



Cavalier King Charles Spaniel **U. S. A.**
HEALTH FOUNDATION

The Cavalier Health Foundation Newsletter • Vol. 3, No. 1

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A Message from CHF President Dr. Kevin Turley

Greetings! I'd like to extend my thanks to the membership and the prior board of the Cavalier King Charles Spaniel Foundation. The passing of the baton from our previous officers and board has provided a smooth transition and allowed for a clear focus on our objectives. President, Randi V. Rosvoll, Vice President, Lou Samuels, Secretary, Joanie Wieleba, Treasurer, John Ellis, and their Directors are to be congratulated on their exceptional tenure. They not only established the Foundation, along with the late Robert Smith, but, provided the infrastructure and economic basis for future development. Continuity is provided by 5 of our 6 current directors who contribute to our committee structure, Donald Pelegrino, Ph.D, Bruce Henry, MD, JoAnne Mittelman, Cheryl Shoenfeld and Virginia Luis Fuentes, DVM, Ph.D. and we welcome our new director Landis Griffeth, MD, Ph.D.

At the recent COTW Beaverton show the new officers had a chance to introduce themselves and discuss both the vision and opportunities afforded the Foundation. My own background is as a Neonatal and Congenital Cardiac Surgeon. An intrinsic part of the 25 years of my

practice was the investigation and repair of Mitral Valve abnormalities. This interest centered on the unique problems presented by the small size and complex nature of these lesions in the newborn. Thus, our Cavalier King Charles Spaniel problems present a special challenge to me. This summer I had the opportunity to visit a number of breeders and leaders in the English Club and to discuss their insights and efforts in this regard. This experience has provided me with a better understanding of potential Foundation efforts in this area.

Our Vice President, Roy Allen Wilson, Secretary, Barbara J. Levy, and Treasurer, Stephanie Hart, have had the opportunity to discuss with me the organizational needs and goals of our tenure. Critical in this regard are input and communication from our members, and the identification by that membership of the Foundation as a free standing entity devoted to the health of our Cavalier King Charles Spaniels. Through this interaction, both individual membership, bequeaths, and potential corporate support can be developed. An increase in endowment is important for the future of the Foundation and gives each member of this club an opportunity to play a role in

the health of the Cavalier's.

On the output side three areas of investigation are identified: treatment of Cavalier King Charles Spaniels with Mitral Insufficiency, a current grant area, and one in which corporate participation may be possible; extracardiac ailments, to which individual grants have been so aptly applied by our past leadership; and in the realm of Mitral Valve research basic science investigations, to include interfacing with the academic genetic, veterinary and human medical community to explore the nature of the genetic defects, methods of testing, and the potential for gene therapy.

The goal and vision is of a Foundation in which all the health problems of the Cavalier King Charles Spaniels may be addressed, and one in which a proactive approach to both, prevention and treatment is the standard.

Thank you for your continued generous support.

Outgoing message from Past-President Randi Rosvoll

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The Cavalier King Charles Spaniel U.S.A. Health Foundation, Inc

(The Cavalier Health Foundation, Cavalier Foundation or "CF")

Organized exclusively for charitable, educational and scientific purposes to promote the health and well being of dogs, specifically Cavalier King Charles Spaniels.

Supports education and research related to the history, character, care, breeding, genetics and health problems of Cavaliers.

Categories currently considered for funding:

- Educational projects
- Breeding guidelines and practices
- Standardization of reporting diseases
- Heart valve disease etiology research
- Heart valve disease efficacy of treatment
- Thrombocytopenia
- Syringohydrmyelia
- Other dog diseases

The funding of research is possible because of tax deductible dues and contributions.

•
Every Cavalier owner has a vested interest in the success of the Foundation.

•
The Foundation aims to engage every Cavalier owner as a member.

•
All dues and donations are tax-deductible to the extent permitted by law.

•
The membership application form is included in this newsletter.

The Cavalier Health Foundation Committees

FUNDRAISING • The fundraising committee shall be responsible for identifying and recommending to the Board the means by which the Foundation may engage in fundraising including, but not limited to, recommendations regarding the dues to be charged to members.

RESEARCH, HEALTH & EDUCATION • The Health and Education Committee shall be responsible for collecting and maintaining a database of information on health, breeding, care of, and other issues related to improving the members' knowledge on all aspects of health, breeding and care of Cavaliers, and will recommend research projects to be supported by the Foundation. The committee shall interact with and provide information to the Grants Committee as appropriate and shall gain appropriate approvals, including legal, for the publication and dissemination of the foundation's health and education materials.

PUBLIC RELATIONS AND PUBLICATIONS • The Public Relations and Publications Committee shall be responsible for recommending to the Board the manner in which the Foundation, and the results of its research studies, shall be published. The committee shall plan, coordinate, and direct the publishing activities of the foundation in all media including, but not limited to, print, film, video, audio and the internet. The committee shall publish, at least annually, a report to members regarding the Foundation's operations and activities.

LEGAL ADVISORY • The Legal Advisory Committee shall be responsible for such legal matters as may come before the Board, including, but not limited to, the review of all fundraising, advertising, and any other materials to be distributed by the foundation.

GRANTS • The Grants Committee shall be responsible for recommending to the Board grants to be made by the Foundation in furtherance of the Foundation's stated objectives.

AUDIT AND FINANCE • The Audit and Finance Committee shall be responsible for establishing and overseeing the accounting practices, auditing policies, controls and other material financial matters of the Foundation. The committee shall also be responsible for consulting with the Board on all projects that require financial planning.

MEMBERSHIP • The Membership Committee shall be responsible for maintaining membership records and making recommendations to the Board regarding membership drives to gain new members.

ARCHIVES • The Archives Committee shall be responsible for maintaining the Foundation archives in a safe and confidential manner. The committee shall release information and/or copies of records only according to policies established by the foundation and at the direction of the foundation board. The committee shall monitor the legal record keeping requirements of the foundation and shall work closely with the Foundation Secretary to establish and maintain appropriate record keeping procedures.

ELECTIONS • The Board of Directors shall annually appoint an elections committee consisting of 3(three) members in good standing, none of whom will be eligible to be nominated for or elected to a position in the annual elections for Corporators, Directors or Officers.

If anyone is interested in volunteering to serve on the committees listed above, please contact Barbara Levy, Secretary, 12752 Conway Lake Ct, Creve Coeur, MO 63141-8113.



Past-President's message

The Cavalier Health Foundation was incorporated in 1998. Three of the first Officers have now served 4 years, the maximum consecutive time specified by the Bylaws. Two were also among those who initially organized the Foundation over a 2 year span, and they have now served for a total of 6 years. Following the 2002 elections a new Board of Directors, including Officers, is now in place. I wish the new Officers and Directors welcome, and bid all to support them in their efforts. I take this opportunity to extend my heartfelt thanks to everyone who contributed financially and to those who have been equally generous with their time and hard work. Special THANK YOU to Joanie Wieleba who was the one responsible for the incorporation of the Foundation, has attended to all our legal matters, and kept us all on the straight and narrow; to John Ellis who has been in charge of the Treasury, keeping our books in balance. They have both been pillars to lean on in my presidential years. The Foundation would not be in existence were it not for their generous efforts. The Foundation would also not be functioning were it not for the generous monetary contributions by Cavalier owners and the CKCSC, U.S.A. National and Regional clubs.

We have been able to fund research projects listed elsewhere in this publication. Two projects have been completed and we are awaiting publication of the findings. A third is a 3-year project in process. A fourth request has been received and we are awaiting further information from the researcher.

The funding of education and research requires that large sums of moneys be available. We are mainly depending on Cavalier Enthusiasts to provide the funds. I encourage all of you to become involved, to maintain memberships, to help with membership drives, raffles, auctions and other fundraising activities.

Thank you all for your generous support.

Sincerely, Randi V. Rosvoll

Help List or What can you do?

- Become a member
- Maintain an annual membership
- Recruit your puppy buyers for CF membership
- Organize CF matches, educational and social events
- Conduct CF membership drives
- Organize CF dog walks
- Call us, write us, e-mail us and let us know how you can contribute to the mission of the Cavalier Health Foundation

CURRENT BREEDING GUIDELINES FOR

Cavalier King Charles Spaniels

The fact that Cavaliers have a propensity for developing heart valve disease at an early age is well known and widely publicized. The International Symposium on Chronic Cardiac Valve Disease (CVD) in Atlanta, GA May 1998 emphasized:

- CVD is a significant disease in Cavaliers
- CVD is more prevalent in Cavaliers than in other breeds
- CVD starts at an earlier age in Cavalier than in other breeds
- CVD is more prevalent in males than in females
- CVD status of parents has a major effect on the probability and progression of the disease in offspring
- CVD is probably a multi factorial polygenic threshold trait

Breeding values based on parental status, and perhaps earlier generation status, may allow breeding young murmur-free dogs.

Current recommendations for breeding:

1. Breed only 5 year-old, heart murmur free dogs *or*
2. Breed only dogs at least 2 1/2 years old and murmur-free, whose parents were murmur-free at the age of five (5) years.

The results of these types of breeding would be the same. The expected outcome is fewer dogs with early onset heart disease. Favorable results can be expected in the first generation, and a real impact should be made in the second generation.

your Foundation Board

Kevin Turley, M.D.

Roy Alan Wilson

Barbara Levy

Stephanie Hart

Jo Anne Mittelman

Cheryl Schoenfeld

Donald Pelegrino

Bruce Henry, M.D.

Virginia Luis Fuentes, DVM Ph.D.

Landis Griffeth, M.D.Ph.D.



Making tax-deductible donations to charitable organizations

Charitable organizations, such as Cavalier King Charles Spaniel U.S.A. Health Foundation, Inc., generally seek financial support from the public in order to fulfill their missions. Donations to charitable organizations, which are known as Section 501(c)(3) organizations, are tax deductible to individual and corporate donors.

In order to attain tax-qualified status the organization must apply to the IRS and receive approval of its status. The IRS makes available to the public several publications regarding charitable donations. The IRS also has a web site (www.irs.ustreas.gov) that provides access to a list of qualified organizations, including the Cavalier Health Foundation, also listed as a Connecticut organization.

There are several ways to donate to charitable organizations. Tax-deductible donations can be broadly divided into 3 categories: cash (including checks and money orders), intangible personal property (such as stocks, bonds and mutual funds), and tangible property (such as office equipment). In addition to tax-deductible donations, donors may contribute personal services that are not tax-deductible.

Donations of Appreciated Stock

It is often advantageous, from a tax standpoint, to make a contribution of appreciated stock rather than cash to a private foundation, such as the Cavalier Health Foundation.

A donor who makes a gift of appreciated stock to a private

foundation is generally entitled to deduct the fair market value of the stock, rather than the amount paid for the stock, even though no tax has been paid on the appreciation in value of the stock. There is therefore a significant tax benefit to the donor from making such donations. The tax laws are complex, and individuals considering making a donation of appreciated stock should consult with a tax advisor to determine their specific tax consequences from making such a donation.

Donations of Personal Service

As much as money or other assets are needed to help the Foundation attain its goals, we also need for individuals to donate their time and expertise. Many different skills are

needed to successfully operate the Foundation. We are always in need of attorneys, accountants, artists, computer experts, editors, fundraisers, publishers, medical or veterinary consultants and many others to share in the work. Whatever your occupation or expertise, please offer to help.

To get involved please contact any member of the Board of Directors, listed elsewhere in this publication.

Individuals are not permitted to deduct the value of personal services donated to the Foundation, but your life will be richer for your efforts. The Foundation will benefit from not having to pay to get the work accomplished, and that frees up more money for the research projects that will benefit our wonderful Cavaliers.

REPORT OF THE ELECTION COMMITTEE 2002

The Election of Officers and two (2) Directors is scheduled for 2002. The Election Committee is pleased to present the following slate for consideration by the membership:

<u>Position</u>	<u>Term</u>	<u>Canidate</u>
<i>Officers</i>		
President	2002-2004	Kevin Turley, M.D.
Vice President	2002-2004	Roy Alan Wilson
Secretary	2002-2004	Barbara J. Levy
Treasurer	2002-2004	Stephanie Hart
<i>Directors</i>		
Director	2002-2005	Landis Griffeth, M.D., Ph.D.
Director	2002-2005	Virginia Luis Fuentes, DVM, Ph.D.

According to the bylaws of the Foundation, the above listed individuals are duly elected by general consent if no additional nominations, including seconds and current vitas, are received by the Election Committee by July 20, 2002

Submitted by the Election Committee for 2002

- John Ellis
- Joanie Wieleba
- Randi V. Rosvoll, M.D.
1473 Rainier Falls Drive
Atlanta GA 30329 4138

Note: There were no additional candidates, and the slate was elected by general consent.



MEMBERSHIP

4/1/01 —
7/31/02



The Foundation has several membership designations to include all who wish to participate

CORPORATORS *(Voting members)*

The term "Corporator" is dictated by the Articles of Incorporation and Bylaws. These are the 250 voting members of the organization. Corporators are elected and serve for terms of 3 years. They can be re-elected, and there is no limitation to the number of years they can serve. Dues for a Corporator is \$100.00 annually. Corporators have the right to vote only if the dues have been paid. They will vote for Officers, Directors and Corporators by mail, prior to the annual meeting of members, and the results of the election will be ratified at the annual meeting. Voting by proxy is not permitted. It is expected that all Corporators will have a strong commitment to the goals of the Foundation. They will be expected to contribute to the success of the organization, not only in monetary terms, but also by working in any capacity where they have expertise, and where needed. To be considered for a position as Corporator, please submit a one-page resume with name, postal address, telephone and fax number and e-mail address, educational and professional background, expertise and a statement how best you could serve the Foundation, including serving on committee(s) listed elsewhere in this publication to Barbara Levy, Secretary, 12752 Conway Lake Ct, Creve Coeur, MO 631418113.

MEMBERS

One of the key objects of the Foundation is to support, fund and promote the study of and research into health problems in Cavaliers, with an initial key effort to zero in on chronic mitral valve disease which is so prevalent.

Membership categories have been established to accommodate everyone who would like to give financial support to the Foundation and membership is open to any person, club, institution or corporation with an interest in our Cavaliers: Donors will receive a letter of receipt of the tax-deductible dues/donation, and will be recognized in a publication.

<u>Membership designation</u>	<u>Donation amount</u>	<u>Membership designation</u>	<u>Donation amount</u>
Founders	\$5000.00 and up	Sponsors	\$250.00 to \$499.00
Leaders	\$2500.00 to \$4999.00	Supporting	\$100 to \$249.00
Friends	\$1000.00 to \$2499.00	Sustaining	\$25.00 to \$99.00
Patrons	\$500.00 to \$999.00	Corporator <i>(elected position)</i>	\$100.00 annually

This list includes dues and donations received from April 1, 2002 through July 31, 2002. There is still time to submit dues and donations for 2002 before the end of the year. The *asterisks indicate Charter Members who donated \$250.00 or more before 12/31/99 and have continued to pay dues.

FOUNDERS

*Cavalier King Charles Spaniel Club, U.S.A.
Mary E. Kenning
*Randi V. Rosvoll, M.D.

LEADERS

*Brenda and Gary Bailey
*Terrance and Judith Paul

FRIENDS

*Beth and Rick Arenburg
*Robbie A. Boddin
Hayward Elliott
*Gregory May

PATRONS

*Cavaliers of the Northeast
Steve Nagelberg
Suzanne and John G. Pitts
Charlotte Sims

SPONSORS

*Deborah Ayres
*Marianne Cook
*Judith D. Geldermann
*Bruce and Shirley Henry
(Shirmont Cavaliers)

Ann and Chris Lewis
*Don Pelegrino, Ph.D.

Gordon W. Potter, Jr.
*Ben and Cheryl Schoenfeld
Barbara H Smith

SUPPORTING

James and Mary Barnes
Philip Durst
*John Ellis
John J Flanagan
Thomas J. Flynn Trustee
*Vic Hill
Arlene and Bayard Hochberg
Barbara Hoorman
Cynthia Louise Jones
*Barbara J. Levy
Marion Lidman
Blanche Spain
*Elizabeth Spalding
Kevin Turley, M.D.
Sharon West
*Joanie Wieleba
Katherine Wilkerson

Marsue Williams
Barbara Garnett Wilson
Barbara Wolk

SUSTAINING

Barbara A. Anson
*John Becket
Karen B. Bernstein
Tamela Klisura Bondeson
David G. and
Cindy E. Bonner
Suzanne Brown
*Brookhaven Cavaliers
(Brenda Martz)
James Carroll
Suzanne Caver
Andrea J. Clark
Winnie Clark
Carla Close
Celeste Daniel
Jean M. Dennison
Christine Daudelin
Vera V. Dickey
Susan J. Dlott
Gayle Draus
Candy Dunkless
Jeanne Eklund
Linda Elliott
*Sarah Fannon
Sheryl Farmer
Andrew Fechter
*David Frederick
Janice Gallagher
Catherine Garrison
Martha Goodman
Vickie Herring
Terry Ingram
Drs. Bert and Dorothy Kalet
Pier Keegan
Nancy Klasterha
Phyllis Lasser
Brenda and Dallas Martz
Maureen Miles
Mandy Mulligan
Laura Nel

Margaret Norwell
J.E. Olsen
Laura Ottinger
Brian Pederson
Jim and Carolyn Peterson
Missy Philippe
*Joyce Pierce
Sue Ramsey
Judith Russell
Joan Sedita
Deborah Silverman
Barbara H. Smith
Mr. Shane's Snowball
Blanche Spain
Laurie Storey
Chris Swim
Swiss Shadows
Jane M. Thaeader
Laura Trunk
S. Elizabeth Turner
John and Janne Vann
Mary Anne Wolfer



CAVALIER HEALTH FOUNDATION *Grants*

Grant #101:

Sonya G Gordon, DVM, BSc, DVSc et al
Texas A&M University,
College of Veterinary Medicine

“Effect on Carvedilol in dogs with Chronic Degenerative Valve Disease”

This is a three-year study to establish an effective safe dosing regimen for Carvedilol when used to treat dogs with asymptomatic heart valve disease.

The data will provide the foundation for a follow-up study to determine whether Carvedilol will delay the progression of the disease.

(see report in this newsletter)

Grant #102:

Bruce W. Keene, DVM, MSc, DACVIM et al
North Carolina State University,
College of Veterinary Medicine

“Identification of Mitogenic Receptors associated with Chronic Valvular Heart Disease in Cavalier King Charles Spaniels”

This is a pilot study designed to identify specific receptors on heart valves that may be causally involved in the development of Cavalier heart valve disease.

(see report in this newsletter)

Grant #103:

Sara M. Cowan, DVM et al
University of Tennessee,
Department of Small Animal Clinical Sciences

“Quantitative, functional, and morphologic characterization of platelets in the Cavalier King Charles Spaniel.”

This is the first effort to characterize abnormalities of platelets in Cavalier King Charles Spaniels.

The findings will lay the background for further studies of platelet abnormalities, inheritability, and the possible association with heart valve disease.

(see report in this newsletter)

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“Effect of Carvedilol in dogs with Chronic Degenerative Valve Disease”

Sonya G Gordon, DVM, BSc, DVSc et al
Texas A&M University, College of Veterinary Medicine

In normal hearts, valves ensure that blood flows in one direction. When valves become diseased and do not close properly, blood can leak backwards. This abnormal flow generates a heart murmur, causes heart enlargement, and may eventually lead to signs of heart failure (HF) such as exercise intolerance, cough or collapse.

Many breeds of dogs suffer from degeneration of the heart valves (DVD) but Cavalier King Charles Spaniels develop this condition more often and at younger ages than most other dogs.

The preferred treatment for this disease in people is open-heart surgery to repair or replace the leaky valve. This procedure is available to veterinary patients at some referral centers, but it is expensive and risky.

There is no proof that drugs can slow the progression of DVD in dogs that have no signs of HF. The medication most commonly prescribed for these patients, an angiotensin converting enzyme inhibitor such as enalapril, has failed to delay the progression of the disease.

Current therapy is aimed at treating HF after it develops. The study at Texas A&M University has been designed to investigate Carvedilol, a new medication that has been shown to increase the length of life when used in humans with heart disease. Additionally, a medication similar to Carvedilol has been shown to decrease some of the harmful changes that occur in the hearts of dogs with leaky valves.

The 1st year of this study has been aimed at determining a safe dose of Carvedilol for dogs. This has been done by studying intravenous and oral Carvedilol in normal hound dogs. We have completed the majority of this portion of the study and are in the process of analyzing the results. We are currently preparing to enroll dogs in the 2 year of the study. Year 2 and 3 of the study are aimed at demonstrating that Carvedilol can be used safely in dogs with DVD. We hope to show that the hearts of dogs with asymptomatic DVD, when treated with Carvedilol, undergo beneficial changes.

Our long term goal is to use the data from this 3 year study to conduct a large multicenter study to determine if dogs with asymptomatic DVD who take Carvedilol develop HF slower than dogs who take a sugar pill (placebo). It is our hope that Carvedilol may decrease the number of dogs that develop HF from DVD and thus improve the quality and length of life for some dogs.

This study was made possible through the generous funding of the Cavalier King Charles Spaniel, USA Health Foundation, the Morris Animal Foundation and the Signature Program of Texas A&M University.



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“Identification of Mitogenic Receptors Associated with Chronic Valvular Heart Disease in Cavalier King Charles Spaniels”

Bruce W Keene, D.V.M., North Carolina State University

Grants

Currently the cause of chronic valvular heart disease in Cavalier King Charles Spaniels (and other breeds of dogs) remains unknown. Although encouraging progress is being made toward prolonging the lives of Cavaliers affected with valvular heart disease through clinical trials of new medications as well as new surgical approaches that may help some dogs, we will need to understand the basic cause of the disease in order to prevent its development or

stop its progression in most of the population. Toward this goal, the Cavalier Health Foundation is currently funding a study based at North Carolina State University with collaborators in Boston and in Sweden, that is designed to test the theory that heart disease in Cavaliers is caused by signaling abnormalities in the cells that make up the mitral valve. Researchers are using a technique called immunohistochemistry to examine signal receptors on the valves

from dogs who have died of heart disease, as well as those who have died from non-heart related causes, to answer the question of whether abnormalities in the cell communication might be responsible for messages that damage the valves. Unfortunately, the cell signaling pathways are fragile, and the cells must be very fresh and carefully preserved in order to examine them effectively. This means that the study requires heart valves from dogs who have been dead

only a few minutes, and the valves must be surgically harvested and specially prepared for the investigation. More valves are still needed for the study - you can contact the study Director by e-mail at: Bruce_Keene@ncsu.edu if you have a dog who is in the final stages of heart failure, and you would like for his valves to be contributed to the study. Preliminary results from the study should be available before January 2003.

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“Characteristics of Platelets in the Cavalier King Charles Spaniel”

Sara M. Cowan, DVM, Roger Carroll, PhD., Dave Gerard, PhD., Joseph W. Bartges, DVM, PhD., Tamberlyn D. Moyers, RVT, Jimmy R. Hayes, RVT, Rebecca Gompf, DVM, MS, University of Tennessee

Grants

European investigators have shown that the Cavalier King Charles Spaniel (CKCS) has an autosomal recessive inherited giant platelet disorder (IGPD). This disorder is not associated with a tendency to bleed, but the significance of this finding may lie in its genetic, familial or acquired relationship to vascular or connective tissue disorders of the breed, such as mitral valve disease (MVD), femoral artery occlusion, and temporomandibular joint dysplasia.

With the support of the Cavalier King Charles Spaniel U.S.A. Health Foundation (CHF), The American Kennel Club Canine Health

Foundation (AKCCHF), and The University of Tennessee, we have been able to fully characterize and classify the IGPD of the CKCS so that we can better understand its' pathogenesis. The hypothesis that IGPD and diseases like MVD may be related can be more thoroughly investigated in the future.

We studied 69 privately owned healthy CKCS. Many of the dogs lived in the southeastern United States, and had been obtained from the continental U.S., Canada, and Western Europe.

One-half of all dogs in the study had thrombocytopenia (low platelet count), and one-third had giant platelets. We

were surprised to find that there were dogs with a normal platelet count yet many giant platelets, and dogs with a very low platelet count yet no giant platelets. This suggests that IGPD may be variable in its' expression, making it difficult to accurately classify affected and unaffected dogs. There was no association between the platelet disorders (a low count, giant platelets, or both) and murmur status, gender, or coat color.

Platelet aggregating response studies, that measure a basic platelet function, did not differ between the CKCS with IGPD and those without it. However, as a group, CKCS had abnormally

decreased aggregating response compared with healthy dogs of other breeds. This finding is in contrast to other recent studies which found CKCS had an abnormally increased aggregating response. However, different methods were used, and it is typical of IGPD in humans to have variable results in aggregation studies. This finding is not associated with an increased concern for platelet dysfunction.

All methods of platelet counting proved to be reliable. Contrary to what has been previously suggested, the platelets of CKCS were accurately determined using both an automated machine

(Continued on Page 9)



President: Kevin Turley, M.D.

Doctor Kevin Turley lives in Middleton, California. He is a graduate of Fordham University and Medical College of Wisconsin. He practiced pediatric cardiothoracic surgery for many years, and is internationally known in this field. His many honors and awards include "Best Heart Doctors in America" by Good Housekeeping Magazine and his bibliography includes 272 publications. He and his wife Kerry enjoy exhibiting their Kerrylane Cavaliers at CKCSC, USA national and Regional show.

Vice President: Roy Alan Wilson

Roy lives in Prescott, Arizona. He has a Master's Degree in music from the University of Wisconsin. He is retired. He has been a member of the CKCSC, USA since 1994, and of St. Hubert's Animal Sanctuary and Best Friends Animal Sanctuary, and has served on the Board of Animals Benefit Club, Phoenix. Roy enjoys training and showing his Cavaliers in agility.

Secretary: Barbara J. Levy

Barbara divides her time between St. Louis and Columbia, Missouri. She is a healthcare professional with 30 years of experience in healthcare management and consultation. She is educated at Jewish Hospital School of Nursing (R.N.), Lindenwood College (BS business administration) and Washington University Graduate School. She is the President and Owner of LSS Resource Group, LTD, a consulting company for hospitals and nursing services. Barbara and husband Ken have been ardent supporters of the University of Missouri College of Veterinary Medicine. Their Cavaliers include all four colors, and "rescue dogs" that now live the "Life of Levis".

Treasurer: Stephanie Hart

Stephanie lives in Walnut, California. She studied communications, radio, television and film at California State University. Served as office manager for medical facilities, in charge of office finances, billing, and responsible for creating medical presentations and media items. Since 1995 she has been self employed, providing Computer Consulting and Instruction and Personal Website Design. She has participated in computer and software training at U.S. Airforce bases and has recorded many public service announcements for Los Angeles Radio. She has 2 Cavaliers and 1 Cocker Spaniel, and participates in Obedience and Conformation as well as working at the shows and with the clubs' websites.

Director: Jo Anne Mittelman

Jo Anne lives in Pleasanton, California. She has a BA degree from Kenyon College and MA from Washington University. Her background is in sales management, business development, international marketing medical diagnostics, including public relations and health education. Jo Anne is very active in the Cavaliers of the West. She has served as the Membership Secretary of the Foundation. She and husband Kumar Subramanian share their house with "teenage" Cavaliers.

Director: Cheryl Schoenfeld

Cheryl and her Husband Ben live in Mobile, Alabama with an unspecified number of Cavaliers. Cheryl is a graduate of Auburn University. She is a Senior Account Supervisor for Heinz North America. Her experiences include teaching and sales. She was introduced to Cavaliers in 1995, and has been "hooked" ever since, but perhaps not as badly as Ben. Cheryl works willingly and hard and always is the first to volunteer at shows where she has manned health clinics and fundraising events. She is a very successful fundraiser.

meet your board of directors



Director: Donald Pelegrino, Ph.D.

Don calls Los Angeles home. He is an Associate with Pelegrino & Associates, a firm that specializes in Not For Profit Agencies and provides services in Board Governance and Development, Community Organization and Empowerment, Fundraising and Fund Development, Mediation and Negotiations, Strategic Planning, Training, Development and Facilitation, Volunteer Management and Special Projects. Don is an experienced facilitator, trainer, mediator, manager and educator who has conducted innumerable seminars and classes, and has served on numerous boards. He is considered a leading expert on Not for Profit Board Governance. He is a member of CKCSC, U.S.A. and COTW, and provides much needed help for their shows. Don has very effectively served as the Chair of the Foundation's Grants Committee in the past 4 years.

Director: Bruce B. Henry, M.D.

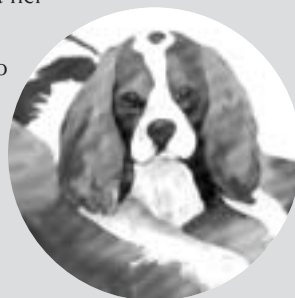
Bruce obtained his M.D. degree from University of Toronto, is certified by the American Board of Family Practice and the Royal (UK) College of General Practice, and practices family medicine in Dallas, Texas. He rapidly became a part time veterinarian when he and his wife Shirley first obtained purebred dogs. Their family includes 4 grown children, an unspecified number of grandchildren, at least 6 champion Cavaliers and a passel of "wannabes". Bruce is proud of his well-earned dog owner qualifications that include "a grooming brush in his briefcase and dog hair in the cup holder of his Suburban".

Director: Landis K. Griffeth, M.D., Ph.D.

Landis is another transplanted Texan, located in Dallas. He has an AB from Massachusetts Institute of Technology and Duke University; Ph.D. in Pharmacology and M.D. from Duke University; certified by the American Board of Nuclear Medicine; Director of Nuclear Medicine, Baylor University. He is a member of numerous professional societies, active on committees and the author of some 30 or more publications. He has served on the Foundation's Grants Committee for 4 years.

Director: Virginia Luis Fuentes, VetMB, Ph.D.

Virginia was born in London, England. She has a BA and VetMB from University of Cambridge, Certificate of Veterinary Radiology, Diploma of Veterinary Cardiology and Specialty Status in Veterinary Cardiology from the Royal College of Veterinary Surgeons. She recently successfully defended her Ph.D. thesis and earned her Ph.D. degree. She has lectured at the University of Edinburgh and University of Missouri and is currently on the staff at Ohio State University College of Veterinary Medicine. She has served many organizations, conducted many funded research projects, and is the author of numerous publications.



board of directors

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using blood anticoagulated with either EDTA or citrate, as well as the gold standard manual platelet counting. We recommend collecting blood for platelet counts in CKCS from the jugular vein with a large needle (18- or 20- gauge) or butterfly catheter.

By electron microscopy, we found that the ultrastructure of all the platelets was normal.

In conclusion, we found that the IGPD may be more complex than we thought in the way it expresses itself in each dog. The IGPD of Cavaliers is benign. It is characterized by variable combinations of thrombocytopenia as low as 20,000/uL, giant platelets, decreased aggregation response to ADP, and normal ultrastructure by electron microscopy. There is no association with murmur status, gender or coat color. The characteristics of this IGPD are unlike those seen in human beings or other animals, such as Bernard-Soulier syndrome, Mediterranean macrothrombocytosis, or Glanzmann's thrombasthenia.

The variability of expression of Cavalier IGPD, combined with the variability in expression of MVD, presents a challenge in studying and comparing dogs affected with these disorders. Future studies will be needed to investigate whether or not there is a common genetic, familial or acquired defect of the vascular system or connective tissue in the CKCS that will explain the many conditions or disorders, the causes of which are unknown.

SYRINGOHYDROMYELIA

secondary to occipital bone hypoplasia (Chiari malformation) in Cavalier King Charles Spaniels

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Occipital bone hypoplasia resulting in caudal fossa overcrowding, obstruction of cerebrospinal fluid pathways and secondary syringohydromyelia was first identified in Cavalier King Charles spaniels (CKCS) in 1997 (Rusbridge et al 2000). After the condition was reported it became apparent that it was not only common in the CKCS breed but it possibly had been unrecognised for some time. Affected CKCS have now been identified across Europe, Australasia, and North America. Occipital hypoplasia with secondary syringohydromyelia also occurs in other breeds including King Charles spaniels, Yorkshire and Maltese terriers and French bulldogs.

The problem is characterised by an underdeveloped occipital bone (back of skull). This means the cavity at the back of the skull (termed caudal fossa in dogs and posterior fossa in humans) is too small to comfortably accommodate the hindbrain (cerebellum and brainstem). As a result the brainstem is kinked and the cerebellum is forced out the opening between the skull and the vertebral canal (foramen magnum). This obstructs the flow of cerebrospinal fluid from the ventricular system to the

subarachnoid space (the space around the brain and spinal cord). As a result fluid backs up in the ventricular system causing a mild subclinical hydrocephalus and, more significantly, is forced into a potential space in the spinal cord called the central canal. The central canal is widened (termed hydromyelia) and then eventually the lining of the canal is split and fluid is forced into the spinal cord substance itself (termed syringohydromyelia). The syringohydromyelia is therefore a fluid filled cavity within the spinal cord — it is sometimes referred to a syrinx. If syringohydromyelia develops secondary to occipital bone hypoplasia then the damage to the spinal cord is usually most severe in the neck.

The classic clinical sign in the CKCS is neck and shoulder discomfort (termed paraesthesia) which results in the dog scratching at the neck/shoulders especially when excited or on a lead. Typically this is on the side to which the syrinx is most severe. The discomfort is a consequence of damage to nerve fibres conveying information about pain and temperature sensation (spinothalamic tracts). As the syrinx widens the motor nerve cell is damaged (nerve which powers the muscle) and the dog may have muscular weakness resulting in neck scoliosis (twisting) or a forelimb weakness. Cases with a very wide syrinx may have damage to the descending white matter tracts

(nerve fibres in the spinal cord going to the hind-limbs) resulting in weakness and poor coordination of the hind-limbs. Pain is a predominant feature of the condition and this may vary from a mild neck discomfort to bouts of screaming after sudden changes in head position, excitement or being touched in the paraesthetic region. In the author's experience the severity of the clinical signs mirror the size of the syrinx and the corresponding damage to the nervous system. Signs are usually recognised between 6 months and 2 years however dogs of any age may be presented — the authors has had two ten year old dogs that presented with neck pain and where investigation revealed cervical syringohydromyelia as the only explanation of the clinical signs. The condition occurs in both sexes and all coat colours. At present confirmation of the diagnosis is by MRI only. This is costly and not widely available. Many dogs have appropriate signs but the diagnosis is not confirmed.

Mild cases may not require treatment or may be managed with non-steroidal anti-inflammatory drugs. A significant number of dogs have progressive signs and should be surgically managed e.g. by a subtotal occipital craniectomy with durotomy relieving the obstruction at the foramen magnum. A surgery where a drain (piece of tubing) is inserted between the syrinx and the subarachnoid space (fluid

filled space around the spinal cord) is also described. In the authors' experience, a proportion of dogs may continue to deteriorate or show signs of pain after surgery. This is likely because the previous damage to the spinal cord is permanent and because large syringomyelic cavity may self perpetuate because of a "slosh effect" where it is easier for fluid to flow down the syrinx in the expanded spinal cord than in the narrowed subarachnoid space. For these dogs and for those where surgery is not possible clinical signs may be improved by oral opioids (e.g. pethidine) but by far the most effective drug is prednisolone at anti-inflammatory doses (for a CKCS typically 5mg daily or on alternate days).

The defect in the CKCS is similar to Chiari type I malformation in humans. Chiari 1 malformation is characterised by underdevelopment of the occipital bone with cerebellar tonsillar herniation and obstruction of the foramen magnum. It is not recognised as a hereditary condition in humans although a familial tendency has been suggested. Genes belonging to the Hox family control the development of the occipital bone.

The modern CKCS breed was established in 1928 and in the 1930s 6 stud dogs were extremely popular. During the 1940s certain breed lines were extensively inbred with repeated grandfather to daughter, father to daughter,

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Syringohydromyelia Continued from Page 10

mother to son, half and full sister/ brother mating being the norm rather than the exception. The modern breed is the descendants of these dogs and currently the registrations of CKCS are in excess of 11000 dogs per year. Certain lines and individuals were common within the pedigrees of CKCS diagnosed with syringohydromyelia so the pedigrees were studied in further detail to see if there was a hereditary basis for the disease.

A database of over 1050 CKCS spanning 20 generations was established by obtaining pedigree information from 45 dogs diagnosed with syringohydromyelia secondary to occipital bone hypoplasia. This data was supplemented with published information from the Cavalier King Charles spaniel club. This created a large family tree which was used as a tool to study the possible inheritance. Twenty five pedigrees from CKCS without syringohydromyelia were also studied.

The incidence of syringohydromyelia was very high in certain families and lines which had been extensively inbred. The affected dogs could be traced back to one bitch born in 1956 and the two offspring from her single litter. Four key dogs consistently occurred within the individual pedigrees. These represented four major breeding lines. It appeared that a dog had a far greater chance of developing syringohydromyelia if there was repeated breeding between descendants of these dogs. It would appear therefore that occipital bone hypoplasia and syringohydromyelia in the CKCS is hereditary. Although a model of autosomal recessive inheritance

is suggested, aspects of the inheritance do not fit simple Mendelian genetics.

Further studies

One of the longer term goals of the CKCS genetics project is to collect blood for DNA analysis from affected, related and unaffected dogs in an attempt to identify the gene and establish a genetic test for this condition.

In the meantime it is hoped that the information from the database may be passed to a suitably qualified colleague to establish a breeding program and also for colleagues working in other breed associated conditions in the CKCS e.g. mitral valve disease, hereditary eye disease and platelet disorders. It is hoped to establish links with a mathematics department with the aim of developing a computer program that is capable of representing the degree of inbreeding and analysing the data more meaningfully.

In investigate the possibility that the defective gene may have variable penetrance studies are underway to see if there is a correlation between the number of carriers in an affected dog's immediate ancestry and the severity of the MRI findings and clinical signs. To this end the project is ongoing and the authors are still seeking pedigrees of CKCS with MRI confirmation of syringohydromyelia and normal CKCS (also with MRI confirmation).

The author is also examining whether other diseases could affect the development of syringohydromyelia. Rapid changes in intrathoracic pressure are important factors in the pathogenesis of syringohy-

dromyelia Therefore diseases which cause increased respiratory effect e.g. over long soft palate could exacerbate the condition.

References

RUSBRIDGE, C. MACSWEENEY J.E., DAVIES, J.V., CHANDLER K., FITZMAURICE S.F., DENNIS, R., CAPPELLO, R. & WHEELER, S.J. (2000) Syringohydromyelia in Cavalier King Charles Spaniels *Journal of the Animal Hospital Association* 36 34-41.

SUBMITTING GRANT PRE-PROPOSALS



Information and a copy of the form can be downloaded at the CKCSC, USA website at www.ckcsc.org or contact the:

Cavalier King Charles Spaniel, USA Health Foundation
 Don Pelegrino,
 Chair Grants Committee
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TREASURER'S REPORT

January 1 through July 31, 2002

INCOME	
GENERAL CONTRIBUTIONS	\$14,025.00
INTEREST INCOME	\$859.17
TOTAL INCOME	\$14,884.17

EXPENSES	
GRANTS	
#101, TX A&M (Gordon)	\$18,750.00
#102, CHF/UTENN (Cowan)	\$9,600.00
TOTAL GRANTS	\$28,350.00

OTHER EXPENSES	
BANK CHARGES	\$36.00
FILING FEES	\$50.00
TOTAL OTHER	\$86.00
TOTAL EXPENSES	\$28,436.00

TOTAL INCOME — TOTAL EXPENSES **-\$13,551.83**

ASSETS	
CASH AND BANK ACCOUNTS	
CHECKING	\$2,425.28
SAVINGS	\$96,824.36
TOTAL CASH & BANK ACCTS.	\$99,249.64

INVESTMENTS	
MCDONALD BROKERAGE	\$8,258.59
TOTAL ASSETS	\$107,508.23

LIABILITIES & EQUITY	
LIABILITIES	\$0.00
EQUITY	\$107,508.23

TOTAL LIABILITIES & EQUITY **\$107,508.23**

Cavalier King Charles Spaniel **U.S.A. Health Foundation, Inc.**



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CHF Health Foundation

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