BFCA Health Times

BFCA Health Committee
Lisa De Camps, Paula Hendricks, Vickie Halstead, Larry Letche DMV Consultant, Anne Jones
Chairman and Health Times editor, Nancy McDonald

Rocks to Research: As written in the winter Health Times, funds were donated to a Morris Animal Foundation research project, "Understanding the Genetic Basis of Urinary Stones" by Dr. Ned Patterson, University of Minnesota. Communicating with Dr. Eva Furrow about the progress of study, Dr. Furrow related that due to two significant findings Bichons and Miniature Schnauzers were the prime research breeds in the study. Bichon with calcium oxalate stones had high urinary calcium levels while their blood calcium was normal. In addition, Affected Bichons showed a similar set of markers on a chromosome as did affected Miniature Schnauzers. Consequently, Bichons affected with calcium oxalate stones were needed in the study as well as older Bichons without any stones or any history of stones.

Your help is needed in this research study to turn "rocks into research." If you have a Bichon affected with ca/ox urinary stones and can travel to University of Minnesota in St. Paul, please make an appointment. Your instructions are attached to this "Health Times" edition. In addition, you will receive $25 to participate. If you have a Bichon older than eight years old and no history of stones, please make an appointment so your non-affected Bichon can participate.

If you cannot make the trip to St. Paul, MN, you can still take part in this study by donating blood DNA from your affected Bichon. Once your vet draws blood, the DNA blood sample shipping will be paid for by the study. Specific instructions need to be followed so take the attached instructions to your vet.

The research project is looking for a genetic mutation that can be tested for prior to breeding. If a genetic mutation carrier is bred only to a genetic clear, then none of the offspring will be affected. That is turning lemons into lemonade but first, your help is needed to turn rocks (calcium oxalate stones) into research.

Most Current Update From Dr. Eva Furrow

In a recent email to Dr. Furrow, it was questioned if she had an increase in DNA blood donations from affected Bichons as well as volunteer Bichons as controls. Dr. Furrow responded,

"Thank you so much for presenting the updates and encouraging participation at the BFCA show. I honestly have not noticed an influx in participants over the past month. However, I've found that people sometimes wait to contact me until their dog is due for a vet visit anyway. So it's possible that more will start trickling in this summer. We currently have 37 Bichons total. But only 7 are controls... "

You, as Bichon breeders and "keepers of the breed," are needed. Please participate if you can.

An official update from Morris Animal Foundation:

Understanding the Genetic Basis for Urinary Stones

Dr. Ed Patterson, University of Minnesota D12CA-031

Although urinary stones are common in all dogs, Miniature Schnauzers are 10 to 20 times more at risk than other breeds. Pedigree analysis of Miniature Schnauzers in a previous study revealed dogs with urinary stones had high rates of the disease independent of diet or environment, suggesting an underlying genetic basis for urinary stones. Funded by Morris Animal Foundation, researchers from the University of Minnesota are evaluating the DNA from Miniature Schnauzers and seven other breeds at high risk for developing urinary stones: Yorkshire Terriers, Lhasa Apsos, Bichon Frises, Shih Tzus, Pomeranians, Malteses and Miniature Poodles. So far, researchers have been successful in identifying a chromosomal region associated with occurrence of calcium oxalate urinary stones in Miniature Schnauzers. As several of these dogs were also suffering from diabetes, reanalysis of the data also identified a separate chromosomal region associated with diabetes in the Miniature Schnauzer. Researchers are currently sequencing candidate genes for urinary stones and diabetes in these regions to evaluate any mutations (alterations to genetic messages) contributing to disease development. The identification of mutations responsible for these diseases will lead to the development of genetic screening tests to decrease the occurrence of these diseases within high-risk breeds.

The Study of Diabetes in the Bichon Frise

From the statistics collected by your BFCA Health Committee between 2000 and 2007, diabetes in the Bichon has increased from 1% reported to 11%. It ranks as #10 on the list of disease occurrences in the Bichon. Dr. Furrow is also studying diabetes in the lab. She currently has DNA from 3 diabetic Bichons as well as from several other breeds. Currently, diabetes in the Bichon is believed to be a random disease. However, with the increase of frequency reported, diabetes in the Bichon may need to be re-evaluated. Dr. Furrow would appreciate blood samples from diabetic Bichons for her studies. Please contact Dr. Furrow at Eva Furrow furro004@umn.edu.

IT'S A TOUGH JOB BUT YOU CAN DO IT. Last year the American Animal Hospital Association updated their recommendations for initial vaccinations, boosters and testing for antibodies. Here is the long-read website, https://www.aahanet.org/PublicDocuments/CanineVaccineGuidelines.pdf

The BFCA health website featuring Dr. Dodd's recommendations also correspond, http://bichonhealth.org/HealthInfo/DoddVaccineProtocols.asp

Wait!! Don't stop reading. Of course you know all this. You have kept up with all this information and are careful how you want your dog's vaccination protocol. For your puppy/Bichon owners, who are not so well read or confident or bold, it is very difficult for them to tell their vets what to do. Here's a story: Betty takes Lilli for her vet check-up. The vet tells Betty it is time for Lilli's vaccinations, rabies, distemper, parvo and bordatella. Later Betty tells the breeder that Lilli threw up in (their) bed the night after her shots. Breeder is furious at the vet especially since the vet is the breeder's vet. In discussing this incident with the vet, he stated that he asked Betty if she wanted all the shots that day. Also, when Betty was called the next day by his office staff, Betty made no mention that Lilli was sick. He makes notes if a dog is sick after vaccinations and then next time he doesn't give them all at once. (duh?) The point to be made here is to talk at length to your puppy owners about spacing vaccinations. Give them the AAHA website to take to their vets. Be certain they know to report any post-vaccination episode no matter how minor. Some breeders put the preferred vaccination schedule in the purchase contract. **You** are the one who needs to support and aid your puppy owners. Yes, it is a tough job.

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Old Dogs are the Best. Just as some people are genetically engineered to live longer than the average, similarly some dogs live far longer than most. Bichons live on an average to 14-16 years of age, some a little longer. Although a Bichon may have lived to an exaggerated age, it isn't all genetically induced. Old Bichons are well cared for both physically as well as mentally. Anne Jones keeps records of reports of old dogs and it is many of the BFCA members who own them. Recently, the health committee has received new reports of two very old dogs.

"My Bichon Frise, Forever Fred the Wonder, died peacefully in his sleep on Sunday morning, March 25, 2012 - aged 20 years 4 months and 25 days. He was born October 28, 1991 in Calallen, Texas. Fred was the little runt in his litter, and never weighed more than 11 pounds, his parents were half again and more larger. Every time I visited the McWhorter's Fred would break away from the puppy group and come right to me - so he did indeed pick me to go home with. You hear such stories and many think they are silliness, but it really does happen."

"My family and I have a Bichon Frise, Toby, who just turned 19 years old. As I have been reading up on the longevity of Bichons, we know that this is very rare and a milestone for him .We do have his birth certificate which verifies that he was born on April 4, 1993 and is a pure bred. I'm not sure if you are the right organization to contact, but I wanted to inform you of our long-lived friend as I know there are not many recorded Bichons past this age."

Official Update from American Kennel Club / Canine Health Foundation:

GRANT PROGRESS REPORT REVIEW

Grant: 01345-A: *Circulating Isoforms of B-type Natriuretic Peptide and the Pathogenesis of Canine Heart Failure*
Principal Investigator: Dr. Phillip F. Solter, DVM, PhD**Research Institution:** University of Illinois
Grant Amount: $12,740.00 **Start Date:** 8/1/2009 **End Date:** 1/31/2012
Progress Report: 30 month **Report Due:** 1/31/2012 **Report Received:** 1/31/2012
Original Project Description:
Background: Congestive heart failure is a common cause of morbidity and mortality in many dog breeds.Thephysiological changes responsible for the debilitating symptoms caused by sodium and fluid buildup are poorly understood. This has hampered the development of appropriate treatments and management of this disease. One important factor responsible for the progression of the symptoms of canine congestive heart failure may be that such dogs develop an apparent lack of response to a major rescue hormone that is normally produced by cardiac cells to prevent the symptoms of heart failure. The hormone, B-type natriuretic peptide (BNP), is produced in large amounts, but appears ineffective in alleviating the symptoms of heart failure. Studies in non-canine species suggest that the cause of this may be production of inactive formsof BNP.
Objective: The goal of this project is to determine whether circulating forms of inactive BNP occur in dogs with heart failure and therefore play a potential role in the occurrence of heart failure symptoms. The results of this study will be used to direct further studies into the diagnosis and management of this debilitating and common canine disease.
Report to Grant Sponsor from Investigator:
Canine proBNP is a prohormone peptide synthesized by myocardiocytes. Normally, at the time of its secretion into the blood, proBNP is activated by enzyme cleavage, which results in the formation of two peptides: a nonphysiologically active N-terminal portion (NTproBNP) and a physiologically active C-terminal peptide (BNP). Circulating BNP binds to receptors on cells invarious tissues to counteract many of the conditions associated with congestive heart failure. We have hypothesized that one of the dysfunctions that myocardiocytes of dogs with heart failure develop is a reduced ability to cleave proBNP to the active form, which would exacerbate heart failure symptoms. The objective of this project is to identify proportional increases in uncleaved proBNP, relative to NTproBNP and BNP, in the blood of dogs with heart failure. To do this, we have developed three sandwich ELISAs, one for each of the three canine peptides. For accuracy of comparison of relative concentrations of each peptide, we use a full sequence proBNP clone for the calibration curve in all three ELISAs. However, we have been unable to obtain adequate analytical sensitivity of our calibration curve for one of the three, namely, to physiologically active canine BNP. We have evaluated the cause of the reduced sensitivity of the assay by comparing calibration curves generated using the proBNP standard to a synthesized BNP peptide, which is an exact match of the physiologically active canine hormone. The results of these studies show that that the full length proBNP clone is the cause of the reduced sensitivity of the calibration curve. We suspect that the reason why the use of the proBNP clone causes reduced analytical sensitivity is that it has one additional amino acid, a methionine, at its Cterminus, which is inhibiting binding of one of the antibodies used in our BNP ELISA. Hence, we have been attempting to obtain a proBNP clone that does not have a C-terminal methionine. However if necessary, we will use synthesized BNP as the peptide standard for this specific ELISA and normalize the results to the other two tests.

GRANT PROGRESS REPORT REVIEW

Grant: 01415: *Development of Anti-IgE Peptide for Treatment of Canine Allergy* **Principal Investigator:** Dr. Bruce Hammerberg, DVM PhD **Research Institution:** North Carolina State University **Grant Amount:** $84,861.00 **Start Date:** 1/1/2011 **End Date:** 12/31/2012 **Progress Report:** 12 month **Report Due:** 12/31/2011 **Report Received:** 1/5/2012
Original Project Description: Treatment of chronic allergic diseases in dogs, often seen as recurring dermatitis, frequently results in less than optimal outcomes. When the disease can be linked to exposure to specific allergens, such house dust mites, desensitization injections can be effective in some individuals when carried out over an extended time; however, most cases are not resolved by desensitization and require a combination of allergen avoidance and anti-inflammatory drugs. The prolonged use of these drugs, such as corticosteroids, can result in severe side effects. These same challenges exist for human allergy suffers, but recently there has been a major breakthrough in the development of a new, safe and effective therapy using a monoclonal antibody that specifically binds and neutralizes human IgE that is responsible for activating inflammation-producing cells. This new product is called Xolair® and it has been used safely by millions of allergy patients for more than 5 years. Our laboratory has developed a monoclonal antibody that specifically binds canine IgE in the same manner as the monoclonal antibody used to develop Xolair®. There are two obstacles remaining in providing the canine equivalent to Xolair® for treatment of allergies in dogs and

they are the Objectives of this proposal: 1. Modifying the monoclonal antibody to reduce the dog's natural response to clear this protein; and, 2. Developing cost effective production of the modified antibody. Our Approach is to: 1. Generate a single chain recombinant peptide from the IgE-binding region of our canine IgE-specific monoclonal antibody that is small in size and of limited antigenic potential; and 2. Develop a transgenic plant (eg. tobacco) containing the gene for this recombinant peptide using well established techniques that will allow production of the therapeutic peptide in kilogram quantities. The expected outcome will be to provide a new, safe and highly effective treatment option for canine allergic diseases that is affordable to use for maintenance therapy.

Grant Objectives: Objective 1: To create a recombinant, nonanaphylactic, single-chain antibody fragment (scFv) with high affinity for canine IgE from the variable region gene sequences of mAb 5.91 clones.

Objective 2: To generate a plant-derived recombinant, nonanaphylactic, single-chain antibody fragment with high affinity for IgE that can be scaled up for production at kilogram amounts.

Report to Grant Sponsor from Investigator:

The sequence for the light chain variable region of mAb 5.91 was completed in April, 2011. The sequence for the heavy chain variable region was completed in October, 2011. Linkage of the two sequences and expression of a recombinant scFv of mAb 5.91 with confirmation of high affinity binding to canine IgE was completed in November, 2011. A Fab fragment was produced from the whole molecule mAb 5.91 and used in flow cytometry assays as a model for the recombinant scFv version of the antibody by May, 2011. Whole blood from allergic dogs was processed and assayed. Results showed that the whole mAb 5.91 molecule reduced the amount of binding of canine IgE to the monocyte cell population from 15% to 7.7%. Moreover, the intact mAb 5.91 was able to bind the free IgE to prevent it from binding cell surface receptors. However, whole molecule mAb 5.91 complexed with canine IgE bound to 13.7% of the lymphocyte cell population possibly reacting with IgG Fc receptors. The Fab fragment of mAb 5.91, pre-incubated with canine IgE, reduced the binding of canine IgE to the monocyte cell population from 15% to 5.6%. This demonstrated that the Fab fragment of mAb 5.91 was even more effective in reducing the binding of IgE to the monocyte cell population than the intact mAb 5.91. There was no evidence of Fab fragment complexed with canine IgE binding to lymphocytes as previously seen with intact mAb 5.91. These preliminary results indicate that the recombinant scFv form of the mAb 5.91 will be more effective at blocking IgE binding to cell surface receptors as well as decreasing the potential of cross reactivity of the lymphocyte cell population with the IgG Fc receptors than the original mAb 5.91.

July 26, 2012

CHIC 5 STAR AWARDS

The BFCA Health Committee has issued the first of the CHIC 5 Star Awards to the following:

Merrymaker's Living Doll	Cindy Morey	11/15/09
Merryell Absolutely Spellbound	Mayno Blanding	11/29/09
Jasme Raggedy Ann	Mayno Blanding	11/29/09
Victoire's Cheers to Austin	Vickie Halstead	11/30/09
Victoire L'Amour Champagne Lace	Vickie Halstead	11/30/09
Victoire Juniper's Hot Tamale	Vickie Halstead	11/30/09
Victorie's Norwegian Red	Vickie Halstead	11/30/09
Victoire Melodie's Bleu Reign	Melodie Michel	11/30/09
Victoire Diamond Rio Citrine	David & Darlene Scheiris	12/02/09
Mybliss Galway's Irish Imp	Nancy Noonan	06/06/10
White Shadow Galaway Hide N'Seek	Nancy Noonan	06/06/10
Allure's U Chenoa Joe	Lisa Des Camps	10/01/10
Victorie Gerie No Lemon Gemstone	Vickie Halstead, Mary Wangsness	11/30/10
Paray Parasol of Knollwood	Susan & Dean Anneser	12/1/10
Paray's Secret Encounter	Susan & Dean Anneser	12/1/10
Merrymaker's Southern Charm of Bibelot	Cindy Morey	1/13/11
MyBliss Petite Coquette	Loretta McDonald	3/16/11
Jabree's Jack of Hearts	Nita & Mark Gryan	3/23/11
Bibelot's Sugar Plum Dancer	Paula Hendricks	6/6/11
Bibelot's Purple Heart O'Mine	Matt & Paula Abbott	9/12/11
Jabree's Bellefleur La Jolie	Nita & Mark Gryan	12/19/11
Bijone's Mon Cheri Music of the Nite	Susan Brockett, Barbara Shaffer Nicole Shaffer	1/4/12
Mybliss Dandy Devil Wears White	Myra Wotton, Jan & Alan Shetzer	1/5/12

INSTRUCTIONS TO ENROLL IN STUDY
Calcium Oxalate Urinary Stones at University of Minnesota

Description of the study **Dr. Eva Furrow: 612-625-6222 or furro004@umn.edu**

To-date, 30 Bichons have enrolled in the study, with a goal of 75. The greatest need is for local Bichons to enroll. Dr. Furrow has decided to focus more specifically on Bichons and Miniature Schnauzers, with the discovery that both may carry a similar DNA mutation that indicates stone risk. She found very high fasting urinary calcium levels in Bichons with current or past calcium oxalate stones, but normal blood calcium levels. She believes that Bichons suffer from a condition similar to "familial idiopathic hypercalciuria" in humans, a frustrating condition with very high recurrence rates. She is working toward uncovering the genetic basis for these stones for future DNA testing. The urinary measurements she has obtained should help inform veterinarians on how to best manage these stones in Bichons. BFCA has donated funds to this study.

Confidentiality: A quote from Dr. Furrow "We take confidentiality seriously and obviously would never share an individual's results or medical history with anyone outside of our laboratory."

Bichon owners that can get their dog to the University of Minnesota vet clinic in St. Paul:

1. View the attached brochure to determine if your dog is eligible as either a ***case dog*** (history of stones) or a ***control dog*** (healthy and no history of stones, so provides clear DNA).
2. Contact Dr. Furrow for an appointment at no charge, and get paid $25 per dog.
3. Bring a urine sample as fresh as possible to the clinic (collected within 24 hours of the appointment and kept refrigerated). If needed, Dr. Furrow can catch a sample as you walk your dog from your car into the building (check in at the desk and leave your dog in the car). She will run a test to determine the levels of calcium and oxalate in the urine.
4. Collect urine by using a soup ladle or pie plate, empty it into a clean container or zip lock bag, and refrigerate it until you leave home. The minimum volume needed is 2 teaspoons.
5. **Your dog must fast for 12 hours prior to collecting urine sample** (no food or treats, water is fine). Fasting is not required prior to the clinic appointment.
6. A small blood sample will be drawn to test kidney function and calcium level, and to obtain a DNA sample. Fasting is not required for the blood sample.
7. Control dogs will also have an abdominal x-ray to look for stones free of charge.

Bichons owners that are unable to get their dog to the University of Minnesota but are willing to send a blood sample to provide DNA for this study:

1. View the attached brochure to determine if your dog is eligible as a ***case dog*** (history of calcium oxalate stones). **Control dogs** from afar are difficult—discuss with Dr. Furrow.
2. First, contact Dr. Furrow: she will email your vet instructions and the FedEx #
3. Read and share with your veterinarian the attached instructions "University of Minnesota; Canine DNA Submission Instructions".
4. Perhaps you can convince your veterinarian to waive the fee for drawing the blood sample in support of Dr. Furrow's efforts. She cannot provide the $25 for participation from afar.

BICHON BREEDERS: PLEASE SHARE THIS INFORMATION WITH OWNERS OF PUPPIES YOU HAVE SOLD TO ENCOURAGE PARTICIPATION!!!!

****The BFCA Health Committee will be sending emails to members with the information attached that you can email to your puppy buyers, and this information will appear on www.bichonhealth.org, click "Research" tab.***

RESCUE PUREBRED BICHONS CAN PARTICIPATE TOO, WITH KNOWN HEALTH HISTORY!!

Canine DNA Submission Instructions

Information

- Include a form briefly stating any major health problems (urinary stones, diabetes, etc.) your pet has or has had in the past.
- If available, include your dog's AKC registration number or a copy of your dog's pedigree.
- Collect a blood sample.

Blood

- Submit 3-5 cc's of whole blood in an **EDTA tube**(s) (Lavender-topped tube in the US).
- Put the blood sample in the tubes and gently rock it a few times to distribute the anticoagulant:

Do not spin, extract serum, or anything further.

- Refrigerate if the sample is being held for any time before shipping.

Labeling

- Label the sample with the following: The dog's name and the owner's last name.

Shipping

- Place tubes for each dog into individual plastic bags or a hard plastic container (ex. pill bottle or syringe casing).
- Pack the sample in a small box or insulated container. If the temperature of the location you are
- shipping from is 80 F or above, include a cool pack.
- Ideally, ship the sample immediately. If you are waiting to ship samples, please refrigerate.
- Ship to arrive within 2-7 days (US Mail, UPS, FedEx, etc.). Samples **DO NOT** need to be sent overnight.

- Send samples with all forms to:

University of Minnesota
c/o Eva Furrow (Mickelson Lab)
1988 Fitch Ave
295 AS/VM
St. Paul, MN 55108

If you have questions regarding sample submission please call Dr. Eva Furrow at 612-625-6222 or e-mail furro004@umn.edu

Pemphigus Complex – A dermatologic Disease

Nancy McDonald, BSN, RN, retired

What is Pemphigus Complex Disease:

Pemphigus Complex is a group of autoimmune diseases affecting different layers of skin. The body's own immune system begins attacking itself and the result is an abnormal immune response to normal components of the skin holding the cells together (desmosomes are responsible for cell-to-cell adhesion), resulting in the separation of cells (acantholysis Keratinocytes).

It is seen in dogs, cats, horses and humans, and can be a fatal disease because of secondary infections and/or damage to the mucosal linings of the mouth and esophagus and/or the serious side effects of treatment. Breed predispositions are recognized for pemphigus foliaceus (Bearded Collie, Akita, Doberman Pinscher, Newfoundland, Schipperke) and pemphigus erythematosus (Collie, German Shepherd and German Shepherd crosses). There are no predispositions recognized for the other two forms, pemphigus vulgaris and pemphigus vegetans. It is almost unheard of in the Bichon but a case has been reported.

The skin or epidermis is made up of four layers. The bottom layer or base layer is called stratum basale or basal layer where production of the structural protein keratin begins. The keratinocytes move upward into the next layer called spinosum or prickle cell layer. The cells in the third layer, having more keratin, are still alive and dividing and are called the stratum granulosum or granular layer. At the top is stratum corneum or horny layer, the layer that is visible. This layer is a thick, tough, protective layer. In dogs an even tougher, specialized layer makes up the skin of the footpads and nose leather, stratum lucidum.

Since pemphigus is an autoimmune disease, an underlying genetic component is suspected. In humans, some individuals are predisposed to developing some form of pemphigus in the presence of the right triggers. Causative agents may apply to dogs too but research lacks in this area. Due to the genetic component, dogs with a form of pemphigus complex should not be bred.

The most severe form of the pemphigus complex is pemphigus vulgaris. It affects the deep layer of the epidermis, the basal layer, and is clinically distinct from the superficial pemphigus. Pemphigus vulgaris causes severe ulcerations of the mouth, nose, prepuce, anus and vaginal area, where "normal" skin meets "specialized" skin. The mouth is almost always affected. This is extremely painful and there is a higher risk of secondary complications. There may be severe itching as well fever and loss of appetite. The Pemphigus vegetans is a less severe form of pemphigus vulgaris but it looks very different. There are warty growths over the body that may ulcerate.

The most common of the pemphigus complex is pemphigus foliaceus. It usually affects the top layer of the dog's skin on the nosebridge, eyes, groin, ears and footpads. The results include pustules that rupture easily leaving scale, crusts, red skin, erosions, and hair loss. Secondary infections may develop as well as severe itching. Footpads may become sore and painful making it difficult to walk. Fever, loss of appetite and depression may result. The second most common of the pemphigus complex is pemphigus erythematosus and is believed to be a milder form of pemphigus foliaceus. It affects the skin on the face and ears. Both p-foliaceus and p-erythematosus affect the superficial layer of the dermis.

Pemphigus foliaceus is sometimes used as the general term for all the superficial pemphigus diseases as there is an overlap in clinical, histologic, and immunologic characteristics among all the superficial pemphigus conditions. Deep pemphigus conditions, though, still remain clinically and immunologically distinct from the superficial pemphigus conditions. Thus, the term pemphigus should not be used as a diagnosis by itself.

Diagnosis:

There are a lot of diseases that can look like pemphigus complex disorders. Skin reaction to administered medications are the most common "look alike" disorder, but systemic lupus erythematosus, discoid lupus and skin cancers are other fairly common diseases that may be confused with pemphigus complex disorders. Even superficial pyodermas (hot spots) can look like pemphigus lesions. After physical examination, the veterinarian does a skin biopsy or refers the dog to a dermatopathologist for the biopsy. The biopsy determines histologic changes to reveal the subtype of pemphigus complex. Knowing the subtype is critical to treatment regime and determining a prognosis. To differentiate from other possible diseases such as lupus, an immunohistochemical or direct immunofluorescent testing may be done. Also blood tests for anti-plakin antibodies and desmoglein may assist in diagnosis.

Treatment:

Immunosuppression is essential in treating all the pemphigus complex diseases. Treatment of pemphigus erythematosus and pemphigus vegetans may not be necessary or is usually possible with topical corticosteroids or low to medium dosages of prednisone. Tetracycline and niacinamide may also be necessary.

The treatment for pemphigus foliaceus and pemphigus vulgaris is aggressive immunosuppression using high doses of corticosteroids, either prednisone or dexamethasone. Secondary infections are common and antibiotic therapy is usually necessary. Special anti-bacterial baths may also be required using products such as Caphalexin. Occasionally steroids alone are unable to control the symptoms, or dogs are unable to tolerate high doses of corticosteroids due to their side effects, or in order to decrease the amount of corticosteroids necessary, azathioprine is used in addition to the corticosteroids. Corticosteroids have serious side effects and dogs taking them must be monitored closely. They may drink more water than normal and can develop urinary incontinence. Their appetites may be stimulated and metabolic changes may result making them more susceptible to weight gain. Long-term steroid use can bring on diabetes. The use of Azathioprine can cause problems with bone marrow production necessitating blood testing.

Treatment requires time and patience. Some cases will respond rapidly to therapy while others respond poorly depending upon the ability of medications to suppress the individual animal's immune system. Another important factor is how well an individual tolerates the side effects of the medications. Dosages of medication are adjusted to reduce side effects while discouraging the return of skin lesions. Many dermatologists feel that pemphigus complex symptoms are more difficult to control if a relapse occurs.

Sunlight makes the symptoms worse, especially on de-pigmented areas of the nose. Dogs should be kept out of the sun or an SPF 15 sun block such as Veterinarian's Best. Even x-rays can exacerbate the symptoms.

Prognosis:

Treatment is usually for the life of the dogs. Approximately 50% of dogs with pemphigus foliaceus and pemphigus erythematosus can be kept symptom free. Other forms of the disease are more difficult to treat. Mortality rates are high for a variety of reasons. Because corticosteroids have serious side effects and can prove fatal, dogs must be monitored closely. The dogs have pain and open sores and must be bathed and cared for. This may be impossible for the owner of the dog with time restraints. Also the cost of veterinary care as well as the cost of drugs is prohibitive for some dog owners. Because the cost of treatment, extensive care of the animal, and suffering of the animal themselves is greater than some owners can shoulder, they elect to euthanize their dogs. Team work is important in treating pemphigus diseases. It is important not to be discouraged by failure to achieve a rapid response as this condition requires time and patience.