

14th Annual Feline Fanciers Symposium



The 14th Annual Feline Fanciers Symposium was held April 13, 1991 at VHUP. Following are summaries of the three presentations.

Feline Reaction Patterns

Dr. Karen Kuhl, a resident in dermatology, discussed feline skin disorders and how these various diseases are manifested by different skin reaction patterns. Dr. Kuhl stated while many disorders have specific patterns and can be identified fairly easily, it is not enough to make the diagnosis and treat the animal to relieve discomfort; the veterinarian must look further to determine the underlying cause of the skin disease to prevent its recurrence.

The most common skin disorder in cats is eosinophilic granuloma complex which is divided into three groups: indolent ulcer (rodent ulcer, eosinophilic ulcer); eosinophilic plaque; and linear granuloma.

The indolent ulcer appears as a red ulcerative lesion on the upper lip. In many cases the area involved may be small and the animal may not be bothered by it. However, the lesion can become very ulcerated and invasive, then it needs to be biopsied to rule out squamous cell carcinoma. Most indolent ulcers are due to allergies, either to fleas, food, or inhalants. There is evidence that some cats may have an inherited predisposition to the disease.

Eosinophilic plaque manifests itself by red, raised, ulcerated lesions on the abdomen, inner thighs, or under the tail. The cat itches and exhibits excessive grooming behavior. In most cases the disease is due to allergies, however, deep fungal infections and neoplasia need also be considered in these cases. Therefore, depending on the history, biopsies for histopathological examination may be warranted.

Linear granuloma causes raised yellowish-red linear, itchy lesions, most commonly on the back of the rear legs. This is a collagenolytic granuloma which also is sometimes lower lip swelling and a swollen chin. It is most often caused by allergies.

Some cats can have more than one form of eosinophilic granuloma at the same time. For many years, these lesions were treated with steroids without looking for the cause. Now veterinarians can perform appropriate testing, discern which allergy is the most likely cause, and save the cat from a lifetime of steroid use.

Feline miliary dermatitis, another common skin disorder, generally consists of multiple, small (miliary) crusts and papules (red, raised bumps) on the back, but occasionally extending to the neck and head. These lesions usually itch. The complex is easy to diagnose, but the most difficult problem is to determine the underlying cause which can be allergies to fleas, food, or inhalants (most common); bacterial infection, fungal infection, mites and other ectoparasites, drug reactions, autoimmune disease, and unknown causes. Dr. Kuhl stressed that appropriate diagnostics should be performed to avoid having to treat the cat with steroids for the rest of its life.

There are a number of other skin diseases. Allergies, ringworm, demodex, and rarely, psychogenic causes, are the culprits in "bald belly syndrome" where the cat excessively grooms its

abdomen, destroying the haircoat. If the cat has a bare belly with no hair stubble, it may have feline endocrine alopecia, a hormonal disorder. Bald belly syndrome is seen more frequently in Abyssinians and Siamese and may be due to psychogenic causes in these breeds as they are quite high strung.

Facial dermatitis can often be quite unsightly as the cat scratches excessively at its head and neck, creating lesions that are ulcerated and encrusted. This disorder is often the result of food allergies, however, ear mites, flea or inhalant allergies, notoedric mange, autoimmune disease, and demodex may also be underlying causes. A history will give the veterinarian a clue; if the animal shows crusting first, then the most likely cause is autoimmune disease; if the animal scratched and then crusts appeared, the cause is most likely allergic. The problem generally begins around the eyes and in front of the ears.

When trying to determine the underlying cause of skin problems, the veterinarian needs the owner's help. A thorough history is vital and to elicit it, many questions will be asked: has it been a seasonal problem - this would indicate flea or inhalant allergy; are any other animals in the household affected - this would indicate ear mites, flea allergy, or notoedric mange; did the lesions come first or did the itch come first; where on the body did the problem manifest itself first; what previous medications were used in the cat's treatment and how did it respond?

Dr. Kuhl then discussed a number of diagnostic procedures available. Skin scrapings are needed to look for demodex mites, notoedres or cheyletiella. Fungal cultures are necessary to diagnose ringworm. Blood tests are needed to determine the animal's general health. Feline leukemia and feline immunodeficiency status should be determined as these two disorders may make the animal more susceptible to skin disorders. If a food allergy is suspected, then a food elimination diet may be tried to identify the offending food component. To determine whether the cat is allergic to certain inhalant substances, intradermal allergy testing can be performed. Skin biopsies for histopathologic examination are another diagnostic tool.

Once the underlying cause of the skin condition has been found it can be treated. By far the most common cause of allergy is a flea bite allergy. Here it becomes important to not only treat the cat but also its environment. Dr. Kuhl stressed that fleas spend very little time on the cat and most of their time in the room in cracks, under the furniture, in the carpet, etc. Because cats groom themselves frequently, evidence of fleas is rarely found on the animal.

Dr. Kuhl discussed a number of chemicals used for flea control and stressed that cats are very sensitive. Thus it is important to read the labels and check the ingredients. Pyrethrins and pyrethroids (e.g. permethrin, tetramethrin, allethrin, resmethrin) are usually quite safe. These chemicals kill fleas and repel them, though they lose effectiveness in about 48 hours. Some sprays contain piperonyl butoxide, a synergist which works with the pyrethrins to kill fleas more effectively. It can be toxic to cats at levels of greater than 1.5%. It also may cause drooling at lower levels. Another synergist, N-octyl bicycloheptene dicarboximide, has a lower incidence of side effects and is often used with piperonyl butoxide so that a lower concentration of piperonyl butoxide may be used. Organophosphates should be avoided. There has been a report of neurologic problems developing after a cat was dipped with a dip containing d-limonene, therefore citrus extract

dips should be avoided.

Flea-fighting products come in many forms. Sprays may be water or alcohol based. Water-based sprays are less expensive and kill the fleas at a slower rate. Alcohol-based sprays dry quickly and kill fleas quickly, but should be avoided if the cat has an open wound. Also, animals must be kept away from an open flame. Because cats do not like to be sprayed, Dr. Kuhl recommended that owners purchase a brushette which can be filled with the liquid. It is then brushed into the hair coat. She also cautioned that nursing kittens should not be completely sprayed, only small amounts of the chemical should be dabbed on their backs. Organophosphates or carbamates should not be used on kittens, only pyrethrins or pyrethroids.

Flea dips tend to be more toxic than sprays, especially for cats. Shampoos kill fleas but have no residual effects. Dusts are a very safe method for flea control, but are not as easy or cosmetically appealing. Dr. Kuhl strongly recommended against the use of systemics, which are usually organophosphates and which are not licensed for use in cats.

The most important part of combatting fleas is treatment of the environment. The room, carpeting, and furniture have to be thoroughly vacuumed. Bedding needs to be washed and dried on a high heat setting. Then the area should be sprayed, even under the furniture. Floors should be allowed to dry before the animal comes back into the room.

Inhalant allergy is treated with a vaccine that hyposensitizes the animal. These injections can be given at home.

Ringworm is highly contagious and all cats in the household must be treated, even if they do not show signs of the disease. Treatment involves topical dips and/or oral antifungals. All cats should be completely clipped before dipping, including the whiskers. This decreases the risk of contaminating the environment and recontaminating the cat. The dips vary greatly in their protocols and may be used once or twice weekly. The oral antifungals require close monitoring by the veterinarian. One of these cannot be used in pregnant queens as it causes birth defects. The environment must be thoroughly vacuumed and all bedding, brushes, combs and the like must be destroyed. Heating and cooling vents should be cleaned and disinfected. Kittens should not be sold until two negative fungal cultures are obtained.

Pet Loss: Losing a Member of the Family — What it is all About

In 1977 the University of Pennsylvania School of Veterinary Medicine entered into a joint project with the University's Graduate School of Social Work. After a careful evaluation of the needs of the hospital, a full-time social worker was hired to counsel clients whose pets were seriously ill or dying. The idea of having someone work with and be available to upset pet owners originated at the University of Pennsylvania Veterinary School. Since then, the concept of pet bereavement counseling has spread to other veterinary schools and clinics.

Kathleen Dunn, M.S.W., the current full-time social worker at the Veterinary Hospital of the University of Pennsylvania (VHUP), discussed pet loss. "Pets provide unconditional love. They take on many roles in a person's life, they can be a companion, a buddy, a best friend, a child, a sister or brother. A pet is always there to love us and greet us. When a strong attachment forms between the owner and the animal, the pet becomes a person and a part of the family."

People want the longest possible life for their pets; in fact, we would love our pets to live forever. Often, when an animal is brought to VHUP, it is because it has life-threatening disease. Ms. Dunn is

available, with the veterinarian, to help the upset owner at this very stressful time. "It is very difficult for the attached pet-owner to make a decision if euthanasia is recommended because the animal's quality of life is poor," she said. "Because of attachment and bonding to the animal most owners feel very guilty. The sentence I hear over and over is: 'I feel as though I am putting a member of my family to sleep. Intellectually I know the animal is suffering, but emotionally this is very difficult to do.'" It is here that the role of the veterinarian becomes very important. He or she has to understand the emotional pain the owner is suffering at this time and has to understand the pet owner's concerns. Ms. Dunn explained that owners cope in different ways with euthanasia of the pet. Some take the animal home and have their veterinarian come to the house, feeling it least stressful on the animal. Some have the animal euthanized here at VHUP - wanting the vet who took care of it to do it, and often owners want to be with their pet and hold it while the drug is injected, saying 'my pet has always been there for me. I can't leave it at a time like this.' "We try to accommodate the client and the pet as much as possible," she said, "we respect the relationship the owner has had with the pet."

Ms. Dunn explained that in the owner's grieving process the disposition of the pet's body is an important issue. "There are several options: owners can take the body back to bury on their property, or they can have the animal interned in a pet cemetery, or VHUP can arrange for individual cremation where the ashes will be returned to the owner. The cremation is performed by an outside crematorium. We can also arrange for communal cremation, but then no ashes will be returned." Each pet owner feels differently, and individual wishes are an important consideration.

Ms. Dunn said that it is vital to the owner to be able to talk about the pet and the disposition of the body. "People will tell me that they want the ashes because they feel they can still talk to their animal. Others want the ashes to be buried with them, and this can be arranged with their family. Others will scatter the ashes in a park or at the pet's favorite play area."

All this is part of the grieving process. Ms. Dunn explained the phases of grieving, such as anger and guilt. "People are often angry at themselves, they feel that they may not have taken the animal to the vet early enough, for example," she said. "They may also be angry at the surviving animals. People can be very irrational for the first 24 hours after a pet's death and it is important that they express their feelings; they will be calmer after the outburst." When a beloved pet dies, people go through a mourning and grieving process and are often surprised at the emotional reaction they are having - e.g. crying, sadness, and depression.

Guilt is another emotion that surfaces early in the grieving process. "People will ponder whether they were responsible for the illness or death because they forgot to give medication once or twice, or because they ignored some minor instructions from the vet," she said. "I try to tell the students that owners may call repeatedly after a pet's death asking

the veterinarian questions as to whether they were indirectly responsible. This is very important and the veterinarian must be understanding." Most often the calls come from very responsible owners who are feeling guilty and need reassurance they did everything possible for their deceased pet. The stress people are experiencing can be very intense.

Grief affects people differently. Some may not be able to eat, others may overeat; sleep may be fitful. Most people cry and are surprised at the depth of their sadness and depression. "We counsel people to resume their activities as quickly as possible and to stay busy." Above all, it is very important that people talk about their loss, either with their family and friends, or, if that is not possible, with Ms. Dunn and the Pet Loss Support Group at VHUP. "We meet twice a month and help each other to work through the grief," Ms. Dunn said. "Often grieving for a pet stirs up memories of a previous loss, mostly of beloved human relatives, and it is important to talk about it at this difficult time." Again, people are surprised to find themselves thinking of a beloved relative who died, maybe of the same diagnosis as the pet or another serious illness. People can come to the grief support group as long as they feel the need. Quite often private vets refer specific clients, or people call who have read about the group. Ms. Dunn emphasized that it is important to work through the grieving process without delay because it will speed up recovery. "The sadness will never totally go away, but it will be easier to cope with." She also offered some tips about dealing with the loss. "Some people keep a log of their thoughts about the pet; others write letters to their pets; others write poems, or paint a picture, or prepare a photo album. Talking about the pet and keeping busy are important. All this helps to come to grips with the loss."

Ms. Dunn mentioned that some owners are able to overcome the grief by obtaining a new animal, while others are not able to replace the pet because they cannot face the thought of eventual loss of that animal. However, as time goes on - most of this group can't stand the silence in their house and eventually obtain another animal - they miss the companionship of a pet. "It is a very individual decision and each one has to work it through." What might be right for one owner, might not help another.

Ms. Dunn touched briefly at her role here at VHUP and mentioned that she is part of a team, though not giving veterinary advice. She is also an important resource and support for the fourth-year students who, for the first time, come face to face with clients with terminally ill animals. "We teach our students, interns, and residents about the importance of the pet - owner attachment and bonding. We teach about the grief process and what the veterinarian can do to help the client which is very important in all this. We are available for students, interns and residents when they need help in working with upset pet owners whose animals are ill or who have died."

Ms. Dunn is also available for pet owners who have lost a pet. She can be reached at (215) 898-4529.

Ultrasound Imaging of Abdominal Disorders

Ultrasound, a relatively new technology in veterinary medicine, is a valuable diagnostic tool for the examination of soft tissues and organs in the abdomen. Dr. Mark Saunders, assistant professor of radiology, gave an overview.

"Abdominal ultrasound is an additional diagnostic modality available to the veterinarian," said Dr. Saunders. "It is often used to clarify an abnormality seen on a radiograph. In addition, we can use ultrasound to biopsy or aspirate a mass as we can guide the needle to an exact location."

It is a form of non-invasive imaging. Sound waves above the frequency limits of human hearing, ranging from 2 to 10 Megahertz, are emitted from a transducer placed on the skin. These varying amounts and strength of sound waves are reflected back to the transducer from different tissue and an image is generated and displayed on a screen. The ultrasound waves emitted from the transducer into the tissue gradually lose their strength with depth of penetration. The amount of sound absorption is directly proportional to the frequency of the sound. High frequency sound, because of higher tissue absorption, cannot penetrate as deeply into tissue. For this reason, high frequency ultrasound is used to examine superficial structures, and lower frequencies must be used for scanning deeper tissue. Ultrasound cannot penetrate bone or air.

VHUP's ultrasound equipment is quite sophisticated and provides detailed images. The ultrasonographer has available a selection of transducers emitting varying frequencies; the image can be frozen, it can be measured and calculations can be performed by the built-in computer and everything can be recorded on tape. The images are thin cross-sectional representations of anatomy taken in various planes. By imaging the internal architecture of organs, ultrasound differs from radiographs which depict only the silhouette of an organ.

For an ultrasound exam the animal generally does not have to be sedated. "Animals are placed on their side on the table," explained Dr. Saunders. "The abdomen has been clipped to allow better contact with the transducer. To enhance this contact, a gel is rubbed on the skin. Most animals relax and some go to sleep during the exam."

"A complete ultrasound exam of the abdomen takes about 30 minutes. We don't just zero in on one organ but examine the entire abdomen. Often abnormalities are found that no one suspected."

Each organ presents a specific ultrasound appearance and the radiologist is able to diagnose disorders in the organ by changes in the amount of sound reflected, depending on the disease. For example, a healthy liver has a certain echogenicity (reflectivity), if the liver has a lot of fatty tissue, the echogenicity changes. "In a majority of cases, the ultrasonographic abnormalities seen in an organ are not specific for a certain disease," said Dr. Saunders. "But when these abnormalities are integrated with the history, physical examination findings, radiographic abnormalities and laboratory results we can be more specific about the disease process. In some cases biopsy of the organ or mass is needed for a definitive diagnosis."

Structural abnormalities of the following abdominal organs can be evaluated by ultrasound: liver and gall bladder, spleen, pancreas, stomach, intestines, kidneys, bladder, prostate gland, uterus, testes, adrenal glands and major blood vessels. These structural abnormalities may be caused by infection, tumors, cysts or obstructive processes.

Ultrasound is also used to examine the heart. VHUP's cardiology department has a sophisticated Doppler echocardiography unit which provides color images and allows for a detailed, non-invasive examination of the organ.

