

Vaccines Appear to Raise Cancer Risk for Cats

by Pat Bailey July 22, 1993

Veterinary immunizations routinely given to cats for feline leukemia and rabies may increase the risk of malignant tumors developing where the vaccines are typically administered, according to researchers at the University of California, Davis. Veterinary epidemiologist Dr. Philip H. Kass and colleagues report these findings in the Aug. 1 issue of the Journal of the American Veterinary Medical Association. They believe, however, that the benefits of immunizing animals against disease still far exceed the risks involved. "Each year approximately 20 cases of fibrosarcomas (malignant tumors) are diagnosed per 100,000 cats seen by veterinarians in California, while the incidence of post-vaccination tumors is estimated to be about one case for every 10,000 doses of feline leukemia virus or rabies virus vaccine," Kass said. The tumors appear to be a response to either the vaccine adjuvant -- inorganic gels or salts that increase a vaccine's protective response -- or to large quantities of vaccine antigen. To lower the risk, the researchers recommend that vaccination sites be varied and that records of various vaccination locations and vaccine types become part of the animals' permanent health history. Additionally, they recommend that all benefits and risks of vaccination be discussed with cat owners until such time that vaccines for cats are shown to be free of possible harmful health effects. Kass collaborated on the two-year retrospective study with Dr. William Barnes of the UC Davis School of Veterinary Medicine and Dr. William Spangler of CVD Inc., a pathology reference laboratory in Sacramento, Calif. It involved 345 cats in Northern and Central California and Hawaii that were diagnosed with malignant tumors from January 1991 to May 1992. The researchers compiled information for the study using records from the pathology registry at CVD Inc., 292 private veterinary hospitals, and the UC Davis Veterinary Medical Teaching Hospital. They examined the vaccines individually and as a group, looking at four common vaccines: those against feline leukemia (FeLV), feline viral rhinotracheitis/calicivirus/ panleukopenia (FVRCP), pneumonitis-chlamydia and rabies. The first three are typically administered by gathering the skin between an animal's shoulder blades and injecting the vaccine into the area just under the skin. The rabies vaccine is either injected into an animal's thigh or into the area under the skin between the shoulder blades. Cats with tumors at sites often used for vaccinations were compared with a control group of cats that had also developed fibrosarcomas, though not at a vaccination site. An additional study group was provided by 17 cats from Hawaii, where animals are traditionally not vaccinated against rabies. Among the researchers' conclusions: • post-vaccination sarcoma occurrence was related principally to vaccines for feline leukemia and rabies, not the more common FVRCP and pneumonitis vaccines; • a higher risk of sarcoma occurrence was found when multiple vaccines were simultaneously administered at the same body site; • tumors occurred at both vaccination sites -- under the skin and in the muscle; • post-vaccination sarcoma occurrence is not restricted to vaccines that contain aluminum salts used as adjuvants; and • increased tumor incidence could not be traced to a single brand of vaccine. Putting the results of the study into perspective, the researchers say the benefits of vaccinations outweigh the risks substantially. In California, for example, cats are at a higher risk of developing feline leukemia virus infections by not being vaccinated than they are of developing fibrosarcomas. In addition, the public health considerations for rabies control outweigh the risk from vaccination. This study was supported by a grant from the Center for Companion Animal Health and the George and Phyllis Miller Trust for feline health studies, the UC Davis School of Veterinary Medicine, and by a grant from Rhone-Merieux Inc. of Athens, Georgia.