VETERINARY TEACHING HOSPITAL

VIRGINIA VETERINARY NOTES

VIRGINIA-MARYLAND REGIONAL COLLEGE OF VETERINARY MEDICINE

October - December 1997

No. 85

WHAT'S INSIDE!

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This newsletter is published quarterly in support of the outreach program of the Veterinary Teaching Hospital VMRCVM, Blacksburg, VA and is prepared for and distributed to veterinarians in the Mid Atlantic Region.

UNIVERSITY OF MARYLAND 1807-1856-1920

CHRONIC GINGIVO-STOMATITIS IN CATS TREATED BY DENTAL EXTRACTIONS

Cats frequently develop periodontal disease (plaque induced inflammation and destruction of the attachment apparatus of the tooth). In addition, some cats are presented with severe oral inflammatory lesions. "Plasmacytic" or "lymphocytic plasmacytic" stomatitis has become the commonly used term to characterize what is often described as a specific disease. In fact, the cellular infiltrate is a feature of a chronic inflammatory reaction in tissues exposed to large numbers of microbes, and the etiology is still unknown. "Feline chronic gingivitis-stomatitis" (FCGS) often coexists with tooth resorption in cats (Feline Odontoclasitic Resorptive Lesions - FORL).

Conservative treatments used have been aimed at reducing inflammation and bacterial load (anti-inflammatory and anti-microbial drugs, dental scaling and plaque control). However, results are often poor if dental extraction is not included. In this study, thirty cats were treated by extraction of most or all of the premolar and molar teeth. Twenty-four of the 30 cats (80%) were significantly improved or clinically cured at the time of follow-up, 11 to 24 months following treatment.

Clinically cured (no visible lesions, no oral clinical signs)	18/30 (60%)
Significant improvement (no continuing treatment other than plaque control)	6/30 (20%)
Little improvement	4/30 (13%)
No improvement	2/30 (7%)

--Abstracted from: Hennet, P., J Vet Dent 14:15-21, 1997, as reported in Vet Med, Volume 3, Issue 4. .July 1997, Iowa State University. Ames, IA.

BLOOD TRANSFUSION IN CATS

The main blood group of cats has been designated AB and consists of three blood types. It has been shown that feline blood group antigens are glycolipids and glycoproteins that differ in the neuraminic acid component. The blood group (phenotype) A-B- has never been found.

Erythrocyte Phenotype	Erythrocyte Genotype	Frequency
A	A/A, A/B	high (80-90%)
B	B/B	low (10-20%)
AR	AR/AR	rare

Blood group A is mostly represented in domestic short- or long-hair cat populations, and these cats very seldom have high levels of naturally occurring antibodies in their serum. In contrast, cats with blood group B are rare but very often have high levels of naturally occurring anti-A antibodies in their serum. Marked differences in the frequencies of these blood groups may occur in pedigreed cat populations.

The practical consequence of these feline immunohematological features is that if fully crossmatched blood is transfused, the life span of the red blood cells in the recipient is about 4-5 weeks. On the other hand, if unmatched blood is used the life span may fall to as low as a few hours to a few days. Moreover, unmatched transfusions can induce an acute reaction, particularly severe when blood group A erythrocytes are given to blood group B cats. Cats with blood group B are rare but very often have high levels of naturally occurring anti-A antibodies. In feline transfusions, it is very important to determine blood groups and carry out cross matching tests.

Autologous transfusion eliminates any risk of adverse reaction or disease transmission and can be used intraoperatively during major surgery. Blood is recovered from the splanchnic body cavities and reintroduced into the blood system using appropriate filter devices. It is also possible to draw blood 2-3 weeks before the anticipated surgery, store it appropriately, and administer it perioperatively, as necessary. **--Lubas, G., Waltham Focus, Vol. 6, No. 3., 1996, as reported in Vet Med, Volume 3, Issue 4, July 1997, Iowa State University, Ames, IA.**

TASK FORCE RECOMMENDS VACCINE PROTOCOL

The Vaccine-Associated Feline Sarcoma Task Force (VAFSTF) has been formed in response to the increased incidence of soft tissue sarcomas occurring at vaccine sites. The task force is facilitating the investigation of the epidemiology, etiopathogenesis, treatment, and prevention of sarcomas, as well as disseminating information to veterinarians and cat owners. The VAFSTF is a collaborative effort of the American Veterinary Medical Association (AVMA), the American Animal Hospital Association (AAHA), the American Association of Feline Practitioners (AAFP), and the Veterinary Cancer Society (VCS), and includes representatives from the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (USDA/APHIS) and the Animal Health Institute (AHI).

Current recommendations and guidelines from the task force include:

1. The manufacturer's label recommendation is the only official item a veterinarian currently has to demonstrate the basis for vaccination.
2. Alternate vaccination routes (e.g., nasal, topical) should be considered if and when available.
3. The use of vaccines packaged in single-dose vials is encouraged.
4. Vaccination is a medical procedure and protocols should be individualized to the patient. Administration of any vaccine should proceed only after considering the medical significance and zoonotic potential of the infectious agent, the patient's risk of exposure, and relevant legal requirements.
5. Any occurrences of vaccine-associated sarcomas or other adverse reactions should be reported directly to the vaccine manufacturer and to the United States Pharmacopeia (U.S.P.). Information about the U.S.P. Practitioners' Reporting Program and a sample submission form is in the Journal of the American Veterinary Medical Association, Vol. 208, No. 3, February 1, 1996, pp. 361-363. Additional reporting forms can be obtained by calling 1-800-4-USPPRN. Submission of the form can be facilitated by diagnostic laboratories if they include a report form with each diagnosis of vaccine-associated sarcoma. The record should include vaccine type, lot number and vaccination site; this information should also be incorporated into the patient's permanent medical file.
6. To further characterize the causal link and facilitate therapy of vaccine-associated sarcomas, the following general guidelines for vaccine (and other injectable product) administration are suggested:
   a. Veterinarians should standardize vaccination (and other injection) protocols within their practice and document the location of the injection, the type of vaccine or other injectable product administered, and the manufacturer and serial number of the vaccine in the Patient's permanent medical record.
   b. *Recommended injection sites.*
      - Vaccines containing antigens limited to panleukopenia, feline herpesvirus type- 1, and feline calicivirus (+/- chlamydia) be administered on the right shoulder according to the manufacturer's recommendations.
      - Vaccines containing rabies antigen (and any other antigen) be administered on the right rear limb as distally as possible according to the manufacturer's recommendations.
      - Vaccines containing feline leukemia virus antigen (+/- any other antigen except rabies) be administered on the left rear limb as distally as possible according to the manufacturer's recommendations.

--A client brochure, *Vaccines and Sarcomas: A Concern for Cat Owners,* has been developed by the task force. Veterinarians can obtain copies by contacting AAHA, AVMA, VCS, or the Cornell Feline Health Center, as reported in Feline Health Topics for Veterinarians, Volume 11, Number 4, Winter/Spring 1997, College of Veterinary Medicine, Cornell University, Ithaca, NY.

THOUGHT FOR THE MONTH

There is no better exercise for the heart than reaching down and lifting someone else up.

LEPTOSPIRA INTERROGANS SEROVAR GRIPPOTYPHOSA INFECTION IN DOGS

Current canine leptospiral vaccines do not protect against clinical disease caused by infection with serovars other than *canicola* and *icterohemorrhagiae*. Dogs infected with *Leptospira* serovar *grippotyphosa* may develop acute renal failure. While bacteriologic culture is the definitive method of diagnosis, serology may be used for presumptive identification of the infecting leptospiral serovar.

Because of vaccination against serovars *canicola* and *icterohemorrhagiae,* leptospirosis may not be considered routinely in clinical practice as a cause of acute renal failure in dogs. However, research indicates that *Leptospira* serovar *grippotyphosa* infection is an important problem in dogs and should be considered when evaluating a dog with renal failure.

Leptospirosis is a zoonotic disease caused by antigenically distinct serovars of *Leptospira interrogans. Canicola, icterohemorrhagiae* and *grippotyphosa* are the serovars most commonly associated with leptospirosis in dogs. Current canine leptospiral vaccines, which are serovar specific, protect against clinical disease with serovars, *canicola* and *icterohemorrhagiae*. Since the advent of this bivalent leptospiral bacterin, there has been an apparent epidemiologic change in canine leptospirosis. The incidence of disease attributed to serovars *canicola* and *icterohemorrhagiae* has decreased, whereas the number of reports of canine leptospirosis associated with serologic evidence of infection with other serovars, particularly *grippotyphosa, pomona,* and *bratislava,* has increased.

Between September 1992 and November 1994, 11 cases of canine leptospirosis attributed to infection with *Leptospira interrogans* serovar *grippotyphosa* were identified by the Athens Veterinary Diagnostic Laboratory. Three dogs were referred to the University of Georgia's College of Veterinary Medicine Teaching Hospital; the remaining 8 dogs were examined by veterinarians in private practices within the northern half of Georgia. Serum or tissue samples from all dogs were submitted to the diagnostic laboratory. Unlike previous reports of leptospirosis serologically attributed to this serovar, serovar *grippotyphosa* was confirmed by isolation from 2 of the dogs of this report.

Affected dogs ranged from 1 to 10 years old. A diagnosis of leptospirosis was made for 8 dogs during the fall (September, October, or November), and for 3 dogs during the months of January, March, and July. All dogs had been vaccinated against canine distemper, canine parvovirus, canine infectious hepatitis, parainfluenza, and leptospiral serovars *canicola* and *icterohemorrhagiae* within the past 12 months. All dogs were from suburban or rural environments. Nine of the dogs were allowed to roam freely outside. Four of these dogs lived on farms with cattle. Two dogs had limited outdoor exposure. One dog had access to a large, fenced, wooded backyard. One dog was taken outside on a leash and was sometimes taken to a river to swim.

Abnormal clinical findings in the 11 dogs included lethargy (11/11), anorexia (10/11), and vomiting (8/11). Abdominal pain was detected on palpation in 7 of the dogs, and 3 had renomegaly. Four of the dogs were febrile. Duration of clinical signs prior to initial examination by a veterinarian ranged from 3 to 30 days, with a mean of 14 days. Four dogs had been clinically abnormal for 1 week or less.

Biochemical data were available for 10 of the 11 dogs. All dogs had high serum BUN or creatinine concentrations, with mean values of 127.1 mg/dl and 9.8 mg/dl, respectively. Seven dogs had serum alkaline phosphatase activities, alanine transaminase activities, or total bilirubin concentrations within the reference range. Clinical outcomes varied from complete recovery to death. One dog died (dog 11) prior to initiation of treatment; the remaining 10 dogs were treated with antibiotics and fluids. -- **Taken from Brown, C. A., et al., JAVMA 209: 1265-1267, 1996, as reported Vet Med, Volume 3, Issue 4, July 1997, Iowa State University, Ames, IA.**

IN PASSING

There are now more stock brokers than steel workers in this country, and more mutual funds than listed stocks. The average age of mutual fund managers is 29, and they average 3.7 years of experience. **--KCR, August 1997.**

NATIONAL PET OWNER SURVEY INDICATES PET/HUMAN BOND IS STRONGER THAN MOST ADMIT

Fido and Felix may seem like just a dog and cat to a stranger, but a recent survey of 1,094 pet owners from across the United States indicates that there is a much stronger bond between humans and animals than most individuals would openly admit. In an effort to learn more about the symbiotic relationship between humans and pets, the American Animal Hospital Association recently asked pet owner questions about day-to-day interactions with their pet in its fourth pet owner survey.

Results from the survey show that: 75% of dog owners and 69% of cat owners spend 45 to 60+ minutes each day engaged in activities with their pets; 69% of dog owners and 60% of cat owners said they give their pets as much attention as they would to their children; 59% of dog owners and 57% of cat owners admitted to having their pet sleep with them or next to or under the bed; and 54% of survey respondents claim that they feel an emotional dependence on their pets.

This survey was conducted by the American Animal Hospital Association (AAHA) through its membership from across the country. Respondents were pet owners from 39 states, provinces in Canada, and the District of Columbia, who take their pets to AAHA veterinarians. **--Vet Med, Iowa State University Extension, Vol., Issue 5, September, 1995, as reported in Animal Health Beat, Volume 11, Issue 9, September 1995, University of Nevada-Reno, Reno, NV.**

ASPIRIN-INDUCED GASTRODUODENAL LESIONS IN DOGS

Nonsteroidal antiinflammatory drugs (NSAID) are frequently used for treating degenerative joint disease. Side effects of NSAID therapy in the dog include gastrointestinal bleeding and ulceration and inhibition of platelet aggregation. Aspirin causes gastrointestinal damage in a dose-dependent fashion and has been shown to cause gastrointestinal bleeding in dogs at the clinically recommended dose of 25 to 35 mg/kg. The prevalence of serious gastrointestinal complications (ulceration with perforation, severe bleeding) for dogs is unknown, but is estimated at 1 per 5,500 in humans treated with NSAIDs for longer than 1 month. More than 10% of human patients receiving NSAIDs chronically have an ulcer at any given time. The mechanism of aspirin-induced gastrointestinal damage is controversial, but is thought to be related to a combination of direct salicylate toxicity and cyclooxygenase inhibition. Cyclooxygenase inhibition leads to prostaglandin deficiency, and prostaglandins are thought to be integral in maintaining healthy gastrointestinal mucosa.

Misoprostol, a synthetic prostaglandin E, analog, is effective in treating and preventing NSAID-induced gastrointestinal lesions in humans. The effectiveness of misoprostol in preventing aspirin-induced gastroduodenal injury was studied in 3 groups of 6 adult mixed-breed dogs. Group I received 3 g/kg misoprostol PO tid. Group II received 35 µg/kg misoprostol PO tid and 35 mg/kg aspirin PO tid. Group III received 35 mg/kg aspirin PO tid. Endoscopy was performed on days 0, 5, 14, and 30. Five regions of the upper gastrointestinal tract were qualitatively scored from 1 to 12 based on the presence of submucosal hemorrhage, erosion, or ulceration, with ulceration receiving a higher numerical score than submucosal hemorrhage. A total score was assigned based on the sum of scores from all regions. A significant difference in mean gastroduodenal lesion score was found among all groups at 5, 14, and 30 days. Mean total scores on days 5, 14, and 30 were as follows: group 1, 5.0, 5.2, 9.0; group II, 12.0, 12.7, 16.2; and group III, 26.0, 23.8, 21.5, respectively. Significant differences within a group among different time periods were found from days 0 to 5 in groups I and II, and from days 14 to 30 in group I. It was concluded that misoprostol effectively decreased endoscopically detectable mucosal lesions in dogs given aspirin. **--Abstracted from Johnston, S., et al. J. Vet. Int. Med. 9:32-38, 1995, as reported in Vet Med, Volume 1, Issue 6, November 1995, Iowa State University, Ames, IA.**

PLEASE NOTE

Few AVMA veterinarians realize that 1998 is the centennial year for the changing of the name US Veterinary Association to American Veterinary Medical Association.

CE OPPORTUNITIES
FALL-WINTER 1997-98

Date	Topic	Location	Contact Hours
November 14-15	Reconstructive Surgery & Wound Mgt	Blacksburg	10
November 21-22	Pain Management	Roanoke/Blacksburg	10
December 6	Medicine Update (LA/SA)	Roanoke	8
January 9- 10	Anesthesiology for Veterinarians	Blacksburg	10
February 27-28	Clinical Case Conference	Blacksburg	10
March 20-21	Echocardiography	Blacksburg	10
March 27-28	Diagnostic Ultrasonography	Blacksburg	10

Please note: The courses listed above are limited enrollment and feature a hands-on laboratory experience. Program brochures will provide course details. For registration or more information, please contact:

Dr. J.M. Bowen
VMRCVM - Virginia Tech
Blacksburg, VA 24061
(540) 231-7388

David Mitchell
Donaldson Brown Center
Virginia Tech
(540) 231-9340

SMALL ANIMAL SERIES

Small Animal Orthopedic Series - begins January 16 for 30 credit hours
Head and Neck Surgery and Dentistry Series - begins March 27 for 40 credit hours

Our Series courses represent the highest quality of continuing education for veterinarians with hands-on, interactive five-hour sessions in small groups under the direct supervision of VMRCVM faculty specialists.

BEE MITES

Beekeepers in the U.S. are engaged in an uphill battle against tiny mites that infest honey bees. The problem was discovered in 1987 and is now a major threat to bee colonies across the country. The varroca mites invade the hive and attach themselves to individual bees and suck the bee's blood. A severe infestation will wipe out a hive in a relatively short time.

Treatment consists of using fluvalinate, a synthetic pyrethroid harmless to bees, on strips hung in the hive. Since this chemical will contaminate the honey, it can only be used during times when the bees are not making honey. There is recent evidence that the mites are developing resistance to fluvalinate.

Current research at the USDA-ARS Honey Bee Research Laboratory in Weslaco, TX, is centered on finding plants that when burned, will produce smoke containing substances harmless to bees but toxic to the mites. Early results are encouraging. Creosote bush and dried grapefruit leaves have both shown good results when the smoke is allowed to cover the bees for 30-60 seconds. Researcher Frank Eischen says that work on this approach will continue. **--Agricultural Research, USDA-ARS Publication, August 1997.**

COMMUNICATIONS -- AN ART, AN EFFORT, AN EXERCISE OF RESTRAINT, AN OPPORTUNITY TO EXTEND CONSIDERATION

Perhaps even more frequently than the financial matters I address as Hospital Director are issues which arise from miscommunication. This occurs both internally and external to the VTH. I preface my comments by saying that none of us is uniformly successful in the skill of communication. Certainly, some have mastered this art better than others, however. Time, personality, opinion, consideration, and commitment are just a few of the stumbling blocks which interfere with effectual communication.

As a referral teaching hospital, we are a group of individuals with varying personalities and levels of experience and expertise who are often referred to collectively as "Tech." Yet each issue of miscommunication which arises usually involves individuals. An issue can only be effectively addressed on a case-by-case basis with those involved to grasp the merits of each party's perspective. And, unfortunately, I rarely satisfy either party when arbitration is required. There are, however, some general procedures which we have incorporated into VTH Policy to improve professional communications related to referral cases. These include our responsibilities to the referring veterinarian and those of the referring veterinarian to our clinicians.

First, we require all referral cases to be overseen by a clinical faculty member or chief resident. We are to communicate by phone with the referring veterinarian while the patient is in the hospital (if it is hospitalized usually beyond several days) and within 72 hours of discharge (usually within 24 hours but many discharges occur on Saturdays). Messages left with staff in the referring practice when the doctor is not present are considered acceptable. And we are to mail a referral letter to the referring veterinarian (who may not be the patient's regular veterinarian) within three weeks of discharge.

In consideration of proper transfer of information and best client and case management, the referring veterinarian initiates the referral, either by consultation with the VTH or by asking the client to schedule the referral appointment. A completed VTH referral form along with supporting materials (radiographs, ECG, etc.) should accompany the patient. Patient record photocopies do not suffice as a substitute for a referral summary. The client should also be informed by the referring veterinarian of financial obligations (best contained in the referral brochure provided along with an additional referral form in each final referral letter) and the likelihood of patient hospitalization for several days.

These formal communication procedures are reasonable and helpful in maintaining good professional and client working relationships in support of patient care and our profession. It is usually a breakdown in effective communication, sometimes through the fault of one or both parties and sometimes through no fault of either party, which leads to contentious issues. We seek to be accountable for our services by providing an evaluation on each case referred and by asking referring veterinarians to extend professional courtesy in complying with VTH policies related to referrals to achieve effective information exchange.

We share a common goal and this should not be overlooked, but rather, improved upon as we practice our profession. Harmonious relationships built on an exchange of information provide inherent rewards even when patient success may not be achieved. A commitment to excellence includes all the elements of effective communication.

Robert A. Martin, DVM
Hospital Director

P.S. On a personal note, I am now able to drive myself to work in a specially equipped van with hydraulic lift, hand controls, and a powerseat which permits me to transfer from my chair to the driver's seat.

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VT/036/1097/2M/981245

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