

HEALTH NEWS #10

From THE WINN FELINE FOUNDATION

Summaries by Betty White 2/06

Veterinary Practice News, November 2005, "Feral Cats in America." Dr. William Folger, DVM, ABVP (Feline) draws on 25 years of experience as a volunteer in developing a solution to the feral cat problem to reach these somber conclusions.

1. The problem was created and is perpetuated by an irresponsible society;
2. All components of a solution involve negative, unpleasant, and heartbreaking choices;
3. The perpetual negativity and agenda-based anger between humane groups and wildlife organizations make all currently proposed solutions impossible;
4. We have no theory in order to formulate a solution.

He points to the myriad of scientific articles in the last 40 years about feral cats, as well as the army of federal, state, local agencies, and humane organization volunteers that cannot agree on either the causes or the solution to the problem. The American Veterinary Medical Association (AVMA) sponsored an Animal Welfare Forum in 2003 where wildlife conservationists, trap-neuter-return (TNR) advocates, population scientists, and environmental scientists examined the problem of un-owned, abandoned, and feral cats. Dr. Folger reported that the acrimony, genuine mistrust, and general negativity between and among the groups were dramatic.

Statistics: Most estimates place the number of un-owned, abandoned, and feral cats in this country at approximately 70 million. This does not include owned outdoor cats. These numbers are perpetuated because cats are extremely adaptive natural predators in an environment rich in wildlife, well-meaning backyard feeding of un-owned cats, and millions of urban trash receptacles containing human food. While research is scarce, it appears that female cats in this population have 1.6 litters per year of five kittens per litter. A huge 80% of these kittens will die before they reach the age of one year. The average lifespan in non-managed colonies is two years, the cats succumbing to the same causes as all wildlife – disease, starvation, and trauma. The degree of animal suffering is mind-boggling.

Environmental Impact: Again, scientific studies do not agree on the numbers of wildlife killed by feral cats. One study estimates an annual kill rate per cat of seven. This rate of destruction by 70 million cats will destroy 490 million birds annually. Dr. Folger believes that owned outdoor cats contribute to wildlife destruction equally to that of un-owned, abandoned, and feral cats. Another factor to consider is that birds are actually third choice on a cat's menu. Most cats prefer small mammals (rats, mice, rabbits, chipmunks, and squirrels) and reptiles. It is, therefore, reasonable to estimate that un-owned, abandoned, and feral cats kill 1 billion to 2 billion birds, mammals, and reptiles every year in America. That feral cats cause staggering wildlife destruction in the United States is a fact beyond dispute.

The TNR Controversy: Wildlife conservationists direct a tremendous amount of anger at those who promote trap-neuter-return. They complain that those cats returned to

the environment contribute to wildlife loss. The truth is that TNR programs manage only 1%-2% of the un-owned, abandoned, and feral cats in America. Wildlife conservationists would be better served to organize, fund, and solicit volunteers for groups that trap, neuter and adopt suitable cats, and euthanize non-adoptable ones (TNA/E). It is certain that every cat neutered is a step in the right direction.

Solutions: The American Association of Feline Practitioners (AAFP) and the AVMA have issued position statements on un-owned, abandoned, and feral cats. These are excellent and discuss areas of constructive efforts. All cats not specifically designated for breeding must be neutered before sale or adoption, and animal control agencies need significantly increased funding. However, in the final analysis the American public must consider this problem a priority and realize that the solution may involve unpleasant, negative choices.

Veterinary Practice News, November 2005, "Antibiotic Resistance Is Prevalent." Anthony Carr, DVM, ACVIM, discusses the problem of antibiotic resistance and suggests a way to limit its occurrence. Most of the diseases affecting the livers of cats are sterile, but sometimes bacteria play a role, either as primary pathogens or as complicating factors. Researchers at the University of Wisconsin studied 61 cats, as well as 190 dogs, that had liver and bile cultures performed between 1998 and 2003. There were significant differences in the yield of bacteria from the liver (14% positive) and from bile of the cats (36% positive). Unlike dogs, cats showed a low percentage of multiple bacteria – only 18%. The most routinely isolated organisms are common to the gastrointestinal tract, such as *E. coli*. While an increased white blood cell count was present in the case of infection, other parameters such as fever, toxic change, etc., were not different in those patients with positive cultures. Surgical biopsies are preferred to needle biopsies for accurately detecting bacteria. The *E. coli* strains were relatively resistant, and a combination antibiotic therapy is indicated, such as a fluoroquinolone with amoxicillin/clavulanate.

Researchers from Auburn University studied urinary tract infections from 175 first-time positive cultures. The usual recommendation for treating first-time urinary tract infections is to treat them empirically, that is, to include a fluoroquinolone or TMS if a gram-negative bacterium is found and ampicillin or amoxicillin/clavulanate if a gram-positive is found. Sensitivity to 17 antibiotics was determined, as well as the presence of certain factors associated with resistant infections, such as previous antibiotic use, hospitalization, etc. Overall resistance was 31%, while resistance to such antibiotics as ampicillin, cephalothin, and piperacillin was high at 40%-50%. Between 10% and 40% were resistant to ceftiofur, gentamicin, chloramphenicol, amoxicillin-clavulanic acid, tetracycline, and TMS. This study suggests that it may be best in most cases of gram-negative urinary tract infections to get a culture with an antibiotic sensitivity profile, as resistance is quite common even to medications considered to be relatively potent antibiotics.

In this study, feeding raw beef was associated with ampicillin and cephalothin resistance and intermediate susceptibility to *E. coli*. Previous antibiotic therapy was also associated with greater resistance/intermediate susceptibility. Therefore, the use of

antibiotics should never be a routine prophylactic but should be limited to those cats/kittens that clearly need them.

Veterinary Practice News, November 2005, "Echinacea May Have Benefits for Animals." Narda Robinson, DVM, discusses at some length the well-known popularity of echinacea in the United States as a nutritional supplement for humans, despite a recent study in the *New England Journal of Medicine* that renewed skepticism about the medicinal herb. However, this report is just the latest volley in an ongoing debate about the value of echinacea. Despite its efficacy, or lack thereof, in stimulating immunity and accelerating recovery from infections, there is evidence in several animal species that echinacea may deliver certain benefits beyond infection control. At present, veterinarians have touted echinacea for kennel cough, snake bite, urinary tract infections, feline lower urinary tract disease, FeLV, FIP, FIV, mange, ringworm, rickettsial disease, kidney disease, rheumatoid arthritis, and cancer. This has occurred despite the existence of only one report on echinacea in small animals, an uncontrolled administration by six veterinarians of echinacea powder to dogs suffering from chronic or seasonal upper respiratory tract infections. They reported significant improvements in the animals' condition. Other studies have been on mice, cows, horses, chickens, and pigs.

Safe and effective dosages for animals are anybody's educated guess, much like the mystery surrounding human dosages. Differences persist between botanical products' labels and actual contents. In addition, different batches of the same product from the same manufacturer may have different pharmacological profiles because of differing climates and growing conditions of the plant matter.

Veterinarians hesitate to suggest echinacea for animals with immune system cancers or autoimmune conditions. It also may be contraindicated in cancer patients undergoing chemotherapy or radiation. *Echinacea purpurea* is supposed to eliminate free radicals generated by radiation therapy and prevents the destruction of red blood cell membranes by oxidation. Blood cell counts recover more quickly, but the question remains whether echinacea's antioxidant and "radioprotective" benefits compromise the effectiveness of radiation treatments. In addition, constituents of echinacea can either inhibit or activate certain enzymes and drug transporters. Hence, echinacea may modulate the absorption and disposition of other medications.

The herb's potential adverse effects include allergic reactions, neuralgic joint pain, muscle pain, and gastrointestinal upset. Despite the fact that no herb's safety can be positively assured, a systematic review of the safety for humans indicates that adverse reactions to echinacea are usually rare, mild, and reversible.

Veterinary Practice News, October 2005, "Which Supplements Do Vets Recommend?"

Writing for *VPN*, Steve Eddy found that even those veterinarians who rely on well-balanced diets have favorite supplements. A survey conducted by the American Pet Products Manufacturers Association found that cat owners spent \$32 per household in 2004 for supplements, up from \$21 in 2003. Most of these owners bought their supplements from their veterinarians, so a sampling of these professionals revealed preferences as well as their reasons for prescribing them. Most veterinarians stressed a well-balanced diet, and several recommended premium foods available only from their

offices. Most recommended were glucosamine and chondroitin sulfate for pets with arthritis symptoms. Mention was also made of whole body support products, fatty acids for dry, flaking skin, S-Ame (S-Adenosyl-methionine) for liver ailments, and brain and heart supplements. Another product recommended was lysine for feline herpesvirus infection. Veterinarians surveyed believe that cats on homemade diets should receive a daily supplement that contains 18 essential vitamins and minerals and antioxidant supplements, as these diets often lack some essential nutrients.

Press Release, Office of the Senior Vice President for Health Affairs, University of Florida, Gainesville, Sept. 8, 2005. An unexpected finding of a link between the viruses that cause feline and human AIDS by a University of Florida veterinary researcher, Janet Yamamoto, may mean that cats with feline immunodeficiency virus (FIV) could eventually be treated even more effectively using some form of the experimental human vaccine. Cats vaccinated with an experimental strain of the human AIDS virus seem to be at least as well-protected against the feline version of the disease as those immunized with the vaccine in current use by veterinarians. Professor Yamamoto theorizes further that the emerging similarities between the two viruses could one day lead to a vaccine for human AIDS.

Yamamoto's team also discovered that a core protein found in HIV also effectively protects cats against FIV. Examples of compounds made from separate virus strains to make vaccines successfully used against viruses from the same subfamily are smallpox, made from cowpox virus, and human measles vaccines used to prevent canine distemper in puppies.

"Therefore, protective vaccines based on cross-reactive regions of AIDS viruses can provide broad immunity, and may be useful against viruses that are currently evolving in a new host, such as HIV infection of humans," Yamamoto said.

Journal of the American Veterinary Medical Association, June 2005, "Vaccine Associated Feline Sarcoma Task Force: Roundtable Discussion." The 11-member task force, initially designed to function for only three years, has served veterinarians, cats, and cat owners for over nine years. It has stimulated research and initiated preliminary changes in vaccination protocols designed to reduce the risk of sarcoma formation in cats. In December 2004, the task force met at the headquarters of the American Animal Hospital Association to answer questions from the American Association of Feline Practitioners and chosen laypersons about vaccine-associated sarcoma in an effort to summarize the current understanding and optimal management of the disease.

While the cause/effect association between vaccine administration and sarcoma development has not been established with scientific certainty, it was the consensus of the panel that the evidence of all the studies undertaken indicates that this association does exist. No further money spent in this effort is warranted. The task force believes to act on this evidence is prudent. The suspected culprit is inflammation, however caused, by whatever means. It is a hypothesis, and does not necessarily mean that the more inflammation a vaccine induces, the more likely a sarcoma will form. Adjuvant rabies

virus and FeLV vaccines induce a very different cellular reaction than that caused by modified live panleukopenia virus, calicivirus, or herpesvirus vaccines. It is not known what that means, but there are differences.

Cats have long been known to have a predisposition to develop sarcomas in response to inflammation, but there was a change during the 1980s. Veterinarians in this country went from the use of a modified-live rabies virus vaccine to an adjuvant killed virus vaccine. At the same time, an aluminum adjuvant FeLV vaccine was introduced. By the end of the decade, the veterinary community was seeing a marked increase in the development of vaccine-site sarcomas.

A rabies virus vaccine is now available that induces less inflammation than other rabies virus vaccines (Merial PureVax Feline Rabies), but it must be given annually as opposed to every three years. While there was some dissent, most task force members felt that it is safer to give a non-inflammatory vaccine annually than a more inflammatory vaccine every three years.

The task force recommended that only kittens at risk of exposure to FeLV from other cats be vaccinated against FeLV. If they are at risk, vaccinate them only as kittens and then at one year of age. Kittens/cats not at risk do not need the vaccine.

Vaccinations of all kinds should be done as distally as possible on an extremity. If given farther up on a limb and a sarcoma develops, complete excision of the tumor will be difficult or impossible.

Further studies are needed. For instance, there needs to be some way to differentiate vaccine-associated sarcomas from non-vaccine-associated sarcomas. Additionally, what other products besides vaccines might cause sarcomas? Are some cats at higher risk than others? Much remains to be learned.

Veterinary Record, May 2005, "Factors Associated With Upper Respiratory Tract Disease Caused by Feline Herpesvirus, Feline Calicivirus, Chlamydomphila Felis and Bordetella Bronchiseptics in Cats: Experience From 218 European Catteries." This full history of the management practices and the prevalence of upper respiratory tract disease at 218 rescue shelters, breeding establishments, and private households with five or more cats was recorded by researchers at the University of Bristol, Bristol, England. In all, 1748 cats were examined, using oral and conjunctival swabs and blood samples. The rates of detection by PCR of each pathogen were determined at both establishments with and those without ongoing upper respiratory tract disease (URTD). There was evidence that feline herpesvirus, feline calicivirus, and B. bronchiseptica played a role in URTD. Risk factors noted with the disease were less than excellent hygiene, contact with dogs with URTD, and larger numbers of cats in the cattery or household.

Compendium, June 2005, "Feline Bronchial Asthma: Pathophysiology and Diagnosis." Christopher G. Byers, DVM, and Nishi Dhupa, BVM, MRCVS, DACVECC, DACVIM, discuss this common respiratory condition manifesting as extensive narrowing of the airways with excessive airway mucus, resulting in respiratory distress. It should be understood that feline bronchial asthma results from an enhanced reaction of the immune system to an inhaled allergen. The most common clinical signs

of this disease are coughing, wheezing, and labored breathing -- the latter being the principal clinical sign of an asthmatic cat. Between these episodes, however, the cat may often appear completely normal.

Alterations of pulmonary function secondary to airway obstruction are dramatic features of feline bronchial asthma. In short, ventilation is inadequate. This necessitates increased expiratory effort to overcome the obstruction.

Diagnosis involves a complete blood cell count, serum biochemical profile, thoracic radiography, fecal analysis, electrocardiography, and heartworm antibody and antigen assays in heartworm endemic areas.

In a companion article in the same periodical, "***Feline Bronchial Asthma: Treatment,***" researchers Byers and Dhupa indicate that treatment is directed at reducing inflammation, promoting dilation of the airways, and restoring normal airway mucus. Ideally, discovering and eliminating the inhaled allergen is the first priority. Emergency therapy includes supplemental oxygen and medication. Long-term therapy may be accomplished with the use of inhalant glucocorticoids and other anti-inflammatory medications.