THE WINN FELINE FOUNDATION
For the Health and Well-Being of All Cats
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HEALTH NEWS #8

Summaries by Betty White 6/05

Veterinary Practice News, February 2005, "FIP Still a Mystery Despite Promising Research." Author Don Vaughan quotes Dr. Niels C. Pedersen, DVM, PhD, Dr. Melissa Kennedy, DVM, PhD, Dipl ACVM, and Dr. Susan Little, DVM, Dipl. ABVP (Feline Practice) on the continuing difficulty both in diagnosing and treating FIP. FIP is a disease associated with feline coronavirus infection. Feline enteric coronavirus (FECV) is a common benign infection. Most cats living in multi-cat populations will be exposed to the virus at some time in their lives, while the disease-causing mutation to FIP virus affects only 5% to 10% of the same individuals. There is speculation that FIP is a fairly modern disease, and that the slight increase in incidence may be due to the fact that pet cats are spending more time indoors. Close contact is more common in multi-cat environments, where space is often limited and cats share litter boxes. Commonly referred to as "wet" and "dry," the two forms of FIP present a diagnostic challenge. Wet FIP is more easily diagnosed, since fluid from the chest or abdomen can be tested. These cats lose weight, do not want to eat, and exhibit a tell-tale swollen belly or may have trouble breathing. In dry FIP, where lesions are found in major organs such as the liver or the kidneys, symptoms may be vague. There may be fever that does not respond to antibiotics and there may be weight loss. The cats do not appear to be thriving. One thing is definite, says Dr. Pedersen, "Once a cat manifests FIP, it has essentially lost the battle between host and virus." Both Dr. Pedersen and Dr. Little consider the current vaccines to be without merit.

There appears to be a genetic component to susceptibility to FIP and perhaps to infection with FECV, and this fact is offering promise of future prevention or cure. About 10% to 20% of cats will shed FECV all their lives, while the same number will stop shedding the virus within six months of infection. The rest of the same population will develop immunity and stop shedding, although they may become infected in the future and shed virus again. This may continue over many cycles. Pedersen said that a proportion of FECV-infected cats will die of FIP, while a small number will be able to resist infection altogether. "We were able to show in one small pilot study that the resistant cats produce good interferon gamma responses, while the ones that die fail to produce interferon gamma. The role of interferon gamma in preventing FIP-like diseases has also been confirmed in interferon gamma-gene defective mice that were infected experimentally or naturally with murine coronavirus."

"I strongly recommend looking at breeding records, "Kennedy said. "We had a situation here involving a cattery that had lost 75% to 100% of its litters to FIP over a two-year period. When the breeder looked at her records she found a common genetic link through the sire, and when she took him out of the breeding program her incidence of FIP decreased."

Dr. Little indicated studies funded by The Winn Feline Foundation have produced very promising FIP research, and mentioned the FIP conferences co-sponsored by Winn at the University of California, Davis, in 1994 and at the University of Glasgow, Scotland, in 2002. One of the researchers supported by Winn is Dr. Diane Addie, PhD, BVMS, at the University of Glasgow, whose expertise is the behavior of feline coronavirus in naturally infected cats over a long period of time. Dr. Janet Foley, another Winn grant recipient, has investigated the interaction of the immune system and FIP virus. Saverio Paltrinieri, DVM, PhD, Dipl. ECVCP at the University of Milan, Italy is studying acute phase protein changes in the blood, hoping to add another test that will give veterinarians more information in diagnosing FIP. Another avenue of research is identifying better ways to make vaccines against feline coronavirus.

What everyone would like to know is: when will all this research result either in a cure or better treatment for the disease? There is no clear answer. "FIP is the great remaining infectious disease in cats, of which we know so much but can do so little," Pedersen said. "We will chip away at the disease bit by bit and there will be real breakthroughs and false breakthroughs," he said, "Everyone is in it for the long run."

Journal of Veterinary Internal Medicine, Jan-Feb 2005, "Clinical Characteristics of Mammary Carcinoma in Male Cats." Researchers K. A. Skorupski, B. Overley, F. S. Shofer, M. H. Goldschmidt, C. A. Miller, and K. U. Sorenmo of the University of Pennsylvania sought to characterize the clinical characteristics of mammary carcinoma in male cats, as there is little information regarding these tumors. Biopsies were reviewed from 39 male cats, with follow-up information available for 27 cats. That information included a complete description of the tumors, age at neutering, history of progestin therapy, age at tumor diagnosis, size of tumor, type of surgery (lumpectomy, simple mastectomy, or radical mastectomy), results of clinical staging, adjunctive therapies, time to local recurrence, survival, and cause of death. The mean age at diagnosis (12.8 years) was slightly older than that reported in female cats. Local tumor recurrence in 45% of the male cats was similar to that reported in females, with a median time of recurrence of 310 days and overall median survival of 344 days. This study indicated that mammary carcinoma in the male cat is much like the disease in females, and presents an aggressive clinical course in most cats.

Journal of Feline Medicine & Surgery, February 2005, "Failure to Conceive in the Queen." Stefano Romagnoli of the University of Padova, Italy, discussed a 13-month-old Persian female presented to the university clinic for infertility. Having been bred on two consecutive estrous cycles on day one of estrus, the female developed a purulent vulvar discharge shortly after breeding. A private veterinarian had treated her with antibiotics and vaginal medications. A complete clinical examination at the university clinic, including diagnostic imaging and laboratory study, did not produce evidence of reproductive tract disease. On a subsequent estrus, the queen was bred on day three of the estrus event. She conceived and delivered six kittens. The conclusion drawn by the author was that the cat's failure to conceive was a result of inappropriate breeding management practices.

Veterinary Practice News, April 2005, "Homeopathy and Cancer – Real Benefits or Empty Promises?" Narda Robinson, DVM, states categorically in the opening paragraphs that many natural products show promise, but no alternative therapies have been proven effective for cancer. "Delaying conventional and proven treatments," she says, "may hasten an animal's death and turn what was potentially curable into incurable." Despite this caveat, she discusses homeopathic remedies at length. To define these remedies, the philosophic basis is that the more dilute a remedy is, the more potent it is. A moderate to extremely dilute concentration in a solution of pure water is believed to ameliorate symptoms, i.e, "like cures like." Since most of these remedies are available over the counter and are easy to administer, owners can self-prescribe with the aid of several do-it-yourself veterinary homeopathic books.

Evidence is mounting that these remedies do have palliative results. The *British Homeopathy Journal* in 2000 reported that radiation patients participating in a randomized, double-blind, placebo-controlled, clinical trial received statistically significant benefits related to skin color, heat, swelling, and pigmentation when compared to patients ingesting the placebo. A 2004 article in *Homeopathy* discussed a therapy for radiation-induced itching. A dilution of Fluoric acid, it was theorized, would treat what dermal exposure to full-strength Fluoric acid would cause – deep destruction of skin and underlying tissues. A well-known study in 2001 and reported in *Cancer* was a randomized, double-blind, placebo-controlled trial of a homeopathic solution called Traumeel S. It was given to children undergoing stem-cell transplantation for either lymphoma or acute myelogenous leukemia who developed chemotherapy-induced stomatitis. Traumeel S has a long history of use for trauma, inflammation and degenerative processes. It is sold over the counter and contains highly diluted solutions of 14 plants and minerals. The benefits of Traumeel S were shown to be statistically significant, with a difference of 33% not developing stomatitis compared to 7% of the control group, and a decreased worsening of stomatitis in 47% of the Traumeel S group who did suffer from this ailment as compared to 93% of the placebo group. There has been little published on the effectiveness of highly diluted chemical carcinogens to treat cancer, although there have been extraordinary claims of efficacy.

Homeopathic remedies produce few adverse reactions, and those that do occur primarily involve symptom aggravation. These disappear upon discontinuing the treatment. There are those homeopaths that believe extreme symptom aggravation is an indication of treatment breakthrough and a sign of impending improvement. There are many questions to be answered, and answers would help to further demystify the value of homeopathy as a medical therapy.

Journal of the Feline Advisory Bureau, Vol. 43(1) 2005, "Gene Test for PKD." In this issue, the Feline Advisory Bureau (FAB) in Great Britain announced the availability of the gene test for Polycystic Kidney Disease (PKD) at the Veterinary Genetics Laboratory (VGL) at UC Davis, California. The test is offered currently for Persians, Exotics, Himalayans and Persian outcrosses, and will soon be available in the UK in addition to the United States. Cats may be tested as early as eight to ten weeks of age from DNA extracted from a buccal (cheek) swab, or from a blood sample. The FAB advised that it will continue its PKD Negative Register, and will expand it to include gene-tested cats once it has been confirmed that the test applies equally well to cats in the UK as it does to

cats in the United States. A gene test submission form was included in the article to assist owners and veterinarians in providing all the necessary information to accompany the swab or blood sample. *A note of caution was highlighted:* In humans there are at least six different genes that can cause different forms of PKD. It appears that autosomal dominant PKD in Persians and related breeds is all caused by one gene defect, but other forms of PKD caused by a different, unrelated gene mutation may exist.

Journal of the Feline Advisory Bureau, Vol. 43(1) 2005, "Cats' Teeth and Their Care." Suzanne Rudd *Fortekor®* FAB nurse at the University of Bristol, advised FAB conference delegates on dental hygiene for their cats. She indicated that dental disease is a common problem in cats of all ages and estimated that 85% of cats aged three years and older have some sort of dental disease. Ideally, cats should have their teeth professionally examined at least once every 12 months, and cats that have had dental problems should be examined every three to six months. As for so many other diseases, the sooner a problem is discovered, the better. Cats seldom show clinical signs until dental disease is advanced.

Following a discussion of **tooth anatomy**, made up of pulp, dentine, and enamel, the **types of teeth** (incisors, canines, pre-molars, and molars) were noted. Feline dental disease is normally associated with dental plaque and tartar. Plaque is a complex film of bacteria that develops on the surface of teeth, becoming visible with growth as a soft, gray or white film on the tooth surface. Plaque is removed with brushing. If left undisturbed, plaque becomes hard due to the deposit of substances such as calcium in the plaque layer. This hard, calcified plaque is known as tartar, clearly visible as a hard, cream/yellow or brown deposit on the tooth surface. Tartar requires professional scaling to remove it.

Age alone is not the only reason for severe dental disease. Other factors likely to affect the onset of disease are **abnormal tooth alignment, diet, oral care, chemistry in the mouth, and infectious disease.** In some cases, the jaw structure of short-nosed breeds predisposes them to dental disease because teeth are overcrowded and misaligned. The retention of baby teeth after the permanent teeth have erupted often causes the abnormal growth of adult teeth and subsequent misalignment. Other causes of misalignment are trauma and structural abnormalities such as undershot/overshot jaws. It is postulated that dry foods are more abrasive and therefore encourage chewing, whereas wet foods provide no abrasive action against the teeth. However, the long-term efficiency of dry food in reducing gum disease has not been proven. At present, the single most effective way to reduce plaque is by daily brushing. There are some cats that are thought to have a predisposition for dental disease because of the chemistry of their saliva. Multiple extractions may be needed in severe cases of dental disease with tooth damage, along with rigorous home care.

There are certain infectious diseases associated with **gingivitis (gum disease)** and they are feline immunodeficiency virus (FIV), feline leukemia virus (FeLV) and feline calicivirus. It is wise to have screening done by a veterinarian to rule out these infections. Gingivitis is quite common and is characterized as inflammation of the gingiva (tissue surrounding the tooth); it may be mild, moderate, or severe. **Periodontitis** is gum disease that is very advanced and is more commonly found in older cats.

Stomatitis means inflammation of the oral cavity. When the entire oral cavity becomes severely inflamed, the condition is known as **lymphocytic plasmacytic gingivitis stomatitis complex (LPGC).** The precise cause is still unknown, but it is very painful and cats may stop eating. Treatment depends upon severity, but always includes cleaning and removal of any diseased teeth. Cats will often require antibiotics and corticosteroid treatment to manage the disease, with very severe cases requiring extraction of all the teeth.

It is estimated that 72% of cats over the age of five years have at least one **feline odontoclastic resorptive lesion (FORL).** A FORL is a type of cavity in the tooth, commonly formed at the gum line but sometimes seen below the gum line. The cause is unknown, but cells called odontoclasts are found in the cavities. These cells break down the substance of the tooth. A FORL can look like a small amount of gum growing up the tooth. In actuality, the gum is inflamed due to the lesion and responds by filling in the hole in the tooth. Left untreated, FORLs produce gradual erosion of the tooth resulting in crown fracture with root retention. Symptoms of this condition are similar to severe gingivitis, and jaw chattering due to pain while eating is common. FORLs are extremely sensitive to touch, and affected teeth are usually extracted.

Fractured teeth should be evaluated on an individual basis, but as a general rule any teeth fractured through to the dentine or pulp cavity (affecting the nerve and blood supply) will likely need extraction. Signs of a fractured tooth are pawing at the mouth, hypersalivation and favoring one side of the mouth while eating.

Just as with humans, regular brushing is the ideal way to care for a cat's teeth. Brushing begun at an early age makes it easier for both cat and owner to tolerate this procedure. Whether a kitten or an adult, cats accept the daily routine best if it has been introduced slowly over time.

Procrastination with regard to dental care carries the same risk for cats as it does for humans. Dental disease is best managed in its early stages, and symptoms often do not appear until a condition is advanced. Regular dental check-ups should be scheduled to find and treat problems early.