitoring the progression of disease is critical for development of effective therapies, but currently no diagnostic test exists that would allow for repeated measurements with minimal invasiveness. We have developed a test that would assay the blood and cerebrospinal fluid (CSF) for proteins exclusively found in axons under non-disease conditions, referred to as neurofilament proteins. Preliminary data suggest that measuring neurofilament proteins in CSF is a diagnostic marker for DM but we need to establish specificity data to distinguish between other central axonopathies. We have shown that neurofilament proteins in CSF remain elevated through all 4-disease stages. We will measure neurofilament proteins in CSF and serum to measure the success of therapy in a cohort of DM-affected dogs (funded by NIH/NINDS). We are complementing the test for neurofilament proteins with other studies that measure disease progression such as specific MRI techniques to evaluate the brain and spinal cord and electrical testing of the muscle and nerves. These functional disease markers used in ALS patients. We continue to collect preliminary data from DM affected dogs using magnetic resonance spectroscopy and diffusion tensor imaging to evaluate for difference in metabolites in the brain. After evaluation of more dogs, these preliminary data suggest a significant difference in some of the metabolites and in diffusion tensor imaging between DM-affected and normal dogs. The observed differences were independent of age, sampling area and sample time point. We are in the process of recruiting cases to continue to evaluate longitudinal study of disease measures and treatment efficacy of an antisense oligonucleotide therapy.

**Grant 02519: Prevalence of Bartonella spp. Infection in Dogs with Cardiac and Splenic Hemangiosarcomas within and between Geographic Locations**
Principal Investigator: Edward Breitschwerdt, DVM & Matthew Breen, PhD; Research Institution: North Carolina State University Office of Sponsored Programs
Grant Amount: $219,026.00

**Original Project Description:**
Splenic masses comprise ~50% of all canine splenic disease. Despite advances in imaging and pathologic definition, the etiology and medical relevance of splenic lesions in dogs are often ambiguous. While some splenic tumors are benign, approximately two-thirds are highly malignant and carry a poor prognosis. Hemangiosarcoma (HSA) accounts for the majority of canine malignant splenic tumors and occurs in many large dog breeds, including mixed breeds. A less common site of HAS localization is the heart (cardiac HSA). Risk factors for both cardiac and splenic HSA remain unclear, confounding development of preventative strategies. The investigators recently reported a high prevalence of species of the bacterial genus Bartonella in dogs with HSA from North Carolina, suggesting a potential role in the initiation and/or progression of this cancer. Bartonella species exist worldwide and are transmitted by blood-sucking arthropods (e.g. ticks, fleas) and their presence in splenic tissue could potentially be explained by the fact that the spleen is primarily responsible for removal of blood-borne parasites from the systemic circulation. The investigators will perform a comprehensive examination of the potential association between Bartonella infection and HSA by comparing the prevalence of Bartonella DNA in tumor and blood samples from both splenic and cardiac HSA cases, and also within and between distant geographical locations in the US. Ultimately, demonstration of a robust association between Bartonella infection and the development of HSA may lead to new opportunities for improved diagnosis, treatment and prevention of this devastating cancer.
Report to Grant Sponsor from Investigator:
We are on track to accomplish all of our aims for this study. We were able to obtain the initial set of samples on April 26, 2018 so we had a short delay in starting the study. We have now received all samples, categorized and prepped them for further testing. We will be publishing additional research from our AKC-CHF study #02287, which will define the criteria for serodiagnosis of Bartonellosis in dogs by Western Blotting (WB). That work has required additional time and research effort to validate WB testing. Once completed, we will process the serum samples from this for WB by December 2018. We have been in touch with the pathologists in the three geographically different regions of the United States so that they can define inclusion criteria and start locating the retrospective samples that they will submit to us in January of 2019 to test.

Grant 02217: A Novel Mechanism to Regulate the Growth of Canine Hemangiosarcoma
Principal Investigator: Erin Dickerson, PhD; Research Institution: University of Minnesota
Grant Amount: $86,206.00

Original Project Description:
Hemangiosarcoma is an extremely aggressive cancer that is rapidly fatal in dogs. While the lifetime risk is alarmingly high for some breeds such as Golden Retrievers and German Shepherd Dogs, the disease does not discriminate, and it can strike any dog at any time. Despite considerable efforts by veterinarians and scientists to find effective treatments, the outcome for dogs with hemangiosarcoma has changed very little over the past few decades. Recent evidence provides essential clues into how these tumors grow and progress, generating new ideas for treatment approaches. Such new evidence suggests that hemangiosarcoma cells rely on the metabolism of lipids or fatty acids to supply energy for tissue invasion or continued tumor growth. To obtain these lipids, hemangiosarcomas may take over the metabolic machinery of neighboring cells, forcing them to produce nutrients for the tumor cells to help them proliferate and grow. This study will verify that tumor cells rely on lipid metabolism for growth, and determine if tumor cells alter the metabolism of fat cells to obtain cellular nutrients and accelerate tumor cell lipid metabolism. Identifying and exploiting a novel mechanism that may disrupt this process by inhibiting the interactions between tumor cells and cells in the tumor environment will speed clinical investigations, and ultimately lead to improved outcomes for dogs with this devastating disease. Publications: We have not yet published any of our findings. We anticipate that the following data will be part of a paper that is currently in preparation, and we plan to submit this paper in 2018: 1) Immunohistochemistry of -AR and tyrosine hydroxylase expression in primary hemangiosarcomas. Expression of -ARs and the catecholamine enzymes in hemangiosarcoma cell lines. 3) Expression norepinephrine and dopamine in hemangiosarcoma cell lines. 4) Treatment of hemangiosarcoma and angiosarcoma cell lines with doxorubicin leads to an increase in TH expression, as well as an increase in the synthesis of dopamine and norepinephrine. We also anticipate the publication of a second paper in 2019 describing the majority of the findings described in this report.

Final Report to Grant Sponsor from Investigator:
Hemangiosarcoma is an incurable cancer that is almost uniformly fatal. The tumors often grow quickly and spread rapidly, with half of all dogs dying within six months of diagnosis, even with treatment. Because the prognosis has not changed over several decades, a better understanding of the disease is needed to develop new treatment approaches. We have found that hemangiosarcoma cells appear to rely on the metabolism of lipids to supply some of the energy and essential building blocks needed for tumor growth. We also found that propranolol, a common drug used to treat heart disease in both dogs and people, limits the uptake of lipids into cells and blocks the cell’s ability to process these compounds. Cancer cells have been shown to impose a self-serving metabolic program on normal cells by forcing normal cells to supply nutrients, such as sugars and lipids, to the tumor. Recent studies have shown that cells like adipocytes (fat cells) can be remodeled by tumor cells to help create a niche favoring tumor growth. Because propranolol can block the use of lipids by tumor cells, propranolol may be able to reverse the cancer-imposed metabolic reprogramming on adipocytes or other normal cells, limiting tumor growth. For this study, we sought to: 1) characterize the lipid metabolic program(s) in hemangiosarcoma cells and determine if the use of lipids by these cells could be blocked by propranolol; 2) determine if hemangiosarcoma cells alter the metabolic program(s) of adipocytes; and 3) whether these changes in adipocytes enhanced the tumor cell growth programs and the invasive nature of hemangiosarcomas. We found that propranolol inhibited key metabolic
processes in hemangiosarcoma cells, including the uptake and processing of lipids. We also found that hemangiosarcoma cells reprogrammed normal adipocytes in a way that may force the adipocytes to produce nutrients for hemangiosarcoma cells to help them proliferate and grow. Parallel studies supported this idea by showing that adipocytes accelerated metabolic growth programs in hemangiosarcoma cells and enhanced programs favoring more aggressive disease. Future studies will be directed toward further assessing the metabolic programs of hemangiosarcomas and determining whether drugs like propranolol can be used to prevent the manipulation of adipocytes by tumor cells and reduce tumor growth and invasion.

Grant 02292: Broad-Range Detection of Canine Tick-Borne Disease and Improved Diagnostics Using Next-Generation Sequencing
Principal Investigator: Pedro Diniz, DVM, PhD; Research Institution: Western University of Health Sciences
Grant Amount: $60,717.00

Original Project Description:
Diagnostic tests based on the detection of DNA of infectious organisms from clinical samples have revolutionized veterinary medicine in the last decades. Currently, diagnostic panels for several tickborne organisms are available through universities and private laboratories in the USA and abroad. However, the vast majority of results from clinically ill dogs are negative for tick-borne diseases, which frustrates veterinarians and dog owners trying to reach a definitive diagnosis and improve treatment options. These panels are based on the detection of previously known DNA sequences of each pathogen, with little room for detecting new organisms. Consequently, the current assays may suffer from "myopia": a self-fulfilling effect that prevents the detection of new or emerging organisms. Using an innovative approach, the investigators will employ next-generation sequencing (NGS) to overcome the limitations of current diagnostic technology. With NGS, the investigators can generate millions of individual gene sequencing reads from each clinical sample, allowing for the identification and characterization of multiple organisms from a single sample. Testing samples from dogs naturally exposed to tick-borne diseases, NGS will detect not only new organisms but also characterize genetic differences among known organisms. The resulting dataset of a large number of DNA sequences of known tick-borne organisms and previously undetected organisms in naturally-infected dogs will support the development of diagnostic tools to simultaneously advance canine and human health.

Final Report to Grant Sponsor from Investigator:
Dogs from any breed, age or gender can be infected with microbes transmitted by ticks or fleas. These diseases can cause devastating effects and even death not only to dogs but also to humans. Ticks are present everywhere in the US, and they bring the risk of transmitting the microbes to dogs and humans. It is still very difficult to diagnose these conditions, and approximately 95% of suspected dog cases are negative when we use current diagnostic technology. One of the biggest limiting factors for the development of better diagnostic tools is the insufficient funding opportunities for large-scale projects. The long-term goal of our research team is to expand the current diagnostic tools to include a larger spectrum of potentially hazardous microorganisms. Our innovative approach is based on four pillars: (1) large-scale DNA sequencing to identify known and potentially new organisms present in blood of dogs naturally exposed to vector-borne diseases; (2) increase in sensitivity and specificity of large-scale sequencing by targeting major families of potentially hazardous organisms, (3) advanced bioinformatic analysis of millions of DNA sequences from a large number of dogs suspected of infection; and (4) comprehensive quality-control measures in order to support and validate the impact of our results. We confirmed that large-scale DNA sequencing can simultaneously detect one or more microbes in dog blood and can identify which microbe is present based on its unique DNA sequence. We confirmed this in both simulated infections as well as in samples from naturally infected dogs. We also detected potentially new organisms from sick dogs. With the crucial support from the AKC Canine Health Foundation, we were able to expand our expertise in using large-scale DNA sequencing technology for the detection of tick-borne pathogens in dogs and generate a large body of knowledge to support the further development of this technology. Ultimately, the results of this study will support early diagnosis and better medical care to dogs worldwide.
Welcome to the Family!

The Collie Health Foundation Welcomes the Following New Members

Melinda Barber**
Centralia, WA

Olivia Beckham**
Stony Point, NC

Emily Begley
Middleburg, FL

Kathleen Buck**
Thompson Falls, MT

Lise Chaplain
Pearl River, LA

Natalie Contreras
Hartford, MI

Wade Davis
Alexandria, LA

Gail Diedrichsen
Naperville, IL

Caryln Fasnacht
New Providence, PA

Peter Florio
Clearwater, FL

Jacquelyn Giannelli
Worcester, MA

Robin Grasso
Mount Airy, MD

Barbara Guitas
Cressona, PA

Angie Hayden
Bristol, TN

David Holland Jr.
Brookhaven, MS

Katie Irwin
Silverton, OR

Joan Johnson**
Thumond, NC

Katie Keener
Danville, PA

Marianne Litzenberger
Potomac, MD

Valerie Marshall
Victoria, BC

Judi Roller**
Mazomanie, WI

Linda & Lance Sorrows
Lonoke, AR

Josee Theoret
Brownsburg-Chatham

Roger Thompson
Las Vegas, NV

Jennifer Tippens
Knoxville, TN

Bonnie Wojtas
Winnebago, IL

New Member Clubs
California Collie Clan
Montclair, CA

Note: **indicates previous member…Welcome Back!
New Members – July 1, 2018 through October 31, 2018

Donations in Honor/Celebration/Memory/General Donations
July 1, 2018 – October 31, 2018

Donor

In honor/celebration/memory of….

Collie Club of America, Inc.
General Fund - In Memory of CCA Members who passed in 2018
Collie Club of America, Inc.
General Fund - $1.00/CCA Member 2018
York County Dog Training Club
In Memory of Kobabner beloved pet of Bonnie Opal
Jane Cooley & Cynthia Childrey
In Memory of GCH CH Mandalay's Chill Seeker At Gateside RN
Veleda Cordes
In Memory of Treasure & Trinket
Christine Dungan
In Memory of Meeko, beloved friend of the Zapata family
Donor continued

Meg Goldsmith
In honor/celebration/memory of….continued
Meg Goldsmith
Cynthia Guenther
Donald & Leslie Jeszewski
Donald & Leslie Jeszewski
Judith Kirkeby
Nancy McDonald
Pati Merrill
Pati Merrill
Pati Merrill
Steve & Diane Mierz
Lisa Miller
Cathleen Spall
Jennifer Tippens
Harold & Patricia Warren
Kelly Woodward

In honor/celebration/memory of….continued

In Memory of Stormy, gone too soon at 7 weeks to Hydrocephalus, loved & owned by Babbi Dilbeck, DVM
In Memory of Chrissie, loved & owned by Babbi Dilbeck, DVM
In Memory of Arthur Elmer Meunier
In Memory of Larry Jung
In Memory of Roz Durham
In Memory of Roz Durham
Happy 12th Birthday to Matty & Jilly Barksdale
In Memory of Chrissie & Stormy, loved & owned by Babbi Dilbeck, DVM
In Memory of Trace BGAm Can Ch Tallywood Radioactive. Loved by Nancy and Bob Anstruther
In Memory of Katrina Warsick’s father Frank Warsick
In Memory of Kia Pirro’s Beloved Holly
In Memory of Stormy, loved & owned by Babbi Dilbeck, DVM
In Memory of Frank Robischon
In Memory of Chrissie & Stormy, loved & owned by Babbi Dilbeck, DVM
General Fund
In Memory of Can CH Mudville's Reign Delay, PT, owned & loved by Marsha Milroy

Celebrating Our Seniors!
July 1, 2018 through October 31, 2018

Nancy Anstruther
Tallywood Primary Colors
DOB 8/9/2005
Breeder: Nancy Anstruther
Owner: Inez Cathers

Erin Blaisure
CH Tir Na N’ Og Crimal Type - Hannibal
DOB 7/16/2006
Breeder/Owner: Erin Blaisure

Margaret Howard
CH. Kelmar's Declaration of Love - Celine
DOB 07/08/06
Breeder: Peggy Howard & Sheri Ensor
Owner: Peggy Howard & Marjorie Higgins

Erin Blaisure
Ch Tir Na N’ Br’lantly Ds’gysd – Jordan
Breeder/Owner: Erin Blaisure
Celebrating Our Seniors! continued

Gretchen & Kathryn Morrison
Their Billie (Wicklow's If Dreams Come True, NAP, NJP, NFP, CGCA, HIC is donating it
CH Lisara's Stellar Golden Girl, ROM
6/2/05 - 6/15/18
Breeder: Carmen & Larry Leonard
Owner: Marie & Blair Mullin, Jim Henline & Audra Minier

Gretchen & Kathryn Morrison
GCHS Sunnland's Copacabana, VCD1, BN, RAE,
OAP, OAJP, PT, CGCA (CCA VX) – Lola
DOB 4/9/2007
Breeder: Marie & Blaire Mullin
Owner: Ann Griffith & Karen Haren

Kyle Musselman
Ch. Overland Design Inheritance - Penny
9/30/05 – 9/9/18
Breeder: Marcy & Mike Fine
Owners: Kyle Musselman, Jennifer Green, Dianna Leaman

Tom & Jeannette Poling
Ch. Kadon the Touch Down Kid - Kick
3/19/01 - 11/8/13
Breeder: Kathy Hunt Murad
Owners: Loved and owned by Tom & Jeannette Poling

Tom & Jeannette Poling
Kadon Good News, HIC - Nicholas
10/10/02 - 9/22/14
Breeder: Kathy Hunt Murad
Owners: Loved and owned by Tom & Jeannette Poling

Jenny Satyavelu
CH. Chimera's One For The Books
DOB - 9/19/05
Breeder: Karen and Jeffrey Buckner
Owner: Jenny Satyavelu

Helene Robbins
Ch Signet's Highland Gael
DOB - 9/14/04
Breeder: Michael & Teresa Esch; Michelle Esch-Brooks
Owner: Helene Robbins

Jane Cooley & Cynthia Childrey
MBISS GCH Kingsmark First Impression PT OA OAJ
AOM VA
DOB 2/15/04 -- 8/12/18

Jane Cooley & Cynthia Childrey:
GCHS CH Gentry's Braveheart
10/4/2005 -- 8/8/18

Collie Health Foundation - Statement of Financial Position

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<th>ASSETS</th>
<th>As of September 30, 2018</th>
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<td>Current Assets</td>
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<td>Other Current Assets</td>
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<td>TOTAL ASSETS</td>
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<td>LIABILITIES &amp; EQUITY</td>
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<td>Equity</td>
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<td>TOTAL LIABILITIES &amp; EQUITY</td>
<td>1,302,506.53</td>
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</tbody>
</table>
Dues Are Due
December 31st

COLLIE HEALTH FOUNDATION MEMBERSHIP
REMITTANCE AND CONTRIBUTION FORM

PLEASE INDICATE: ___new member OR ___renewal membership

Please check level of membership desired: I’m interested in volunteering:

__ Individual Membership - $ 25  __ Promotions  __ Sunnybank
__ Family Membership - $ 40  __ Auctions  __ Newsletter
__ Sustaining Membership - $ 100

__ Patron - $ 500  __ Other: __________________________
__ Benefactor - $1,000

Send your check (US funds only), payable to Collie Health Foundation or CHF to:

Gail Currie – CHF Membership
16150 Bonzai Trail
Brooksville, FL 34613

PAYPAL: membership@colliehealth.org

Name (as you wish to be listed): __________________________

Address: __________________________________________

City: ________________________ State: __________ Zip: _______

Phone: ________________________ Kennel Name: ________________________

Email: ____________________________ (we are doing more and more via Email so please ensure I have your most current email address)

__ Please check if this is a new address.
__ I have included CHF in my will.
__ Please send me information about including CHF in my will.

Do you or your spouse work for a matching gift company? Some companies will match gifts of employees and/or retirees. Please contact your personnel office for details and a matching gift form.

Company Name: __________________________

Form Enclosed: __ Yes __ No

ADDITIONAL CONTRIBUTION (circle one:) in Memory, Celebration, Honoring:

_________________________________________________________________________

_________________________________________________________________________

Contributions are tax deductible in accordance with IRS regulations.