



VIRGINIA VETERINARY NOTES

VIRGINIA-MARYLAND REGIONAL COLLEGE OF VETERINARY MEDICINE

September - October 1995

No. 77

WHAT'S INSIDE!

SHAMPOO THERAPY FOR DOGS.....Page 2

RABBITS WON'T CROSS TRAIL OF HUMAN HAIR.....Page 2

PROSPECTIVE HEMATOLOGIC AND CLINICOPATHOLOGY
STUDY OF ASYMPTOMATIC CATS WITH NATURALLY
ACQUIRED FELINE IMMUNODEFICIENCY VIRUS INFECTION.....Page 3

MORE ON CANINE PARVOVIRUS.....Page 3

FELINE INTERSTITIAL CYSTITIS: A NEW LOWER URINARY
TRACT DISEASE CONDITIONPage 4

PET ADOPTIONS MAY INCREASE LIABILITY EXPOSUREPage 4

AFRICANIZED BEES FALL TO SUDSPage 5

MANAGEMENT AND COLIC IN HORSESPage 5

DON'T ELIMINATE POORER CALVING-EASE SIRE.....Page 5

CONTINUING EDUCATION OPPORTUNITIESPage 6

EFFECT OF THE INTERVAL BETWEEN FEEDING AND
DRUG ADMINISTRATION ON ORAL AMPICILLIN ABSORPTION IN DOGSPage 6

CHANGING PARADIGMS.....Page 6

MAILING LIST UPDATEPage 7

Kent C. Roberts, DVM
Extension Veterinarian

DEPOSITED BY
VIRGINIA STATE LIBRARY

THOUGHT FOR THE MONTH

If you can smile when things go wrong,
you have someone in mind to blame.

--Communications in CE, March 1995,
Hoechst-Roussel Agri-Vet Co.

DEC 21 1995

University Libraries
VPI & S.U.



VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Virginia Cooperative Extension programs and employment are open to all, regardless of race, color, religion, sex, age, national origin, handicap, or political affiliation. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. William A. Allen, Interim Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; Lorenza W. Lyons, Interim Administrator, 1890 Extension Program, Virginia State, Petersburg.



VIRGINIA STATE UNIVERSITY

SHAMPOO THERAPY FOR DOGS

Medicated shampoos can be an important adjunctive therapy in many canine dermatoses. However, it is necessary to understand how the ingredients work and how to apply the shampoo in order to obtain complete effectiveness.

If you have a case of bacterial folliculitis associated with seborrhea oleosa, a shampoo containing benzoyl peroxide will be very useful. Benzoyl peroxide is a good degreasing, follicular flushing, and antibacterial agent. Also, its keratolytic effect will help break down the excessive scaling that we usually see with seborrhea. Its follicular flushing effect is not seen in other medicated shampoos, making it the shampoo of choice in folliculitis cases. Benzoyl peroxide can be drying when used too often. Therefore, using moisturizing agents in conditioners or sprays after shampooing the animal is recommended. Benzoyl peroxide can be irritating, especially to inflamed and damaged skin. An alternative for dogs with inflamed skin is a shampoo containing ethyl lactate. This shampoo is as effective as benzoyl peroxide in reducing bacterial counts in the skin, but not as degreasing.

A shampoo containing tar is also very beneficial as adjunctive therapy in cases of seborrhea sicca or oleosa. Tar is degreasing, antipruritic, and keratoplastic. The keratoplastic effect will help decrease the excessive scaling. But be careful!!! Some tar shampoos can be very drying and irritating to the skin. Look at the concentrations. A tar solution is not the same as tar extract or refined tar. A shampoo containing 2.5% tar solution actually contains only 0.5% tar because the tar solution itself only contains 20% tar. Most tar shampoos contain sulfur and salicylic acid for enhanced keratolytic and keratoplastic activity. Sulfur and salicylic acid shampoos are useful for mild scaling disorders that don't respond to cleansing and moisturizing keratolytic, keratoplastic, antibacterial, and antipruritic shampoos. Sulfur is also antifungal and antiparasitic.

Cleansing and moisturizing shampoos containing glycerin, lactic acid, urea, sodium-lactate, coconut oil, lanolin, protein, and fatty acids are beneficial in dogs that have mild, dry, scaling disorders. They can also be used for long-term maintenance in allergies or can be alternated with drying antiseborrheic agents (tar and benzoyl peroxide) to help rehydrate the skin. It is worthwhile mentioning a few words about the mechanical process of bathing. Every time we use a medicated shampoo, it is important to strictly follow the recommended contact time of 5 to 10 minutes. Timing should not start until the whole body is lathered. We always recommend gently massaging the coat and skin for the entire time. It is necessary to emphasize to the owners that medicated shampoos won't be effective if they are rinsed off immediately.

Oatmeal-based conditioners are helpful to keep the skin rehydrated and they have the additional benefit of decreasing pruritus. A conditioner containing pramoxine HCl (which is a local anesthetic) appears to be especially effective.

Again, medicated shampoos are a very beneficial adjunctive therapy in many dermatologic disorders. Knowing how the ingredients work allows you to individualize the treatment program for each animal, and consequently, optimize the effectiveness of your therapy. --**Veterinary Notes II, North Dakota State University, Extension Service, Vol. 4, No. 5, May 1995, as reported in Animal Health Beat, University of Nevada, Reno, Vol. 11, No. 6, June 1995.**

RABBITS WON'T CROSS TRAIL OF HUMAN HAIR

A thin trail of human hair is keeping rabbits out of farm crops in southwestern Germany. The strong human scent in hair cuttings has proved to be an effective deterrent against rabbits, it does not damage the plants, and it remains effective for up to three weeks. --**Veterinary Notes II, North Dakota State University Extension Service, Vol. 4, No. 5, May 1995, as reported in Animal Health Beat, University of Nevada, Reno, Vol. 11, No. 6, June 1995.**

PROSPECTIVE HEMATOLOGIC AND CLINICOPATHOLOGY STUDY OF ASYMPTOMATIC CATS WITH NATURALLY ACQUIRED FELINE IMMUNODEFICIENCY VIRUS INFECTION

Feline immunodeficiency virus (FIV) is a horizontally transmitted retrovirus (lentivirus subfamily) of domestic cats. FIV shares many biological and virologic characteristics with human immunodeficiency virus (HIV), including the ability to cause severe immunosuppression in chronically infected hosts. Symptomatic stages of both FIV and HIV infections are frequently associated with hematologic abnormalities, particularly leukopenia and anemia.

Prospective studies were performed over a 28- to 77-month period (median, 66 months) on 5 cats with naturally acquired FIV infection in an attempt to correlate hematologic and clinicopathologic changes with the emergence of clinical disease. On presentation, all cats were asymptomatic, free of opportunistic infections, and had normal complete blood counts, bone marrow morphologies, marrow progenitor frequencies, and progenitor *in vitro* growth characteristics.

During the study, 2 cats remained healthy, 2 cats showed mild clinical signs, and 1 cat developed a malignant neoplasm (i.e., bronchiolar-alveolar adenocarcinoma). Although persistent hematologic abnormalities were not observed, intermittent peripheral leukopenias were common. In 3 of 5 FIV-seropositive cats, lymphopenia ($>1,500$ lymphs/ μL ; normal reference range, 1,500 to 7,000 lymphs/ μL) counts had a tendency to progressively decline. One of the other 2 cats had consistently low to low-normal absolute neutrophil counts (1,300 to 4,800 segs/ μL ; mean, 2,730 segs/ μL ; normal reference range, 2,500 to 12,500 segs/ μL), and the remaining cat had consistently normal leukograms, except for a transient period (i.e., 11 months) of benign lymphocytosis (7,200 to 13,340) early in the study.

Periodic examinations of bone marrow aspirates revealed normal to slightly depressed myeloid-to-erythroid ratios with normal cellular morphology and maturation. Bone marrow abnormalities observed late in the study included mild dysmorphic changes (i.e., megaloblastic features) in 2 cats, and a significant decrease (60% of controls, $P < .001$) in the frequencies of burst-forming units erythroid (BFU-E) in marrow cultures of FIV-seropositive cats compared with uninfected control cats.

Serum biochemical profiles were unremarkable throughout the study, with the exception of hyperglobulinemia (i.e., polyclonal gammopathy) in 2 of 5 cats. Peripheral blood and bone marrow findings were of no apparent prognostic value.

The results confirm the long latency between natural FIV infection and the development of life-threatening clinical disease. Chronic FIV infection, like infection with human immunodeficiency virus, can be associated with derangements of peripheral blood cell counts, as well as perturbations in marrow cell morphologies and hematopoietic progenitor frequencies before the terminal symptomatic stages of retroviral disease, when persistent cytopenia are prominent. --Abstracted from Shelton, G., et al., *J. Vet. Intern. Med.* 2 (1994) p 133-140, as reported in *Vet Med*, Vol. 1, Issue 4, July 1995, Iowa State University, Ames, IA.

MORE ON CANINE PARVOVIRUS

The Diagnostic Laboratory in Kissimmee, Florida, has had several cases of suspected canine parvovirus submitted for electron microscopic (EM) examination with the history of a negative "CITE" test. On EM examination, limited numbers of clumped parvovirus were seen. Apparently, this is seen in older cases of parvovirus where the majority of the virus particles have been shed. The electron microscopist also noted that these clumped particles appear to be coated with antibody. We believe that this coating of virus particles results in a blockage of the viral antibody receptors, which will result in a negative "CITE" test. Practitioners observing negative "CITE" test in obvious cases of canine parvovirus infection may want to confirm their diagnosis by submitting fecal samples for EM examination. --Florida Veterinary Scene, Vol. 4, No. 6, July 1995, University of Florida, Gainesville, FL.

FELINE INTERSTITIAL CYSTITIS: A NEW LOWER URINARY TRACT DISEASE CONDITION

In 1970, feline urologic syndrome (FUS) was the name researchers coined to describe cats with clinical disease characterized by dysuria, urethral obstruction, urolithiasis, and hematuria. About this same time, high-magnesium diets were observed to be associated with struvite urolithiasis and urinary tract obstruction in cats. Subsequently, alkalinity of the urine was shown to be even more important than high magnesium for FUS development. During the years when feline diets were not formulated to acidify the urine or reduce the urine magnesium concentration, FUS was a daily clinical problem seen by veterinarians. At this time urinary acidifier drugs were commonly administered after affected cats were unblocked by urethral catheterization. Perineal urethrostomies were performed to remedy recurrent cases of FUS. Since 1970, pet food manufacturers have successfully researched and created feline diets that help prevent lower urinary tract disease (LUTD) due to struvite urolithiasis. These improved diets cause acidic urine and low magnesium urine concentrations. Consequently, the overall frequency of LUTD caused by struvite crystalluria has dramatically decreased. One veterinary practice recently reported less than 1 percent struvite urolithiasis in the 50 to 100 cases of LUTD from 5,000 annual feline admissions.

Modern cat foods usually make the need for additional drug therapy to acidify the urine of cats presenting with LUTD unnecessary and potentially dangerous. Practitioners should recognize that the present-day use of ammonium chloride or DL-methionine to acidify the urine of LUTD-affected cats may contribute to the development of metabolic acidosis and hypokalemia. A disadvantage, however, of current feline diets is that acidic urine or low urine magnesium concentrations may allow formation of calcium oxalate uroliths, with resultant occasional LUTD.

Veterinarians now see LUTD-affected cats with urine that is acidic, sterile, and crystal- and urolith-free. Once recent study revealed that 58 percent of female and 70 percent of unobstructed male cats presented with LUTD and acidic, sterile, and crystal- and urolith-free urine. Diet is not thought to be a contributing factor in these LUTD-affects cats, and anatomic defects of the urinary tract are absent. The name given this clinical condition is idiopathic LUTD (ILUTD).

Since ILUTD has only recently been described and has many similarities to a painful condition in women called interstitial cystitis, ILUTD in cats is now termed "feline interstitial cystitis" or "feline idiopathic cystitis." In women and cats, neurogenic inflammation may be associated with interstitial cystitis. Because of lack of research, treatment modalities are presently unavailable. However, cats with feline interstitial cystitis may serve as research models for interstitial cystitis in women. --From C.A. Buffington, D.J. Chew, and S.P. DiBartola. "Lower urinary tract disease in cats: Is diet still a cause?" *Journal of the American Veterinary Medical Association*, Vol. 205, No., 11, December 1, 1994, as reported in *Veterinary Quarterly Review*.

PET ADOPTIONS MAY INCREASE LIABILITY EXPOSURE

"Ever since we adopted Fluffy from your hospital ..."

Adopting out a pet from your practice can be a rewarding experience for the client, the animal and you. However, there are liability exposures that need to be assessed before you fall victim to the "ever since" syndrome.

Problems often arise from both real and perceived responsibilities. One common source of adoption related claims is zoonotic diseases. Pets adopted out of your practice should be thoroughly examined for any possibility of zoonoses. Your records should indicate that the exam was performed and as of the exam date, there were no symptoms of any zoonotic conditions.

Because owners regard the veterinarian as the authority on animals, they may perceive an implied warranty on the future health and temperament of the animal. A new owner should sign an agreement declaring that there is no guarantee or warranty on the health or temperament of the animal. --**Professional Liability, April 1995.**

AFRICANIZED BEES FALL TO SUDS

Let this soak in: the same soap and water that scrubs dinner plates and launders clothes will also clean out a swarm of Africanized honey bees, according to the Environmental Protection Agency.

The suds will bring the unwanted bees to a bubbly death in the safest, most effective means ever devised to deal with an insect pest. The soap and water treatment works best when bees are clustered in an exposed swarm, a mass of bees that have left the hive to start a new colony. It is not recommended for established colonies where bees are on the comb.

Powered and liquid dish and laundry detergents all kill effectively, and bees sprayed with the dishwater normally don't flare defensively, according to an entomologist in Texas where Africanized bees are being destroyed as quickly as they can be found.

Shower the swarm with soapy water (one cup liquid or powdered soap to a gallon of water) applied with a hand-held garden sprayer. As wetted bees drop, continue spraying the dry bees in the center of the swarm. --New Holland News, May/June 1995, as reported in Florida Veterinary Scene, Vol. 4, No. 6, July 1995, University of Florida, Gainesville, FL.

MANAGEMENT AND COLIC IN HORSES

The association between various management factors and development of colic was studied in 821 horses treated for colic and 821 control horses treated for noncolic emergencies by practicing veterinarians in Texas between October 1, 1991, and December 31, 1992. History of previous colic and history of previous abdominal surgery was found to be significantly associated with colic. Change in stabling conditions during the 2 weeks prior to the time of examination, recent change in diet, and recent change in level of activity significantly increased the risk for development of colic. Changes in activity level, diet, and stabling conditions were identified as potentially alterable risk factors for colic. Logistic regression was used to adjust for the effects of all variables found to be significantly associated with colic by means of univariate analysis, and only history of previous colic, history of previous abdominal surgery, and history of recent change in diet remained significantly associated with colic. Results of this study indicate that a proportion of colic cases might be prevented by minimizing changes in management practices. --DVM News, South Dakota State University Cooperative Extension, Vol. 9, No. 2, Mar./Apr. 1995, as reported in Animal Health Beat, Vol. 11, No. 6, June 1995, University of Nevada, Reno, NV.

DON'T ELIMINATE POORER CALVING-EASE SIREs

Calving difficulty is scored into one of five categories: no problems, slight problem, needed assistance, considerable force and extreme difficulty. Calving difficulty proofs are calculated at Iowa State University using technology especially developed for data scored into discrete categories. The proofs are expressed as "expected percent of difficult births in heifers" and range from about 5 (the most favorable percentage) to 18 percent for sires whose progeny are born with greatest difficulty. Bennet Cassell, Virginia Tech dairy specialist, says this measures the direct effect of a sire or his role in the difficulty with which his own progeny are born. "Maternal dystocia" proofs, which measure the difficulty a bull's daughters have giving birth, are not published.

Cassell recommends using bulls with proofs 9 or lower on heifers and reserving semen on bulls with higher calving-ease proofs for use on older cows. Do not eliminate bulls with proofs over 9 percent from the herd breeding program. Many of the top genes for production and other traits can be found in such bulls. Use calving-ease proofs to choose service for heifers, but find use for the top sires that don't qualify on the milking herd. --Source: Farm Flashes, June 1995, Hoard's Dairyman as reported in Veterinary Newsletter, No. 312, July 1995, University of Georgia, Athens, GA.

CONTINUING EDUCATION OPPORTUNITIES
Fall 1995

Date	Course	Location	Contact Hours
*October 6-7	Gastrointestinal Endoscopy (intermediate)	Blacksburg	10
*October 13-14	Practical Eye Surgery	Blacksburg	10
*October 20-21	Orthopedic Surgery - Canine Hindlimb	Blacksburg	10
*October 27-28	Neurology for Practitioners	Blacksburg	10
*November 10-11	Equine Necropsy Techniques	Blacksburg	10
*November 17-18	Wound Management & Reconstructive Surgery	Blacksburg	10
*December 15-16	Small Animal Dentistry	Blacksburg	10

*Limited enrollment short course featuring hands-on instruction.

For further information, please contact: **Dr. J.M. Bowen**, VMRCVM - Virginia Tech, Blacksburg, VA 24061, phone # (540) 231-7388

**EFFECT OF THE INTERVAL BETWEEN FEEDING AND DRUG ADMINISTRATION
ON ORAL AMPICILLIN ABSORPTION IN DOGS**

Eight dogs of various breeds received single oral doses of 20 mg/kg body weight ampicillin at four different time intervals relative to feeding a meal. In treatment A the dogs were fasted for 12 hours before and after ampicillin administration. In treatment B the dogs received ampicillin immediately after, in treatment C one hour before and in treatment D two hours after the meal. Each dog received these treatments during a period of feeding dry and canned dog food according to an 8 x 8 Latin square design. Blood samples were taken at specified time intervals after drug administration by jugular venapuncture. Antibiotic concentrations in plasma were determined by microbiological assay. Non-compartmental pharmacokinetic parameters were calculated from the individual concentration-time curves and were compared by non-parametric statistic tests between treatments and types of food. With both dry and canned food ampicillin absorption was impaired when the drug and food were given at the same time (treatment B) as compared with the absorption in fasting dogs (treatment A and C). On dry food, drug absorption was also decreased in treatment D. It is recommended for clinical purposes to give ampicillin to fasted dogs, and to wait at least one hour before feeding. After a meal (dry food) waiting two hours until drug administration is not sufficient to avoid impaired ampicillin absorption. --Vet Med, Iowa State Univ. Extension, Vol. 1, Issue 3, May 1995, as reported in Animal Health Beat, Univ. of Nevada, Reno, Vol. 11, No. 6, June 1995.

CHANGING PARADIGMS

After two years of intensive study, most cattlemen agreed that the beef industry is in need of an "attitude adjustment" relative to they way they do business. The scenario demands a new way of thinking. The rationale is that problems can't be solved by the same thinking that created them. In other words, we must "change our paradigms."

We think in paradigms. Our mind constructs models or ideals about the world and uses them to make sense of things. Our decisions are the judgements and predictions given to us by our paradigms. The more closely our paradigms match reality, the better our decisions. If you want to make small improvements, work on behavior and attitudes. If you want to make major improvements, shift your paradigm -- how you see the situation and your role in it. --Van Dusen, WR, Calf News Cattle Feeder, Dec. 1994, as reported in Communications in CE, June 1995, Hoechst-Roussel Agri-Vet Co.

MAILING LIST UPDATE

Dear Colleagues:

In our continuing efforts at maintaining a current and accurate mailing list for this newsletter, I request that you take a minute to update us on any changes in address, name, practice, etc.

If you no longer wish to receive the newsletter or know of a colleague who would like to be added to our mailing list, please fill out and return the form below at your earliest convenience.

We appreciate your interest in the College and the newsletter, and welcome your constructive comments.

Sincerely,

Kent Roberts, DVM, Editor

Name _____

New Address

Old Address

Practice Name (if applicable) _____

Please discontinue mailings _____

Name _____

Comments _____

It is a great help to us if you include Virginia Veterinary Notes when notifying people of an address change.

Please mail to:
Dr. Kent Roberts
College of Veterinary Medicine
Virginia Tech
Blacksburg, VA 24061-0442
FAX (703) 231-7367

Virginia-Maryland Regional College of Veterinary Medicine Extension Staff:

Dr. J.M. Bowen - Extension Specialist - Equine
Dr. C.T. Larsen - Extension Specialist - Avians
Dr. K.C. Roberts - Extension Specialist - Companion Animals
Dr. W. Dee Whittier - Extension Specialist - Cattle

K.C. Roberts, Editor

Maura M. Wood, Production Manager of VIRGINIA VETERINARY NOTES

**COOPERATIVE EXTENSION SERVICE
U.S. DEPARTMENT OF AGRICULTURE
VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY
BLACKSBURG, VIRGINIA 24061**

Non-Profit Org.
BULK MAILING
U.S. POSTAGE
PAID
Blacksburg, VA 240
Permit No. 28