

# Feline Health Topics

for veterinarians

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## Chemotherapy Safety: A Guide for Veterinary Practitioners

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Recent studies have emphasized the importance of the safe handling of chemotherapeutics in veterinary and human medicine. The veterinary oncology program at Purdue University developed the following guidelines to help veterinarians and their staffs use these toxic chemicals in the safest and most practical way.

### Personnel

All personnel should be knowledgeable of procedures for handling chemotherapeutic agents safely. High risk individuals (i.e. immunosuppressed or pregnant) should especially consider the possible consequences of handling chemotherapeutic agents and may choose to avoid any exposure.

### Storage

Chemotherapeutic agents, like controlled drugs, should be stored in a secure area. A locking refrigerator and/or cabinet is best, but if not available, these drugs should be put in heavy-duty plastic zip lock bags and stored in

an out-of-the-way area. The manufacturer's instructions should be followed carefully regarding storage temperature. Most manufacturers will clearly define these temperature requirements on the box or package insert.

### Dilution

Hands should be washed before and after admixing chemicals. Gloves are not a substitute for hand-washing. Always wear double latex gloves, or thicker gloves designed specifically for chemotherapy, when handling any of these agents. Other equipment such as protective eye goggles, a dust and mist respirator mask (approved by the Occupational Health and Safety Administration), and an impervious disposable gown (or long-sleeved smock that can be taken off quickly if contaminated), can be worn for maximum safety.

Preferably, toxic drugs should be diluted under a fume hood. If this is not available, at the very least, dilution should occur in a well-ventilated area away from heating and cooling vents and away from where others are working. A disposable plastic-backed, absorbent pad can be used to protect work surfaces from contamination. Be certain that needles are attached tightly to syringes. Fittings should be of the Leur-lock style if possible. The manufacturer's insert will list solutions acceptable for reconstitution.

### *Special Concerns*

1. Vial Pressures: The dilution of some agents (like cisplatin) causes significant pressure to build up in the vial. The use of a venting device (chemo dispensing pin) should be considered unless all volume is to be

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### Inside this issue ...

Chemotherapy Safety	page 1
Research Briefs	page 3
Radiology Case Review	page 5
Interferon/Immunology Survey	page 6
For You and Your Practice	page 7

**Special Insert—Memorial Program**

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taken out. (The venting device inserts into the rubber top of the drug vial. As diluent is added to the vial, pressure is released through a 0.2 micron, hydrophobic, air-venting filter on the side of the pin.)

2. Adriamycin and Heparin: Heparin has been shown to precipitate Adriamycin. The combination of these is inadvisable.

3. Cisplatin and Aluminum: Cisplatin is inactivated in the presence of aluminum. Only plastic-hubbed needles should be used with this drug (the actual needle cannula is stainless steel). After a medication has been admixed, the vial should be labeled with a date, time of dilution, initialed, put back into the zip-lock bag, and returned to the appropriate storage area.

## Administration

A double pair of latex gloves or heavy-duty chemo gloves should be worn by both administrator and animal restrainer during administration of any chemotherapeutic agent. Other equipment such as a respirator mask, protective eye goggles, and impermeable gowns can be worn for maximum safety.

*Excellent venipuncture technique is mandatory.*

An intravenous catheter should be securely in place for administration of such tissue toxic materials as vincristine sulfate and Adriamycin. Perivascular injection will result in severe tissue necrosis. After administration used needles should not be crushed or clipped due to increased aerosolization. If needles are recapped, great care should be taken to avoid accidental puncture wounds.

## Disposal

Chemotherapeutic waste should have a separate disposal area away from routine trash or biohazardous waste. That includes empty vials, fluid lines, catheters, syringes, needles, gloves, or any item that could have toxic chemical residue. A puncture-proof container with a tight-fitting lid, such as an empty Sodasorb canister, appropriately labeled, can be for these items. It is sometimes possible to dispose of these through a local hospital or clinic that routinely deals with the waste

items. It is currently controversial whether incineration or burial is best for permanent disposal of these chemicals.

## Spills

An accidental spill should be dealt with promptly and carefully. If your skin has been contaminated by the spill, wash thoroughly with soap and water and rinse well. If a drug has splashed into your eyes, use an eye wash continuously and have someone call a physician immediately.

One person should be responsible for cleaning the area of the spill. As much protective clothing as you have available (eye goggles, respirator mask, double latex gloves, impervious gown) should be used. Paper toweling should be used to absorb fluid and the area should be washed with soap and water. All waste should be enclosed in a large, heavy-duty zip-lock bag and disposed of appropriately (see "disposal").

## Summary

Although there is still much to be learned about safe handling of chemotherapeutic agents, we advise a cautious approach within the realm of practicality as a guideline for dealing with these drugs in your veterinary practice. Generally speaking, precaution is merely an extension of good technique. Any further questions may be answered by viewing the videotape, "Cytotoxic Drug Safety," available through the AAHA at 1-800-252-2242. ■

*Ms. Bonney and Dr. Knapp are staff members of the Comparative Oncology Program, School of Veterinary Medicine at Purdue University.*

*This article was reprinted with permission from the Veterinary Cancer Society Newsletter 17(2):10-11, 1993.*

## Research Briefs

### Multicentric Squamous Cell Carcinomas In Situ Resembling Bowen's Disease in Five Cats

Multiple squamous cell carcinomas *in situ* were diagnosed in five aged cats by Drs. Miller and Scott at Cornell University. Despite clinical courses ranging from 18 to 30 months, there was no clinical or histologic evidence of breachment of the basement membrane. The condition closely resembles Bowen's disease in humans. Human patients have one or more intraepidermal squamous cell carcinomas, but breachment of the basement membrane and invasion of deeper tissues is rare. Most humans with Bowen's disease are elderly and have solitary lesions, typically in sun-exposed skin. Multiple lesions are seen in approximately one-

third of patients, and non-sun-exposed skin as well as mucosal surfaces and nail beds can be involved. Bowen's disease has been associated with ultraviolet light exposure, ingestion or inhalation of inorganic arsenicals, and viral agents, especially papillomaviruses.

The five cats in this study had marked clinical similarities. All were darkly colored and had free access to the outside. All cats were known or estimated to be 10-years-old or older when the lesions were first noticed. The lesions had been present for 18 to 30 months before a diagnosis was made. The majority of their lesions were on the head, neck, shoulder region, and fore limbs. The lesions were not pruritic, but would bleed when ulcerated. Medical evaluation of four of the cats detected no significant abnormalities other than the skin lesions. All cats had sharply demarcated, crusted, variably ulcerated plaques as is seen in humans. Identical histologic changes were noted and like the majority of humans, breachment of the basement membrane was not seen.

Unlike the human condition, it is probable that at least four of the cats had multiple lesions from the onset. Although all cats had free access to the outside and were known to lie in the sun, solar induction of the condition can be discounted because of the appearance of the majority of lesions in haired and darkly pigmented skin. Although one cat had lesions on its lightly pigmented nose, it also had lesions in non-sun-exposed areas. Based on the history of these cats and evaluation of arsenic levels in the water supply, arsenic induction of the lesions could be discounted in these cats. Viral induction of Bowen's disease in cats by FeLV or FIV seems unlikely, but papillomavirus induction may be important. Recently, two aged Persian cats with proven papillomavirus infection had lesions that grossly and histologically resembled the lesions seen in the cats in this study.

(continued on next page)

## Feline Health Topics

*A publication for veterinary professionals*

The ultimate purpose of the Cornell Feline Health Center is to improve the health of cats everywhere, by developing methods to prevent or cure feline diseases, and by providing continuing education to veterinarians and cat owners. All contributions are tax-deductible.

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(continued from page 3)

The lesions in these cats were unresponsive to conventional therapies. Although conventional gamma-irradiation is effective in treating solitary squamous cell carcinomas in cats, the limited number of treatment centers coupled with the number of lesions in these cats makes this treatment impractical. Recently, strontium-90 plesiotherapy has been reported to be of potential benefit in the treatment of Bowen's disease in cats. The cat treated with plesiotherapy in this study had lesions that varied in response to treatment suggesting that early therapy may be beneficial.

Prior to 1990, Bowen's disease was not recognized in over 550 biopsies from cats collected over 17 years by the dermatology service at the College of Veterinary Medicine at Cornell University, nor was any condition encountered which clinically resembled that seen in these five cats. Since January 1, 1990, seven cats with this condition have been recognized at this institution. The recent apparent increase in incidence of this condition in cats is puzzling. Although the detailed biologic behavior of Bowen's disease in cats is unknown, the data from these cats suggests a relatively benign course. Recognized lesions will persist and new ones will develop despite any therapy used, but metastasis is rare. If strontium-90 plesiotherapy is unavailable, the owners should be informed that the condition is untreatable.—(*Resource: Veterinary Dermatology 3:177-182, 1992*)

## **Renal Involvement in FIV Infection: A Clinicopathological Study**

Renal tissues from 15 cats naturally infected with feline immunodeficiency virus (FIV) were examined histologically, immunohistochemically and ultra-structurally by Dr. Poli and colleagues at the Department of Animal Pathology in Pisa, Italy. Renal function and urinary proteins were also studied. Kidney abnormalities were found in 12 cats and were characterized by mesangial widening with segmental to diffuse glomerulosclerosis and presence of IgM and C3 and scanty IgG deposits in the mesangium. Tubulointerstitial

lesions were also present. In six cats the lesions were severe enough to cause marked increase in blood urea nitrogen and creatinine, and heavy glomerular nonselective proteinuria. These findings suggest that a renal involvement is a frequent occurrence in FIV-infected cats. As the histo-pathological features observed were similar to those described in HIV-infected patients, FIV-infected cats may represent a valuable model for a better understanding of HIV-associated nephropathy in humans.—(*Resource: Nephron 64:282-288, 1993*)

## **Detection of Feline Coronavirus (FCV) in Cultures and Tissues Using Polymerase Chain Reaction (PCR)**

Drs. Li and Scott of the Cornell Feline Health Center utilized the PCR to detect FCV in cell cultures and tissues. The cultures were inoculated with various strains of feline (FIPV, FECV), canine (CCV) and swine (TGEV) coronaviruses. Liver, kidney and spleen tissues were taken from SPF cats inoculated with FIPV 79-1146 (n=10), FIPV UCD1 (n=3) or sham inocula, (n=3), and from clinical cats (n=10). The viruses in the cultures were confirmed by indirect immuno-fluorescence assay (IFA) and in the tissues by viral isolation into cell cultures followed by PCR and IFA.

Viral RNA in the cultures and tissues was extracted by a single-step RNA isolation method and confirmed by slot hybridization. The viral RNA was reversely transcribed into cDNA and subsequently amplified by PCR with primers that span the FIPV spike gene. PCR products were separated on 1% Seakem agarose gels and confirmed by Southern hybridization and DNA sequencing. The test could detect, but not differentiate, FIPV, FECV, CCV, and TGEV in cultures, and FIPV in tissues of the FIPV-infected (100%) and clinical (80%) cats. The PCR results were compared with those of IFA and viral titers. The test could help in diagnosing FIPV in cats, if the appropriate samples were taken.—(*Resource: Veterinary Pathology 30(5):453, 1993*) ■



## *Memorial Program Participants 1992-93*

We wish to publicly thank the following veterinarians and animal hospitals for participating in the Cornell Feline Health Center's Memorial Program during this past fiscal year (July 1, 1992 through June 30, 1993). The 483 participants of the program represent 34 states and 2 Canadian provinces. We also extend heartfelt gratitude to those who have contributed since 1981 (indicated by an asterisk next to the name). Those practitioners contributing \$500 or more receive complimentary professional memberships. Also, if you are a Cornell alumnus your memorial gifts are included with other gifts to the University to determine giving club status (i.e., President's Circle, Dean's Circle, Founder's Circle, Quadrangle Club and Charter Society). If you would like to become involved in this valuable program please see page 7.

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Mims Animal Hospital—San Antonio TX  
Montague Veterinary Hospital—Montague NJ  
Montgomery Animal Hospital—Rockville MD  
Montrose Animal Health Center—Fairfax VA  
Morwalk, Inc.—Olney MD  
Mt. Nittany Veterinary Hospital—State College PA  
Mt. Rock Animal Hospital—Shippensburg PA  
Muddy Creek Animal Care Center, Inc.—Rowley MA  
Dr. Jolene Nagakura—Topsfield MA\*  
Dr. Danise S. Nartinez—Orlando FL  
Neal Animal Clinic—Lubbock TX  
Newington Veterinary Clinic—Newington CT  
Newport Veterinary Hospital—Newport VT  
North Country Veterinary Clinic—Lyndonville VT  
North Paw Animal Hospital, Inc.—Durham NC  
Northern Tier Veterinary Clinic, Inc.—Knoxville PA  
Northland Cat Clinic—KS City MO  
Northland Veterinary Hospital—Gouverneur NY  
Norwalk Veterinary Hospital—South Norwalk CT  
Norwichtown Veterinary Hospital—Norwich CT  
Nottingham Pet Clinic—Syracuse NY  
Oakdale Veterinary Hospital—Oakdale NY  
Oakland Veterinary Hospital—Oakland CA  
Oaks Village Animal Clinic—The Colony TX  
Old Lyme Veterinary Clinic—Old Lyme CT  
Olney Veterinary Hospital, Ltd.—Olney MD  
Oronoque Animal Hospital—Stratford CT  
Dr. Rebecca O'Quinn—Mandeville LA  
Park East Animal Hospital, Inc.—New York NY  
Park Place Veterinary Hospital—North Swanzey NH  
Park Ridge Animal Hospital—Park Ridge NJ  
Park Veterinary Hospital—Durham NC  
Paws-I-Tive Petcare—Milford CT  
Pendleton Veterinary Clinic—Pendleton OR  
Dr. Vincent J. Peppe—Canaan CT  
Perring Animal Hospital—Baltimore MD  
Pet Health Clinic, PC—Daleville VA  
Petit Brook Veterinary Hospital—Colchester VT  
Pleasant Valley Animal Hospital—Pleasant Valley NY  
Dr. Timothy Plunkett—Madison CT  
Portage Animal Hospital—Kalamazoo MI  
Prospect Animal Hospital, Inc.—Arlington Heights IL  
Dr. Franklin W. Rapp—Schenectady NY  
Dr. Janette Relyea—Red Hook NY  
Rhinebeck Animal Hospital—Rhinebeck NY\*  
Dr. Anne S. Rice—Williamston MI  
Richboro Veterinary Hospital—Richboro PA  
Rivergate Veterinary Clinic, P.C.—New York NY  
Riverview Animal Clinic, P.C.—Birmingham AL  
Rotterdam Veterinary Hospital, P.C.—Schenectady NY  
Rupert Veterinary Clinic—Rupert VT  
Sagemont Animal Hospital, Inc.—Houston TX  
Saugerties Animal Hospital—Saugerties NY  
Dr. Alan B. Schreier—Pleasantville NY  
Drs. H. James and Jane S. Schroll—Massapequa Park NY  
Dr. James Schulke—Pacific Palisades CA  
Dr. Karen L. Seamans-Viapiano—Port Charlotte FL  
Dr. Maurice Serling—Larchmont NY\*  
Seymour Veterinary Hospital, PC—Seymour CT  
Shelburne Veterinary Hospital—Shelburne VT

## Memorial Program 1992-93

Dr. Bruce Sheirr—Staten Island NY  
Dr. Stanley Sigel—Turnersville NJ  
Silver Maple Veterinary Clinic—Kutztown PA  
Dr. Mark Silvers—Greensboro NC  
Skidaway Animal Hospital—Savannah GA  
South Salem Animal Hospital—South Salem NY  
Dr. Edward L. Spindel—Baldwinsville NY  
Spoede Animal Hospital, P.C.—Creve Coeur MO  
Springville Animal Hospital, P.C.—Springville NY  
St. Francis Animal Clinic, Inc.—Fall River MA  
St. Francis Hospital for Animals—Oakdale NY  
St. James Animal Hospital—Saint James NY  
Stack Hospital For Pets, Inc.—Fayetteville NY  
Storybook Farm Veterinary Hospital—Victor NY  
Sturbridge Veterinary Hospital—Sturbridge MA  
Suffield Veterinary Hospital—Suffield CT  
Sylva Animal Hospital—Sylva NC  
The Abbey Clinic for Cats—El Cajon CA  
The Animal Health Care of Rockland—Spring Valley NY  
The Animal Hospitable Veterinary Clinic—Williamsville NY  
The Animal Hospital of La Jolla—La Jolla CA  
The Animal Inn—Glen Cove NY  
The Cat Clinic—Honolulu HI  
The Cat Hospital of Orlando—Altamonte Springs FL  
The Companion Animal Hospital, P.C.—Fishkill NY  
The Visiting Vet—Williamston MI  
Thousand Oaks Veterinary Clinic—San Antonio TX  
Town & Country Animal Clinic—Olney MD  
Town & Country Hospital for Pets, PC—Syracuse NY  
Town and Country Animal Clinic—Hazard KY  
Triboro Animal Hospital—Bronx NY\*  
Dr. Heidi Tschauer—New Rochelle NY  
Tucson Small Animal Hospital—Tucson AZ  
Tyngsborough Animal Hospital—Tyngsborough MA  
Upper Valley Veterinary Services—Lebanon NH  
Valley Green Veterinary Hospital—Etters PA  
Veterinary Associates, Inc.—Xenia OH  
Veterinary House Call Service—Pittsford NY  
Viking Community Animal Hospital—North Canton OH  
Village Animal Clinic—Ardsley NY  
Dr. Carol Walton—Baton Rouge LA  
Dr. John M. Ward, Jr.—Fort Worth TX  
Washington Animal Hospital—Washington NJ  
Waterbury-Oxford Veterinary Clinic—Waterbury CT  
Watertown Animal Hospital—Watertown NY  
Wayne Animal Hospital—Wayne NJ  
Dr. Jane E. Weed—Enosburg Falls VT  
Werner Animal Hospital—Morris Plains NJ  
West Hills Animal Hospital—West Hills CA  
West Park Veterinary Services—Houma LA  
West Roxbury Animal Hospital, Inc.—West Roxbury MA  
West Springfield Animal Hospital—West Springfield MA  
Westboro Animal Hospital, P.C.—Westboro MA  
Westfield Animal Clinic, Inc.—Westfield MA  
Westside Animal Clinic, Inc.—Worcester MA  
Westside Family Pet Clinic—Madison WI  
Dr. Teri White—Easton MD  
White & White Vet. Hospital & Supply—Ennis MT  
White Pine Veterinary Clinic—Park City UT  
Windham Veterinary Clinic, Inc.—Brattleboro VT  
Winsted Hospital for Animals, P.C.—Winsted CT  
Woolf Animal Hospital, P.A.—Tampa FL  
Yorkshire Animal Hospital—York PA  
Dr. Connie S. Zielinski—Redford MI

### How You Can Help Us Help Cats

- ① Actively participate in the Feline Memorial Program.
- ② Become a Professional Member of the Feline Health Center. (If your mailing label is in red, it means you currently are not a member. See page 7.)
- ③ Make a charitable contribution to the Feline Health Center before December 31 to reduce taxes on your 1993 income.
- ④ Encourage your cat-owning clients to become supporting members. (Our office can supply you with membership applications for cat owners.)
- ⑤ If clients indicate an interest in providing funds in their wills to an organization, tell them about the Cornell Feline Health Center. (Our office can provide free copies of our bequest brochure, "How do you say Thank You?")

Please contact our office for more detailed information on the above programs by calling (607) 253-3414.

# Radiology Case Review

Victor Rendano, D.V.M.

*This is the first in a series of radiology cases that is offered for your interpretation. These are radiographs of feline cases presented to the College of Veterinary Medicine at Cornell University. Dr. Rendano's interpretive comments are on page 6.*

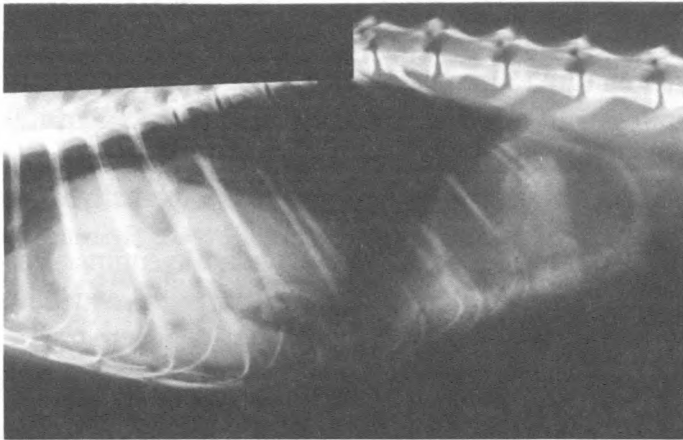


Figure A

## History

A two-year-old, altered female, domestic long hair cat was presented to the clinic for vomiting and anorexia of a "few days duration." Clinical evaluation revealed a paucity of abdominal viscera. Survey radiographs (figures a and b) were obtained followed by a barium series (figures c and d).

*What is your diagnosis?*

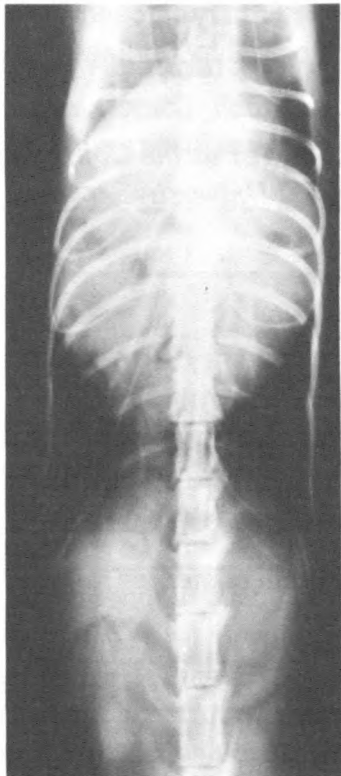


Figure B



Figure C

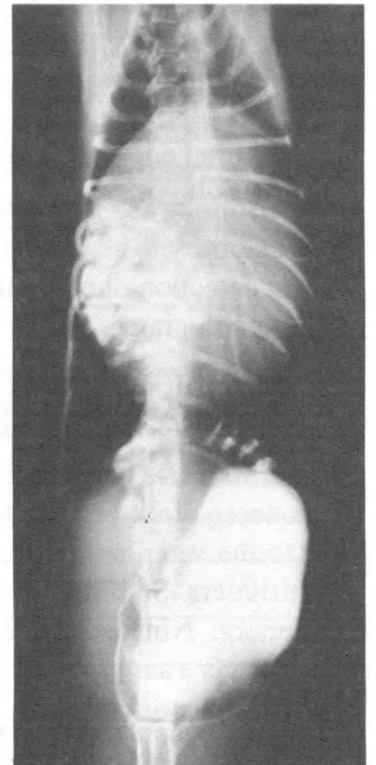


Figure D

## Radiology Case Review *(continued from page 5)*

### Radiographic Findings

In the radiographs presented, the following problems are noted:

- Paucity of abdominal viscera.
- Displacement of abdominal viscera into the pericardial sac indicating a peritoneopericardial diaphragmatic hernia.
- Ingesta and debris in the stomach.
- Plication of the small bowel indicating a linear foreign body (see figure c).

### Comments

Peritoneopericardial diaphragmatic hernia is a congenital malformation, being present at birth. However, animals may live with this abnormality without an associated clinical problem and if a problem develops it usually occurs when the animal is mature. Viscera incarceration with effusion or necrosis and intestinal obstruction are the common reasons why animals become ill. Periodically, a problem is initially detected during a routine physical examination because of an inability to hear the heart, decreased abdominal viscera detection during palpation or alteration in the electrocardiogram.

If the bowel is suspected of being displaced into the pericardial sac, then a positive contrast gastrointestinal (GI) study is an expeditious method to evaluate the animal for this type of hernia. However, it is possible to have this type of hernia without bowel displacement. If this occurs, the contrast GI study may appear normal. A positive contrast peritoneogram performed by injecting renografin-76 into the peritoneal cavity at a dose of 2 ml/kg will define the contour of the diaphragm. If a patent rent is present, the contrast medium will enter the pericardial sac and be defined radiographically.

This case (courtesy of Farmingville Animal Hospital, Farmingville, N.Y.) was interesting and diagnostically challenging since two lesions were present and the linear foreign body could have been easily overlooked.

### Postscript

The owners declined further veterinary care and the cat was euthanatized. The radiographic findings were confirmed at necropsy. ■

*Dr. Rendano is a staff radiologist at the College of Veterinary Medicine at Cornell University.*

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## Interferon/Immunoregulin Survey Responses

A questionnaire on the use of interferon-alpha or Immunoregulin was distributed by Dr. Margaret C. Barr to the veterinarians attending the Annual Feline Practitioners Seminar held in August at Cornell University. Nineteen practitioners responded. The following is a summary of the survey results.

*1. Have you used interferon-alpha (IFN) and/or Immunoregulin (IR) for treatment of feline immunodeficiency virus (FIV) or feline leukemia virus (FeLV) infected cats?*

Six veterinarians have used IFN alone; seven have used IR alone; and six have used both drugs or did not indicate which drug was used.

*2. How many cats have you treated?*

IFN alone was used to treat 45 cats; 28 cats were treated with IR alone; and another 45 cats were treated with both drugs (or unspecified single drug).

*3. What is the average duration of therapy for these cats?*

IFN alone was used from one month to one year. The duration of IR therapy ranged from a few weeks to nine months. The other cats receiving combination therapy were treated for three weeks to six months, with one cat being treated for almost 12 months.

*(continued on page 8)*

## For You and Your Practice

### The Cornell Book of Cats

The Cornell Feline Health Center offers a quantity discount for book orders placed by veterinary offices. The book retails for \$27.50, but when you order 10 or more books the cost is only \$21.50 per book plus shipping and handling (\$6/10 books). Books are shipped by UPS. (Allow 4 to 6 weeks for delivery.)

### Client Information Brochures

You'll find these brochures a welcome addition to the client resources you use. Topics include: *Feline Immunodeficiency Virus*, *Feline Infectious Peritonitis*, *Feline Leukemia*, *Toxoplasmosis*, *Feline Behavior Problems*, *Feeding Your Cat*, *Special Needs of the Older Cat*, *Urinary Obstruction*, *Choosing and Care of Your New Cat*, and *Parasites*. You can preview a sample of all 10 brochures by ordering our sampler for only \$3. Or you can order quantities for your office by requesting order blanks on the form below.

### Feline Memorial Program

The Cornell Feline Health Center's Memorial Program is a positive way to help your clients cope with

the loss of their feline friends. Order a supply of memorial cards by completing the form below.

### Dr. Louis J. Camuti Memorial Feline Consultation and Diagnostic Service

If you have a difficult feline case or want current information on feline diseases, call 1-800-KITTY DR and talk with our consulting veterinarian. The service is available from 9 a.m. to noon or 2 p.m. to 4 p.m. (Eastern time) on weekdays (excluding holidays). A \$25.00 fee for the consultation helps the center defray the cost of this valuable service. (*Members receive a 20% discount.*)

### Professional Membership

Members receive the following benefits: 20% discount on client information brochures; 20% discount for consultations; quarterly packet of camera-ready articles for client newsletters; a personalized certificate, window decal and logo pin; our newsletter for cat owners; and *Feline Health Topics* and the *Information Bulletin*. (If your label is in red, you currently are not a member or your dues did not arrive before the labels were printed.)

## Order Form

ITEM	QUANTITY	UNIT PRICE	COST
The Cornell Book of Cats (Minimum order is 10 books)		\$21.50 per book (add \$6 for every 10 books for S&H)	
Client Information Brochure Sampler		\$3.00	
Information Brochure Order Blank		0	0
Feline Memorial Program Cards		0	0
Professional Membership: 1 year 3 years		\$25 (\$30 foreign)	
		\$60 (\$75 foreign)	
<b>TOTAL</b>			<b>\$</b>

Name \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Country \_\_\_\_\_

Send this completed form and your remittance (checks made payable to "Cornell Feline Health Center") to: Orders, Cornell Feline Health Center, College of Veterinary Medicine, 618 VRT, Ithaca, NY 14853-6401.

## Interferon/Immunoregulin Survey Responses

*4. Was owner compliance with the protocol poor, adequate or good?*

Owner compliance in all three groups was mostly good. There was only one report of poor compliance in the IR group and one poor compliance in the group that used a combination of IFN and IR or an unspecified drug.

*5. Was owner satisfaction with the protocol poor, adequate or good?*

Owner satisfaction was considered to be good to adequate in all but one case (which was one of the poorly compliant owners).

*6. How well do you feel the cat(s) responded to treatment based on physical exam and hematology?*

All three groups reported clinical improvement in about 50% of the cats treated. In general, cats either did well or did not respond at all. Resolution of anemia and increase in white blood cell counts were reported for a few cats. However, most cats did not show marked changes in hematologic profiles (or were not followed for changes). One FeLV/FIV-negative cat with leukemia/lymphoma responded well to IFN alone and one FeLV-positive cat with lymphoma did well in conjunction

*(continued from page 6)*

with conventional chemotherapy. A few reports mentioned that cats with lymphoma responded poorly to IFN.

*7. If the cat(s) responded, how long did clinical improvement last? Did you repeat the protocol if the cat(s) relapsed? What was the response to reinitiation of treatment?*

The practitioners using only IFN generally maintained cats on alternate week treatments indefinitely, if the initial response to the drug was good. One person reported a good response to reinitiation of treatment after a deterioration in the clinical condition in one cat. The clinical improvement seen with IR treatment lasted several months to more than two years for some cats. In the group of cats treated with an unspecified drug or combination, some cats were treated indefinitely, three cats were reported to have had good response lasting for up to two years after the treatment was discontinued. A few cats were reported to have relapsed with poor response to reinitiation of therapy.

### Conclusion

Further evaluation of IFN and IR therapy, alone and in combination, must be done to establish their efficacy for treatment of FIV- and FeLV-infected cats. The comments on the survey were generally encouraging. ■



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