



# VIRGINIA VETERINARY NOTES

VIRGINIA-MARYLAND REGIONAL COLLEGE OF VETERINARY MEDICINE

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Kent C. Roberts, DVM  
Extension Veterinarian

## THERE IS MORE TO VETERINARY MEDICINE THAN MEETS THE ANIMAL

The challenge of medical or surgical cases is the driving force that makes veterinary medicine so appealing. Most veterinarians address these challenges with skill and energy. All too often, however, the larger picture is forgotten. The pet being saved is a member of someone's family. Clients expect excellence in veterinary medicine, but veterinarians need to remember why successful treatment is important. A veterinarian must be in constant communication with the owners of critically-ill pets.

For example, a 1-year-old cat experienced rapidly deteriorating health. The cat had received proper inoculations against all the common infectious diseases. So the pet owner was confused and concerned.

The owner took the cat to a nearby clinic for examination. Blood was collected for a series of tests. The veterinarian explained that some of the blood would be analyzed by another lab while the Feline Leukemia test would be done there. He insisted he would call her at a specific time to discuss the results. The owner waited patiently by the telephone, only to be disappointed. She had to locate the veterinarian after clinic hours. He had simply neglected to call her.

Unfortunately, the results were positive for Feline Leukemia. The veterinarian explained the series of events that could occur but the analysis from the outside lab had not returned. The CBC and chemistry profile were pending. This information would not likely change the outcome for the Feline Leukemia positive cat.

The pet owner did not fully understand the tests or the expected outcome of the analysis. The pet owner was hoping for a reprieve of her cat's fate. She decided to wait for the complete results before deciding on a course of action. The client was told that the doctor would call her with the results at the end of the next business day. Once again no call came.

Unable to reach the veterinarian by telephone after hours, the client drove to the clinic to ask about the tests. It was then that she found out the lab's results had still not been received. The owner had gone to great lengths to get any information on her critically-ill friend. The office reassured the client they would call for the labwork the next morning. Once again the veterinarian took detailed information on where she would be so he could call her. By afternoon, he still had not contacted the pet owner.

The cat died. And so have this veterinarian's chances for a continued relationship with a conscientious client. --Jean E. Sander, DVM, Extension Veterinarian, Georgia Cooperative Extension Service, Veterinary Newsletter, No. 273, June 1991, Athens, GA.

## LYME BORRELIOSIS STUDY

Efforts are under way to determine whether the enzootic cycle of B. burgdorferi in rodents and ticks occurs in Virginia and North Carolina. Ticks examined for B. burgdorferi include Amblyomma americanum, Dermacentor variabilis, Haemaphysalis leporispalustris, Ixodes dentatus, Ixodes cookei, Ixodes texanus, and Ixodes scapularis. Although spirochetes have been visualized by fluorescent antibody examination in several ticks collected in North Carolina, all attempts to culture B. burgdorferi have failed. Moreover, attempts to isolate B. burgdorferi from white-footed mice, raccoons, bear, and white-tailed deer have failed. Efforts to isolate B. burgdorferi in the southeastern U.S. will be intensified during the spring of 1991. --Dr. Daniel E. Sonenshine, Old Dominion University and Dr. Jay Levine, North Carolina State University. Lyme Disease Surveillance Summary, CDC, Vol. 1, No. 4, Dec. 1990.

### ALVEOLAR HYDATID TAPEWORM

Echinococcus multilocularis is a tiny tapeworm capable of causing serious disease in human beings. Recent evidence indicates that E. multilocularis is spreading in wildlife in the United States. Persons in endemic areas should take appropriate precautions to avoid becoming infected with this parasite.

Adult E. multilocularis are intestinal parasites of foxes and coyotes, and occasionally dogs and cats. The parasite uses various rodents as intermediate hosts for its larva, called a multilocular or alveolar hydatid cyst; it is this stage that can also infect humans. Humans become infected by accidentally ingesting E. multilocularis eggs from the feces of infected canids or cats. Alveolar hydatid disease in humans is a serious problem, and usually involves the liver and other internal organs. The larva is slow-growing, invasive, and proliferative, resembling a malignant neoplasm. The infection may take years to cause clinical disease, and is difficult to diagnose and treat.

Previously restricted to northern Canada and Alaska, E. multilocularis became established in an endemic focus in north central North America, centered in southern Manitoba and North Dakota. Since the 1960's, it has been spreading southward and eastward from this area, and we identified the parasite in a coyote in Indiana in January 1990. Coincident with our findings, E. multilocularis was also identified by W. R. Davidson and V. F. Nettles (University of Georgia) in red foxes confiscated in South Carolina; these animals had been illegally translocated from eastern Indiana. E. multilocularis is now known to be endemic in all or part of 10 states (ND, SD, MT, MN, IA, WY, NB, IL, WI, IN) and 3 Canadian provinces (ALB, SAS, MAN), with the potential for further spread from these areas. There have been two human cases identified, involving a man from southern Manitoba and a woman from southwestern Minnesota.

Persons who would be at the greatest risk of infection with E. multilocularis would be those who have direct contact with infected wild canids and their feces. This would include trappers, hunters, fur buyers, wildlife biologists and others who handle or keep wild foxes and coyotes. E. multilocularis can also mature in dogs and cats, which could bring the parasite into contact with pet owners, veterinarians, their assistants, and others. Dogs and cats in rural areas would have a greater chance of being infected, however, the prevalence in dogs and cats would be much lower than in wild canids in the area.

Prevention of infection with E. multilocularis is very important and is accomplished by simple, straightforward means. This includes exercising good personal hygiene around wild canids, dogs, cats, and their feces, washing the hands well after handling these animals, and avoiding hand-to-mouth transfer of eggs from other potentially contaminated objects or areas. In endemic areas, periodic deworming of dogs, cats, and penned wild canids is recommended, using a drug that will remove the adult tapeworms. The anthelmintic praziquantel (Droncrit) is highly effective for this purpose, and can be obtained from a veterinarian. In addition to these measures, attempts should be made to minimize the consumption of wild rodents by pets, so that they will not become infected with the adult tapeworms. With greater awareness about E. multilocularis proper measures can be taken in order to prevent human infections with this parasite. --Dr. Kevin Kazacos, Department of Veterinary Pathobiology, School of Veterinary Medicine, Purdue University, West Lafayette, IN 47907. AAVP New Brief, Vol. 1, Issue 2, Summer 1991.

### EOSINOPHILIC DERMATITIS CAUSED BY MOSQUITOES

It was recently reported that mosquito bites can be one cause of eosinophilic dermatitis in cats. Eight cats had lesions on the nasal bridge, ears and footpads, with histologic and hematologic features of recently described seasonal form of eosinophilic granuloma complex. Four cats were examined in

detail, and it was established that two of the four reacted to mosquito extract on intradermal skin testing read at 20 minutes. Neither of the two cats tested had deposits of immunoglobulins in lesional or perilesional skin. Lesions on all four cats resolved when the animals were kept at home behind insect screening, but flared up if the screening was removed. Mosquitoes that were observed to be biting and causing lesions were collected and identified. Other species of laboratory-reared mosquitoes were allowed to bite nonlesional skin of one affected cat. The result was pruritus, erythematous crusting and ulcerative lesions at the bite site, which was characterized histologically as eosinophilic dermatitis.

Since the histologic findings suggested an allergic reaction and several mosquito species were demonstrated to cause lesions, the authors speculated that the lesions developed followed hypersensitivity reaction to mosquito saliva antigen. The authors did not suggest that the feline eosinophilic granuloma complex is solely caused by mosquito bites, because the lesions seen in this experiment were different from lesions seen in the syndrome called linear granuloma, eosinophilic plaque and indolent ulcer.

To treat cats with eosinophilic dermatitis caused by mosquito bites, the authors recommended confining affected cats indoors from early evening to morning during mosquito season, with occasional administration of glucocorticoids. -- From K. V. Mason and A. G. Evans, "Mosquito-caused eosinophil dermatitis in cats", JAVMA, Co. 198, No. 12, June 15, 1991, as reported in Veterinary Quarterly Review, Vol. 7, No. 2, Summer 1991, Texas A & M University, College Station, TX.

#### MALIGNANT MELANOMA STUDY IN DOGS

Recently, a study was funded at the Virginia-Maryland Regional College of Veterinary Medicine to evaluate a new treatment for canine malignant melanoma. Malignant melanomas are rapidly growing tumors, characterized by early local invasion, postoperative recurrence, and frequent metastasis to regional lymph nodes and lungs. At present, radical surgical resection is the treatment of choice. Because of the aggressive nature of this tumor, chemotherapy may help decrease tumor burden and prolong survival time. Melphalan (Alkeran®, Burroughs Wellcome), administered intravenously, has shown encouraging results in preliminary studies of humans and dogs with malignant melanoma. However, at this time, the parenteral form of melphalan is available for experimental use only.

We are presently seeking cases for participation in a study evaluating the effectiveness of intravenous melphalan for canine malignant melanoma. All dogs with histologically confirmed malignant melanoma and no prior chemotherapy may be eligible for the study. Prior to any treatment, clinical stage is determined by collection of a minimum data base including laboratory evaluation, lymph node aspiration cytology, radiography of the tumor, and thoracic radiographs. Surgical removal of the primary tumor and draining lymph node will be performed when indicated.

In addition to evaluating the effectiveness of melphalan, we also are interested in determining the usefulness of lymph node aspiration cytology as a predictor of metastasis and clinical staging tool. Therefore, the lymph node draining the primary tumor will be aspirated and results will be compared with histologic examination of the same lymph node.

Although clients will be responsible for costs of the initial evaluation, chemotherapy and all follow-up evaluations will be paid for by the study. Melphalan will be administered once every 4 weeks for a total of 6 treatments; a CBC and platelet count will be done prior to each treatment. Each dog should be re-evaluated at 1, 2, 3, 5, 7, 9, 12, 15, and 18 months after chemotherapy to detect tumor recurrence or evidence of distant metastasis.

We would greatly appreciate your help in identifying any cases that might be potential candidates for the study. If you have any questions, please contact Dr. Dru Forrester at the Virginia-Maryland Regional College of Veterinary Medicine (703-231-4621), Blacksburg, VA.

### EAR MITES IN POT-BELLIED PIGS

It is common for practitioners and owners to treat pot-bellied pigs for sarcoptic mange. Some owners suffer sarcoptic infestation and develop lesions, which is alarming to them, but aids the diagnosis in the pig. There have been several instances in which multiple injections of ivermectin have been necessary to resolve sarcoptic mange in pot-bellied pigs. There are also unconfirmed accounts of treatment failure. In swine, ivermectin is approved for sarcoptic mange treatment at 300 mcg/kg by injection SC. If there is runback at the injection site or underdosage, treatment likely will fail. Since ivermectin is irritating when administered parenterally, owners prefer the oral route. But owners who inject ivermectin into grapes or treats and offer them to their pigs may underdose. This can result in incomplete treatment and recurrence. Having multiple pigs in a household may perpetuate sarcoptic mange infestation because mites on a treated pig may be transmitted to a susceptible pig. Alleged treatment failure with ivermectin may be due to underdosage, non-approved route of administration and/or reinfestation from other pigs (or humans with temporary sarcoptic mange?). It is also possible that the dosage of ivermectin needed to kill sarcoptic mites in pot-bellied pigs may be higher than 300 mcg/kg.

Recently, a practitioner reported to our office that mites were discovered using magnified otoscopic examination of the external ear canals of a pot-bellied pig. He reported that these mites were very mobile and looked identical to cat ear mites. Clinical signs displayed by this pigs were head shaking and hind leg scratching behind both ears. This pigs had no history of sarcoptic mange, but has been unsuccessfully treated with injectable ivermectin for the ear condition (by a veterinarian). Other pet pigs, multiple stray cats, but no dogs had exposure to this affected pot-bellied pig. The owner and family members had no history of sarcoptic mange infestation. Mitox<sup>®</sup> was prescribed SID for a week, discontinued for a week, then resumed for a second week. The pig appeared normal within a month following treatment.

The same practitioner saw a pig from a different household that had similar clinical signs of ear irritation. A veterinarian had previously diagnosed sarcoptic mange in this pig and treated it with injectable ivermectin. The sarcoptic infection had apparently persisted after treatment, and the owner's wife developed skin lesions on her arms that were thought to be caused by sarcoptic mites. Other pigs and dogs had exposure to the affected pig. It was unknown if the pig was exposed to cats. The owner treated the pig orally with ivermectin infected into grapes. After apparent recover from sarcoptic infestation, the pig developed signs of head-shaking and scratching behind both ears. Mites were observed in both ear canals, similar to the first pig. The same treatment with Mitox<sup>®</sup> was initiated, but sale of the pig made follow-up impossible.

Are pigs really able to contract ear mites from cats or dogs, or are these mites in the ear canal actually pig sarcoptic mange mites? These questions are important since ear mites in pigs have not been reported previously and sarcoptic mange mites commonly infect the external ear, but are killed by ivermectin injections in commercial swine. Practitioner input and samples of mites are needed to resolve these questions. Call the Extension Veterinary office (409-4353) if you have similar cases and/or can send preserved mites for identification. --Buddy Urbanzyk, D.V.M., Block Creek Animal Hospital, Leander, Texas; Bruce Lawhorn, D.V.M., M.S., Extension Veterinarian, Texas Agricultural Extension Services, and F. C. Faries, Jr., D.V.M., M.S. as reported in Veterinary Quarterly Review, Vol 7, No. 2, Summer 1991, Texas A & M University, College Station, TX.

### THOUGHT FOR THE MONTH

A Russian pessimist is a person who thinks conditions in Russia are going to get worse.

A Russian optimist is a person who thinks things can't get any worse.

### THE GREAT MAILOUT

Mailing lists tend to be one of the most changing entities in a changing world. People move, die, get married and divorced - all of which affect one or more mailing lists somewhere, invariably to make them obsolete.

With funding problems as the impetus, I decided to send out reply cards to Virginia Veterinary Notes recipients in a naive attempt to update my mailing list. I hoped to find out who did and didn't want to receive the newsletter, and what were the correct addresses of those who did. The results were interesting, if not always informative.

First, the reply card was poorly designed, as indicated by the return of 389 with one or more boxes checked, but no indication of who mailed it back. A total of 85 cards indicated the senders no longer wanted to receive the newsletter, but 15 of the 85 cards had no name or address on them.

From a mailing of 2,106 letters, 53 were returned as not deliverable for various reasons. I was able to identify several other senders from initials, postmarks or notes on the cards. I spent over 30 hours of evening and weekend time sorting cards and making mailing list changes. It was a long overdue job which turned into a catharsis.

I would very much like to hear from the 15 subscribers who didn't sign their cards, but who no longer want to receive the newsletter. That includes the person who is moving to Texas in September and one who signed RMM.

Also, would appreciate a previous name and address for Drs. Julia Carter and Kathy Radford, and the person who resides at Rt. 2, Box 16-C, plus the four people who just listed their new zip code. Thanks "DB" for the great comments, but who are you?

I thank the many of you who took time to write encouraging and complimentary comments on the cards. I must admit, I dote on praise. It was so much fun, I may do it again next year - if I still have a newsletter. --Kent Roberts, DVM, VA-MD Regional College of Veterinary Medicine, Blacksburg, VA.

#### NUMBER OF CONFIRMED RABIES CASES IN THE UNITED STATES FROM 1980-1989

	<u>Cat</u>	<u>Dog</u>	<u>Livestock<sup>a</sup></u>	<u>Ferret</u>
1989	212	160	211	0
1988	192	128	230	0
1987	166	170	223	2
1986	166	95	255	3
1985	130	113	260	2
1984	140	97	216	0
1983	168	132	284	1
1982	209	153	381	1
1981	285	216	581	1
1980	214	247	499	0
TOTALS	1882	1511	3140	10 <sup>b</sup>

<sup>a</sup>Cattle, horses, mules, goats, sheep, swine.

<sup>b</sup>In addition to the above, 1 in 1958 and 1 in 1978.

(From: CDC Rabies Surveillance Reports: Annual Summaries)

**CONTINUING EDUCATION OPPORTUNITIES  
VIRGINIA-MARYLAND REGIONAL COLLEGE OF VETERINARY MEDICINE  
CE PROGRAMS - FALL 1991**

<u>Date</u>	<u>Program</u>	<u>Location</u>	<u>Hours</u>
August 29	Lyme Disease Symposium	Charlottesville	6
September 26	Small Animal Medicine Update	Charlottesville	4
*October 4-5	Orthopedic Surgery - Canine Hindlimb	Blacksburg	10
*October 11-12	The Computer in Veterinary Practice	Blacksburg	10
*November 1-2	Gastrointestinal Endoscopy	Blacksburg	10
*November 22-23	Practical Eye Surgery	Blacksburg	10
*December 6-7	Wound Management & Reconstructive Surgery	Blacksburg	10
*December 13-14	Small Animal Dentistry	Blacksburg	10

\*Limited enrollment course

Note: Program brochures are mailed six-eight weeks prior to the course dates. Course reservations cannot be accepted until the brochures are mailed.

For CE course information, please contact: Kent Roberts, DVM, VA-MD Regional College of Veterinary Medicine, Blacksburg, VA, (703) 231-7181

**1991 ANNUAL FALL CONFERENCE FOR BOVINE PRACTITIONERS -  
OCTOBER 1-11, 1991, FREDERICK MARYLAND**

The Virginia-Maryland Regional College of Veterinary Medicine, College Park Campus, the Maryland Cooperative Extension Service, and the American Association of Bovine Practitioners, District II are sponsoring a one and one-half day conference for bovine practitioners at the Holiday Inn (formerly the Sheraton Inn), Francis Scott Key Mall, Route 85, Frederick, MD.

The conference begins at 12:00 PM on Thursday, October 10, 1991. Agenda topics include: an overview and update on Bovine Spongiform Encephalopathy (BSE), residue avoidance programs and advances in on-farm testing for drug residues, veterinary practice tips, and panel discussion on how the media reports animal agricultural issues. The second day of the conference will feature sessions on developing and utilizing decision tree analysis in bovine practice, assessing and monitoring nutritional programs on dairy farms, using case-control studies as a different approach to diagnosis, and an update on the National Dairy Heifer Evaluation Project (USDA;APHIS;NAHMS). Program attendance on each day is worth 6 credit hours of CE.

Registration, which includes meals, may be made for one or both days. The cost is \$100 for both days, or \$60 for 1 day, payable by check made out to the University of Maryland. Half price registration is available for veterinary students or animal health technicians. Registration for spouses is free, but this does not include meals. The registration deadline is October 4, 1991. If you identify yourself as a conference participant, reduced nightly room rates are available at the conference hotel. Hotel reservations must be made directly with the hotel, (301) 694-7500.

For conference information, contact Dr. Douglas K. Carmel, VMRCVM, University of MD, College Park, MD 20742. (301) 935-6083.

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