



THE WINN FELINE FOUNDATION

For the Health and Well-Being of All Cats

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HEALTH NEWS #12

Summaries by Betty White 5/06

American Association of Feline Practitioners E-Mews Newsletter, March 2005, "Bird Flu: A Danger to Felines?" Dr. James Richards, Cornell Feline Health Center, Cornell University College of Veterinary Medicine, issued this press release concerning avian flu, after the report of a cat found dead in Germany due to a highly pathogenic strain of this virus. Recent studies reveal that cats can become infected with avian flu, although none of the known strains of influenza virus are transmissible between cats and people. However, these viruses are unstable by nature, so the ultimate answer of transmissibility is more complex.

Influenza viruses are divided into three types –A, B, C – with type A having the most significant implications for human and animal health. Of the many sub-types and strains of type A virus, birds may become infected with all of them, giving them all the name -- avian influenza. These viruses vary tremendously in disease capability; some have the ability to jump species, infecting other animals and humans.

While infected wild birds do not commonly become ill themselves, their migratory patterns spread the viruses to domestic fowl everywhere. The highly pathogenic strain, (H5N1 sub-type) spreading from Asia to Europe and Africa, has resulted in the deaths of approximately 200 million domestic commercial birds to date, either from direct infection or the culling of flocks done to contain the infection.

Humans have become infected with H5N1, and the death rate has been high. According to the World Health Organization, "All available evidence indicates that the virus does not spread easily from poultry to humans. Almost all cases have been linked to close contact with diseased household flocks." Health officials in the United States are closely monitoring avian influenza outbreaks in domestic fowl flocks, not only because of the economic impact to the poultry industry, but also because of the possibility of virus mutation into a lethal human strain.

What of our domestic cats? Studies have shown that infection can occur if cats eat uncooked infected fowl. They can transmit the virus to other cats, most likely through feces, urine, and secretions from the respiratory tract. At this writing, avian flu has not made its way to North America. The risk to our cats is low. Further precautions involve keeping cats indoors and feeding only cooked poultry. The H5N1 virus is destroyed at 70 degrees centigrade, so commercial cat foods requiring processing at high temperatures are quite safe.

American Association of Feline Practitioners E-Mews Newsletter, March 2005, "Superbugs: Is There a Human-Cat Connection?" In this second news release in the same issue of AAFP E-Mews, Dr. James Richards discusses a common bacterium, *Staphylococcus aureus*, which lives on the skin and in the noses of people and animals.

Usually benign, this bacterium comes in a form that is resistant to many commonly used antibiotics, methicillin-resistant *Staphylococcus aureus* (MRSA). This “superbug” is responsible for over 125,000 human hospitalizations in the United States every year.

MSRA infection is rare in dogs and cats, but some studies indicate that transmission of the bacterium between people and cats is possible. Certain to cause lively debate is a new study from the Ontario Veterinary College in Canada, where researchers found the same type of MRSA in five infected dogs and three infected cats as they found in the nasal passages of some of the people in close contact with the infected animals. The infected people were not sick. However, say the researchers, “MRSA can be transmitted between humans and animals many times within a household or veterinary clinic, and support previous concerns that pets could become household reservoirs of MRSA.” The title of the study is “Suspected transmission of methicillin-resistant *Staphylococcus aureus* between domestic pets and humans in veterinary clinics and in the household.” The study was published in the Feb. 4 issue of the journal *Veterinary Microbiology*. Dr. Richards observes, “Interestingly, other studies suggest that pets are most likely initially infected by people rather than vice versa.”

There is no cause for panic. This study simply restates a fact long known: animals and people can transmit certain infectious diseases (zoonotic diseases) to one another. Good hygiene is called for in keeping zoonotic diseases at bay. Wash your hands before eating and after handling your cat or changing litter boxes. Seek immediate veterinary care for sick cats, and prevent cats from licking your face, food utensils, or plates. As Dr. Richards says, “...of all the things you share with your cat, [ensure that] bacteria is not one of them.”

Veterinary Practice News, February 2006, “Hypertension Often Difficult to Confirm.”

Author Maureen Kochan discusses the increasing importance of blood pressure measurement as a tool in veterinary clinical practice. Larry P. Tilley, DVM, Dipl. ACVIM (Internal Medicine) and president of VetMed Consultants in Santa Fe, NM points to the recent determination that hypertension and its effects are prevalent in geriatric and chronically ill cats. In addition, the lack of early clinical signs contributes to the problem. Rebecca L. Stepien, DVM, Dipl. ACVIM (Cardiology), the University of Wisconsin School of Veterinary Medicine, further states, “Even severe hypertension is often not suspected until catastrophic damage occurs.” Some experts believe that hypertension occurs more often than once thought, yet the disorder is infrequently diagnosed. Reasons for this vary, but among them are limitations to measuring blood pressure accurately and the lack of diagnostic pursuit. Stress also contributes to inaccurate readings that add to the problem. Gary D. Norsworthy, DVM, Dipl. ABVP (Feline) and owner of Alamo Feline Health Center in San Antonio, Texas, states that blood pressure has been documented to jump up to 75 points in cats visiting a veterinary hospital.

Dr. Tilley believes that veterinarians should take seven blood pressure readings, discard the lowest and the highest, and average the remaining five measurements. Stress needs to be factored into the diagnosis, as well as suspicious clinical signs such as retinal hemorrhage, tortuosity of retinal vessels, unusually easy blood draws from a peripheral vein, tachycardia, and a pounding heart rhythm. An appropriate cuff size is essential for accurate readings, one sized for the individual as opposed to a “cat-sized” cuff.

While primary hypertension occurs most commonly in humans, systemic hypertension in animals is usually secondary to diseases that increase cardiac output,

such as thyrotoxic cardiomyopathy due to hyperthyroidism, or diseases that increase peripheral resistance, such as chronic renal disease. It is imperative, therefore, that the treatment of hypertension addresses the underlying cause of the disorder. Frequent rechecks to monitor blood pressure and adjust medications are critical.

The Veterinary Blood Pressure Society considers a high-risk blood pressure for cats and dogs to exceed 180/120 mm Hg (systemic hypertension). The Society also recommends intervention for values above 150/95 mm Hg. Systemic hypotension also poses risk for reduced organ perfusion with values below 100/60 mm Hg, and a clear danger for values below 70/40 mm Hg.

Journal of Feline Medicine & Surgery, December 2005, "Hypervitaminosis A in the Cat: A Case Report and Review of the Literature." Zoe S. Polizopoulou, DVM, PhD, Dip ECVCP, George Kazakos, DVM, Michael N. Patsikas, DVM, Dip ECVDI, and Nikolaos Roubies, BSc, PhD of the School of Veterinary Medicine, University of Thessaloniki, Thessaloniki, Greece, discuss a case of hypervitaminosis A in a 9-month-old neutered domestic shorthair cat. Upon examination for a left forelimb lameness that evolved to paralysis over a 2-month period, the researchers learned that the cat had been fed a homemade diet based on raw pork liver. Further examination revealed a flaccid paralysis and atrophy of all left forelimb muscles. Horner's syndrome was also noted. [Horner's syndrome is a neurological disorder resulting in constricted pupils and drooping eyelids.] The cat showed massive new bone formation at the second to sixth thoracic vertebra, and testing for serum vitamin A concentration revealed a reading three times above the upper normal limit for felines. Despite the dire initial prognosis, the cat progressively regained function of the affected limb approximately 6 months after the diet was changed to a commercial cat food.

Veterinary Clinical Pathology, December 2005, "Sensitivity of Tru-Cut and Fine Needle Aspiration Biopsies of Liver and Kidney for Diagnosis of Feline Infectious Peritonitis." How correct are the results of Tru-Cut biopsy (TCB) and fine-needle aspiration biopsy (FNAB) in diagnosing feline infectious peritonitis (FIP)? A. Giordano, S. Paltrinieri, W. Bertazzolo, E. Milesi, and M. Parodi of the Dipartimento di Patologia Animale Igiene e Sanita Pubblica Veterinaria, Milano, Italy, investigated these methods to determine the capacity of these techniques to correctly identify cats with FIP lesions. TCB and FNAB specimens were collected from 25 cats, primarily at necropsy. Diagnostic sensitivity was evaluated on the basis of the number of false-negative and true-positive specimens, compared with the number of organs bearing histologic lesions of FIP. The researchers concluded that biopsy of liver and kidney can correctly identify FIP lesions. They did find, however, that false-negative results or inadequate samples occur with moderate frequency, especially for immunochemical analysis. They postulated that diagnostic sensitivity may be increased when both TCB and FNAB specimens from the same organ are examined.

Journal of Feline Medicine & Surgery, December 2005, "Impact of Time-Limited Feeding and Dietary Carbohydrate Content on Weight Loss in Group-Housed Cats." Kathryn E. Michel, DVM, MS, Amy Bader, VMD, Frances S. Shofer, PhD, Claudia Barbera, MS, MBA, Donna Oakley, CVT, and Urs Giger, PhD, Dr MedVet, MS, FVH of the School of Veterinary Medicine, University of Pennsylvania, studied the diets of 24

cats. The cats were transitioned to time-limited feeding and randomly fed either a dry low-carbohydrate diet or a dry-reduced energy diet. In the initial trial, the two groups received equal amounts of food (by weight) for 13 weeks. All cats ate all the food offered, therefore the low-carb diet group received more energy per day than the reduced-energy diet group. In the second trial, all cats were fed the low-carb diet for 12 weeks, each group receiving the energy that the opposite group had received in the first trial. In Trial 1, only the overweight low-carb diet cats experienced a significant change in body weight. Trial 2 resulted in low-carbohydrate/low-calorie overweight cats losing weight, while the low-carbohydrate/high-calorie normal weight cats gained weight. These trials designed for group-housed cats indicated that body condition and energy intake influenced weight rather than type of diet.

Compendium on Continuing Education for the Practicing Veterinarian, October 2005, "Potential Drug Interactions with Dietary Supplements." The use of "dietary supplements," a legal term referring only to human products, is increasing in both human and veterinary patients. Laura Goodman, DVM, and Lauren Trepanier, DVM, PhD, DACVIM, DACVCP, of the University of Wisconsin-Madison discuss these products that include vitamins, minerals, herbs, and nutraceuticals. (A legal definition for this latter term has not been established, but nutraceuticals are considered to be substances that have characteristics of both foods and drugs.) While the FDA has oversight of prescription and over-the-counter drugs, its oversight of dietary supplements is minimal. Manufacturers of these products intended for human use are not required to submit safety data before marketing. Should a safety concern occur, it is the responsibility of the FDA to prove that the supplement is not safe. As the use of supplements becomes more widespread, so does the potential for the increase of adverse interactions with prescribed medications. Since virtually no research is available for veterinary patients, the risk potential for animals is based primarily on knowledge gleaned from humans and experimental animal models.

Vitamins: Vitamin E is known to interact with anticoagulants, and it is hypothesized that high-dose vitamin E may antagonize the effects of vitamin K, thereby decreasing the function of prothrombin, a vitamin K-dependent coagulation factor.

Minerals: Calcium is known to interfere with tetracycline and doxycycline absorption, and it also adsorbs orally administered thyroxine in the acid environment of the stomach. In humans, this thyroxine adsorption leads to impaired control of hypothyroidism. Approximately 20% to 30% of cats with chronic renal failure are hypokalemic (low blood-potassium levels). Potassium supplementation is indicated in these cases. However, should these cats also be receiving an ACE inhibitor or spironolactone as well as potassium, their risk for hypokalemia may even increase. Therefore, serum-potassium levels should be monitored for dose adjustments of potassium.

Nutraceuticals: There is no clear evidence that shark cartilage supplementation is beneficial to companion animals, but it is known that shark cartilage preparations contain large amounts of calcium salts. This presents the danger of hypercalcemia, as well as the possibility of interference with tetracycline, doxycycline, and thyroxine absorption.

Herbs: Many herbs have antiplatelet or anticoagulant activity. St. John's Wort, marketed and regulated as a drug in Germany, is available over the counter in the United States and is even formulated in numerous veterinary products. This herb has been associated with a loss of cyclosporine efficacy and subsequent graft rejection in human

patients following heart, liver, or kidney transplantation. No studies have been conducted on veterinary patients, but it is possible that the administration of this herb may lead to decreased efficacy of many drugs in dogs and cats. The same may be said of the active ingredient in milk thistle, silymarin. Ginseng is suspected in platelet aggregation inhibition, and it has been shown to reduce the analgesic effect of opioids.

More research is necessary to understand fully the interactions of drugs and dietary supplements in both humans and companion animals. Observations in veterinary clinics and by owners should be reported to manufacturers and other agencies in order to direct pertinent research.

Journal of the American Veterinary Medical Association, October 2005, "Response Rates and Survival Times for Cats with Lymphoma Treated with the University of Wisconsin-Madison Chemotherapy Protocol: 38 Cases (1996-2003)." This study of a fellow veterinary school treatment protocol was conducted by Dr. Rowan J. Milner, BVSc, Jamie Peyton, MMedVet, Kirsten Cooke, DVM, Leslie E. Fox, DVM, DACVIM, Alexander Gallagher, DVM, MS, DACVIM, Patti Gordon, DVM, and Juli Hester, DVM, of the College of Veterinary Medicine, University of Florida, Gainesville. This was a retrospective study involving 38 cats with lymphoma. Overall median survival time was 210 days; overall duration of first remission was 156 days. Age, sex, anatomic form, and clinical stage were not significantly associated with the duration of the first remission or survival time. Eighteen of the 38 cats (47%) had complete remission, 14 (37%) had partial remission, and 6 (16%) had no response to treatment. These results suggest that a high percentage of cats with lymphoma will respond to treatment with the University of Wisconsin-Madison chemotherapy protocol.

American Journal of Veterinary Research, August 2005, "Comparison of Various Blood-Typing Methods for the Feline AB Blood Group System." Five separate methods for determining blood type of the AB group system were compared by Knut Stieger, Dr MedVet, Hanne Palos, DVM, and Urs Giger, PhD, Dr MetVet of the School of Veterinary Medicine, University of Pennsylvania, Philadelphia. Methods studied were the card (CARD), gel (GEL), tube (TUBE), University of Pennsylvania (Penn) tube, and Penn slide tests on blood samples from 38 healthy cats. Conclusions reached were that the widely used CARD test allows identification of type A- and type B-positive cats, but the weak reactions of type AB blood with the anti-A monoclonal antibody raise concerns. The GEL and TUBE tests appear to be reliable clinical laboratory methods for determining feline blood types when modified by anti-A serum to control columns. The modified tests clearly differentiated type B blood from type AB.

Journal of Veterinary Internal Medicine, July-August 2005, "Association Between Ovarihysterectomy and Feline Mammary Carcinoma." The disease process of feline mammary carcinoma is not well understood. Although not definitively proved, risk factors include breed, reproductive status, and regular exposure to progestins. Nor has an association of the age at which a female is spayed and the subsequent development of mammary cancer been established. B. Overley, F. S. Shofer, M. H. Goldschmidt, D. Sherer, and K. U. Sorenmo of the School of Veterinary Medicine, University of Pennsylvania, Philadelphia, conducted a case-control study to determine the effects of

age when spayed, breed, progestin exposure, and female reproduction on the development of feline mammary carcinoma. The cases were female cats diagnosed with mammary cancer, and the controls were those who did not have the disease -- all from the same biopsy service population. Controls were frequency matched to cases by age and year of diagnosis. Intact cats were significantly overrepresented. Cats spayed prior to 6 months of age had a 91% reduction in the risk of breast cancer development compared with intact cats. Those cats spayed prior to 1 year had an 86% reduction in risk. Reproduction did not affect the development of mammary cancer, but too few cats had progestin exposure to determine any association with breast cancer. These results suggest that cats spayed before 1 year of age are at a significantly reduced risk of developing mammary carcinoma.

Animal Health Research Review, December 2004, "Efficacy and Safety of a Feline Immunodeficiency Virus Vaccine." C. Huang, D. Conlee, J. Loop, D. Champ, M. Gill, and H. J. Chu of Fort Dodge Animal Health report on research of Fel-O-Vax FIV vaccine designed as an aid in the prevention of feline immunodeficiency virus (FIV) in cats 8 weeks or older. Fel-O-Vax contains two genetically distinct FIV strains (subtypes A and D) and the efficacy of the vaccine was demonstrated in a vaccination-challenge study designed to meet various regulatory requirements for registering the vaccine. Initially vaccinated at 8 weeks of age, cats were challenged with a vigorous exposure to FIV twelve months later. The FIV strain used for challenge was a subtype A virus, genetically different from the subtype A strain used in the vaccine. The cats were monitored for FIV viremia. Results showed that 16% of the vaccinated cats developed viremia, while 90% of the control cats became persistently infected with FIV. This demonstrated that the vaccine was efficacious and that the protective immunity lasted for at least 12 months. A field safety trial revealed that only 22 mild reactions of short duration occurred following the administration of 2051 doses of two pre-licensing serials of Fel-O-Vax FIV. The cats in these trials were of various breeds, ages, and vaccination histories. The research and field trials of Fel-O-Vax FIV indicate that this vaccine is safe and efficacious for the prevention of FIV infection in cats when challenged with this heterologous subtype A virus.