

Feline Reproduction

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Malnutrition and obesity may reduce feline fertility which, in toms, can also be impaired by hypothyroidism, hypervitaminosis A and stress. Other possible causes implicated in female infertility include hormonal imbalances, improper lighting, estrogen-producing cysts, concurrent diseases and lack of exposure to other cats.

Pregnancy is not always trouble-free either, said Dr. Casal. Viral infections, particularly FPV, FeLV and FRV suppress the immune system and may lead to fetal death. FRV can also cause malformation of kittens.

Pyometra and other bacterial infections, which may afflict the pregnant uterus, are generally easier to detect than viral infections because obvious clinical signs are usually present. These may include fever, lethargy, appetite loss and yellow-green vaginal discharge.

Malnutrition, spontaneous drops in progesterone, vaccinations and certain medications given during pregnancy may lead to abortions or abnormal fetal development. "I always say, 'the only drug you can give a cat during pregnancy is water,'" Dr. Casal remarked.

As in people, many things can go awry in cats during birthing. Obstructions caused by accident-related malformations of the birth canal and uterine rupture or torsion may render normal delivery impossible.

Uterine inertia, a condition in which the uterus fails to contract, may be caused by malnutrition, calcium deficiency, concurrent disease and acute fatigue. The primary clinical sign is a rise in body temperature 6-12 hours after the initial drop, with no kittens being born. The presence of oversized, malformed and dead fetuses may also interrupt parturition.

Immediate veterinary attention should be sought if problems develop during pregnancy or birthing, said Dr. Casal, and proper breeding management should be undertaken as a preventive measure. These precautions will, over the long run, strengthen gene pools and enhance feline breeding fitness.

J.C.

Postvaccinal Tumors in Cats

An increasing number of vaccination-site tumors have been seen in cats since 1987. A study conducted by Dr. Mattie J. Hendrick, assistant professor of pathology at the School, found this phenomenon to be very real, but also very rare. Dr. Hendrick described this condition, its possible cause and its implications.

The increased occurrence of vaccination-site tumors corresponds to the time frame in which Pennsylvania's law mandating rabies vaccinations has been in effect. Between 1987 and 1991, the incidence of fibrosarcomas rose from 3.6% to 5.8% of feline biopsies; most of this increase is attributed to tumors at vaccination sites - the hind limbs and dorsal neck and thoracic regions.

Not to be confused with the inflammatory reactions that may occur at injection sites following inoculation, these fibrosarcomas appeared, upon biopsy, a proliferation of pleomorphic spindle cells often surrounding a necrotic center and surrounded by an inflammatory cell infiltrate filled with macrophages.

The macrophages were found to contain brownish-gray, crystalline material, identified as aluminum and oxygen. Interestingly, 20% of feline vaccines contain aluminum adjuvants, substances added to drug products to enhance their action.

"How and why this is happening," said Dr. Hendrick, "we don't know exactly. One hypothesis is that the adjuvant is causing a local, persistent inflammatory response. In the healing process, some of the cells that proliferate are fibroblasts. These fibroblasts may become neoplastic."

Similar tumor formation has also been found to occur in people with aluminum oxide hip replacements, but this particular phenomenon seems to be unique to cats. "It seems that there's something different about...their fibroblasts or their healing process," said Dr. Hendrick, "that the right stimuli can cause tumor formation."

Based on other published reports and personal communications, it appears that this phenomenon occurs throughout the U.S. and parts of Canada and Europe,

but that its frequency is very low, from 0.1%-0.1%. The research findings conclude that the occurrence of postvaccinal tumors in cats is not limited to the rabies vaccine or vaccines containing aluminum.

"I don't want you to get the impression from what I'm saying that you should stop vaccinating your cats..." Dr. Hendrick said. "The risk of other diseases far outweighs the risk of this entity."

Dr. Hendrick recommended that owners monitor vaccination sites regularly. "The earlier they're found and surgically removed," she said, "the better the chances of nothing bad happening to your cat."

J.C.

Canine and Feline Symposia

The 24th Annual Canine Symposium "Your Veterinarian and Your Dogs" will be held Saturday, January 29, 1994 at the Veterinary Hospital of the University of Pennsylvania in Philadelphia.

Topics will include canine nutrition, genetic screening and genetic diseases of dogs, canine emergencies, and the PennHIP™ Program and skeletal problems of dogs.

The 17th Annual Feline Symposium will be held Saturday, April 16, 1994 at the Veterinary Hospital of the University of Pennsylvania in Philadelphia.

Topics will include feline pediatrics, dental management for cats, feline immunization, and feline diabetes. Mr. Richard Gebhardt, past president of the Cat Fanciers Association, will present his annual Parade of Breeds, and a grooming demonstration by Ms. Kathy Champion will also be featured. A tour of VHUP will be available following the formal presentations.

The cost of each all-day program is \$45, which includes lunch and parking. Reservations are required. To be placed on the mailing list for the detailed program, please write Dr. M. Josephine Deubler, School of Veterinary Medicine, VHUP, 3850 Spruce Street, Philadelphia, PA 19104.