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Kent C. Roberts, DVM
Extension Veterinarian

PUBLIC INFORMATION SYSTEMS

Public Information Systems, using interactive video, are being developed by the Virginia Cooperative Extension Service at Virginia Tech using a grant from the W. K. Kellogg Foundation.

These systems will be placed in selected shopping malls and public libraries throughout Virginia. By touching a computer screen, users will be able to access a wide variety of information on consumer products and services, insect identification, Virginia's land-grant universities (Virginia Tech and Virginia State) and the questions most frequently asked Extension agents. Second and third phases of the project are being developed and will contain information on health, nutrition and home horticulture.

Using slides, graphics, voice and video the program text presents information in a format tailored to the user's needs. The interactive software allows the user to back up, skip ahead, define a word, review a section or print desired information to take home from the program.

As Extension changes to meet community and societal needs, Public Information Systems will offer current information to citizens in an interesting and easy to use form at convenient locations. This is fingertip technology for the education and betterment of Virginians. --Kent Roberts, DVM, Extension Veterinarian, VA-MD Regional College of Veterinary Medicine, Blacksburg, VA. This information was supplied by the Interactive Design and Development Group, Mary G. Miller, Project Director.

POSSIBLE CAUSE OF SUDDEN DEATH IN PARVO PUPS

We have cultured *Clostridium perfringens* from the intestinal tract of many pups with parvo. Apparently the degeneration of the intestinal epithelium caused by the parvo virus sets up an environment conducive for clostridial growth. This may explain some of the sudden deaths seen with parvo enteritis. --D. E. Cole, DVM, Kansas State University Notes from the Extension Vets, Feb 1989.

FEWER AND BIGGER FARMS

The number of farms in Virginia is getting smaller. But the farms are getting bigger, according to the 1987 Census of Agriculture. The new census shows a drop of 14 percent in the number of Virginia farms between 1982 and 1987. And there was a 20 percent drop in farms with sales over \$10,000. Average farm size rose from 182 acres to 194 acres. Those with sales over \$10,000 increased from an average 350 acres to 377 acres. Other findings reveal that 71 percent of agricultural sales came from livestock, poultry and their products, which account for slightly over one billion dollars. The other 29 percent of sales came from crops.

SOME THOUGHTS ON PREANESTHETIC PATIENT EVALUATION

Considerable controversy exists over what, if any, laboratory investigation is required before patients are anesthetized. Two recently published texts begin with chapters devoted to the topic, but while one emphasizes the importance of physical examination, the other is almost entirely concerned with laboratory data. For the time and cost-conscious practitioner, the question of what constitutes minimum data in the assessment of anesthetic and surgical risk is an important one. It would seem obvious that while extensive preanesthetic investigations would increase costs and restrict the number of surgeries possible per day, patient care would inevitably be improved and medico-legal defenses rendered stronger in the event that they become necessary. However, concerned with the rising cost of health care, medical anesthesiologists have established that:

- 1) Laboratory tests used to assess anesthetic risk add nothing to clinical judgement other than cost.
- 2) Routine preoperative chest radiographs, in the absence of an abnormal history or physical finding, are more likely to harm the patient than bring benefit.
- 3) At the University of California, San Francisco, where 8,600 patients undergo surgery per year, the total abandonment of routine biologic tests for the purpose of preanesthetic risk evaluation would result in the death of one patient every 100 years.
- 4) The astute clinician assesses surgical risk as well as any laboratory finding.

These four studies were unanimous in their conclusion that laboratory investigation is only necessary when abnormalities are found during physical examination. But even when this is the case, one wonders precisely how numerical data (beyond heart rate, blood pressure, respiratory rate, etc.) can assist anesthetic management. For example, a single (possibly erroneous) value for BUN of 150 mg/dL made preoperatively will aid prognosis and influence the decision whether or not to proceed with anesthesia and surgery, but it will not cause the halothane vaporizer setting to be reduced from 2 to 1 percent; this is dictated by the response of the patient to surgery. In this example, it is simpler to assume that the patient is totally devoid of renal function and conduct anesthesia and surgery accordingly. This assumption provides for appropriate patient management and obviates the need for costly tests of equivocal value.

It is becoming clear that the plethora of figures once considered necessary before anesthesia in man is the result of medico-legal pressures, not a need to provide optimum patient management. Being aware of this may prevent veterinarians from making the same mistake. --R. E. Clutton, BVSc, MRCVS, DVA, VA-MD Regional College of Veterinary Medicine, Blacksburg, VA.

THOUGHT FOR THE MONTH

The trouble with doing nothing is that
you don't know when you're finished.

USE OF IVERMECTIN AGAINST EAR MITES OF CATS

A short article which recently appeared in the Veterinary Record suggests that ivermectin is safe and efficacious for use in treating ear mites in cats. An earlier article in JAVMA reports that subcutaneous treatment at a dosage of 200 micrograms/kg resulted in complete clearance of *Otodectes cynotis* and sarcoptic mites in dogs.

According to the Veterinary Record, Ivomec injections for cattle (MSD AGVET, 1 ml containing 10 mg ivermectin) was used for the control of ear mites, *Otodectes cynotis* in cats.

The dosage 0.1 ml Ivomec (100 micrograms) per cat was by subcutaneous injection into the scruff of the neck. Very large cats over 5 kg bodyweight received 0.15 ml. Ivomec was not given to cats under six months of age or to those suffering from other illnesses (with the exception of cats suffering from nonfebrile subacute or chronic feline rhinitis). A few cats showed evidence of pain after the subcutaneous injection and sat hunched up for about half a minute; most cats showed no reaction.

The effect of ivermectin on ear mites in cats was dramatic, one injection eliminating these resistant parasites. After three weeks, the cats received a check-up and a second injection.

The drug was also used in treating cats at a home for strays with a varying population of about 100 to 130 cats. Conventional treatments for ecto- and endoparasites in unmanageable wild strays presents a problem; here Ivomec injections were of great help. Treating all permanent inmates and reasonably healthy nonfebrile arrivals with ivermectin has the advantage of not only eliminating ear mites but also acts as dewormer and controls external parasites such as fleas, lice and mange mites.

Ivomec injections were given against ear mites or for deworming to anesthetized (xylocaine-ketamine) cats in 62 routine spaying or castration operations, without any problems. Injections were given to Siamese, Persian and other recognized breeds without side effects. Over 18 months, approximately 500 injections of Ivomec have been given to healthy cats. There were no fatalities or after effects except in two cases where the injection went accidentally intradermally causing acute eczema on the injection site. --Abstracted from D. G. Bennett, JAVMA 189, 1986; G. Schneck, Vet Record 123, 1988, as reported in Veterinary News, April 1989, Pennsylvania State University, University Park, PA.

HORMONAL METHODS FOR DIAGNOSIS OF CRYPTORCHIDISM IN HORSES

Thirty-eight horses, including unilateral cryptorchid, "phantom," and intact stallions were used to evaluate hormonal methods for diagnosis for cryptorchidism. Blood sera were obtained for determination of resting concentrations of testosterone and estrone sulphate. The horses were then treated with either human Chorionic Gonadotropin or Gonadotropin Releasing hormone or were subjected to stimulation by a mare in estrus. Blood samples were collected at 24 hours before and immediately before treatment, 5 times during an hour after treatment, at 3 hour intervals until 12 hours post-treatment, and then 24 hours post-treatment to determine changes in testosterone and estrone sulphate concentrations.

Exploratory inguinal surgery was performed to confirm the presence and location of testicular tissue. Resting testosterone concentration was the most reliable method for differentiating geldings from animals with testicular tissue. The geldings had a mean testosterone value of 0.12 ng/ml, while animals with testicular tissue had values ranging from means of 0.72 to 0.98 ng/ml ($p < 0.05$). Five percent of the animals were incorrectly diagnosed using resting testosterone concentrations as the test, when animals of all ages were compared. Resting estrone sulphate concentration, however, was useful for differentiating geldings from animals with testicular tissue, especially in animals ≥ 3 years of age. When using the resting estrone sulphate test, 9% of the animals were incorrectly diagnosed when including animals of all ages, but when only including animals ≥ 3 years of age, the percent incorrectly diagnosed dropped down to 5%. Human Chorionic Gonadotropin administration consistently stimulated increases in hormone concentrations in intact stallions, and unilateral cryptorchids, however, the response of bilateral cryptorchid and hemicastrate stallions in terms of increases in hormone concentrations was minimal. --Jr. **Equine Veterinary Science** 9:20, **Veterinary Newsletter**, Utah State University, Logan, Utah, May 1989.

FELINE IMMUNE-BASED POLYARTHRITIS

At least one textbook on feline medicine suggests that arthritis is more common in cats than is generally appreciated. Cases of polyarthritis in cats have often been associated with systemic disease of an infectious nature. FeLV and feline syncytium-forming virus infection have been cited for their association, if not cause, of feline polyarthritis. Drs. Bennett and Nash have recently published an article about noninfectious feline polyarthritis which they classify as erosive and nonerosive and define their criteria. Clinically, all forms are similar. Affected cats are stiff, unwilling to move and may resent any form of handling. Joints are usually swollen and painful on manipulation. Some cases are pyrexia and inappetent. Radiography demonstrates destructive changes within joints in the erosive forms and also the periosteal new bone, characteristic of the periosteal proliferative form. Soft tissue thickening is also demonstrated.

The erosive noninfective feline polyarthritis is comprised of rheumatoid arthritis and periosteal proliferative forms whereas the nonerosive types are considered to be the systemic lupus erythematosus and idiopathic polyarthritis forms of the problem.

Tests for the autoantibodies rheumatoid factor and antinuclear antibody are important in the diagnosis of rheumatoid arthritis and systemic lupus erythematosus. Treatment is with anti-inflammatory and immunosuppressive agents (prednisolone and cytotoxic drugs). Cats with the rheumatoid and periosteal proliferative types do not recover but some manage to cope with the lameness. Cats with idiopathic polyarthritis can make a complete recovery although idiopathic polyarthritis cases associated with myeloproliferative disease have a hopeless prognosis. --Abstracted from D. Bennett and A. S. Nash, **J. Small Anim. Pract.** 29 (1988) p. 501-523 as reported in **Notes from the Extension Veterinarians**, June 1989, Kansas State University, Manhattan, KS.

SWINE HEALTH EVENTS THE SUBJECT OF NEW STUDY

The Animal Health Monitoring System (NAHMS) is ready to begin its first national survey. NAHMS was launched in 1983 by the Animal and Plant Health Inspection Service (APHIS) of the United States Department of Agriculture (USDA). The program was designed to measure the occurrence and costs of diseases and health conditions in various livestock types and began with pilot projects in seven states.

The first national survey will focus on swine, specifically farrowing sows and preweaning pigs (from birth to weaning). NAHMS is now field testing its interviewing techniques and data collection forms in preparation for the year-long survey to begin in early 1990. Information will be collected from approximately 1,400 swine operations from 18 states, including Virginia. The farms will be chosen by random sampling to represent the swine population nationwide. NAHMS will collect the information using a combination of daily records and questionnaires. For a 3-month period, each participating producer will be asked to keep daily records of the diseases and conditions occurring in farrowing sows and their litters. In addition to the daily records, each producer will be asked to complete three questionnaires that provide an outline of the facilities, feeds, management, and treatment practices used for all phases of the operations. Questions on labor and operating expenses are also included.

The producer will be given the opportunity to participate in a laboratory subsampling program testing water and blood sera.

Once the information has been examined, each producer will be provided with reports that compile the farm's data and outline that national and regional information collected. The data will be used by producers, veterinarians, scientists, pharmaceutical companies, legislators, and others to apply practices and programs that will affect the swine industry in the future.

For more information on NAHMS and the Swine Survey, please write: USDA: APHIS:VS, Animal Health Monitoring System, 555 South Howes, Suite 300, Fort Collins, Colorado 80521, (303) 498-1974. --David Sprecher, DVM, MS; Production Management Medicine, VA-MD Regional College of Veterinary Medicine, Blacksburg, VA.

HOME PASTEURIZATION WITH MICROWAVES MAY BE RISKY

University of Wisconsin researchers have found that pathogenic bacteria survive in microwave-heated milk despite achieving the time-temperature pasteurization requirements. In the study, bacterial strains were added to sterile milk and the high temperature-short time and low temperature-long time methods simulated. Although the required temperatures were exceeded, some bacteria in the milk survived the treatments. The researchers concluded that microwave heating did kill some bacteria in the milk samples but was not reliable enough to recommend as a home pasteurization technique. --The Cheese Reporter 112(31:11) as reported in Notes from the Extension Veterinarians, June 1989, Kansas State University, Manhattan, KS.

CONTINUING EDUCATION OPPORTUNITIES

Virginia-Maryland Regional College of Veterinary Medicine Continuing Education Programs - Fall 1989

<u>Date</u>	<u>Program</u>	<u>Location</u>	<u>Contact Hours</u>
September 28	Small Animal Medicine Update	Charlottesville	4
*October 6-7	Critical Care Nutrition	Blacksburg	10
*November 10-11	Small Animal Endoscopy	Blacksburg	8
*November 17-18	Spinal Surgery	Blacksburg	10
November 30	Small Animal Behavior	Charlottesville	6
*December 1-2	Eye/Ear Surgery	Blacksburg	10
*December 8-9	Wound Management/Reconstructive Surgery	Blacksburg	10

*Limited Enrollment Course

For course information or assistance, please contact:

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(703) 231-7181

VACCINATION TO REPLACE SURGICAL CASTRATION

At the annual meeting of the European Animal Production Association in Lisbon, Portugal, U.K., Swine Specialist, John Sissons, said two ways of eliminating boar taint had been developed by microbiologists. In the near future, he predicted these techniques will do away with the need for surgical castration.

One method involves use of vaccine which blocks the secretion of the hormone that leads to normal development of the testicles. Boars injected at 12, 16, 18 weeks of age gained weight at the same speed as surgically castrated males.

The second approach uses an injection to stop normal production of the steroid compounds produced by entire male hogs. In addition to reduced boar taint in the pork, feed conversion improved 20 percent compared with surgical castrates, said Sissons, and other beneficial side effects included increased muscle and reduced carcass backfat. --**Hog Farm Management, May 1989, as reported in Veterinary Newsletter, May 1989, No. 249, University of Georgia, Athens, GA.**

ATTENTION VMRCVM ALUMNI!

Alumni Weekend in Blacksburg - October 20-22, 1989
Reunions Receptions Continuing Education

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
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