

TRANSMISSION OF MALIGNANT LYMPHOMA

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Both genetic factors and an infectious agent may be involved in the transmission of malignant lymphoma in cats. However, the pattern and occurrence of 3 histologically confirmed and 3 clinically diagnosed malignant lymphoma cases observed among 34 related and unrelated cats may be best explained by horizontal transmission of an infectious agent. These cats were kept for varying lengths of time in the same household located at 3 different residences during a 3½-year period, but there was continuous contact from the 1st to the 6th case. Except for the 6th case, a cat brought into the household and not known to be related to any of the others, malignant lymphoma was not detected in any of the nonrelated kittens brought in.

Five of the cats (cases 1 to 5) were related. Cat 1 was brought into the household and was the grandsire of cat 2. Cats 2 to 5 were born in the household. Four of the cats in 3 litters were closely related; 3 had the same dam who was the grandam of cat 4, and 2 others were related, which suggests the possibility of a genetic factor affecting susceptibility.

Malignant lymphoma is often diagnosed in cats but, on the basis of existing incidence data, the occurrence of 3 to 6 cases in 34 cats even in 1 household is higher than would be expected due to chance alone. There were 13 cats in the household when the first cat became ill, and during the next 3½ years 14 cats were born in the household and 7 nonrelated cats were added. Thus it seems that a greater risk of developing leukemia in animals congregated in households or herds is consistent with the hypothesis of a contagious infectious agent causing the disease. This hypothesis is also supported by experimental transmission of leukemia in newborn kittens. In man, leukemia cases have been reported in both related and nonrelated persons living in very close proximity. Multiple cases of lymphoma in the same herds of cattle and more often in large than small herds have been reported.

In addition to the 6 malignant lymphoma deaths, 14 cats died of other causes including 2 other tumors, a sympatheticoblastoma in the adrenal medulla and a squamous cell carcinoma. Except for the 1st

case, that of a 6-year-old male, the remaining 5 occurred in cats from 10 months to 3 years of age, all in cats born in the spring. Three cases were diagnosed as malignant lymphoma on the basis of clinical signs and surgery and/or necropsy findings such as whitish lesions on enlarged livers, spleens, and kidneys, together with mesenteric lymph node enlargement and generalized visceral lymphadenopathy.

In the other 3 cases, malignant lymphoma was confirmed histologically by the extensive infiltration of immature lymphocytic cells in some lymph nodes (especially the mesenteric), the liver, kidney, mesenteric adipose tissue, pleural cavity, pericardium, pericardial fat, and connective tissue. A composite hemogram for 14 of the household cats, excluding the malignant lymphoma cases, revealed elevated total leukocyte counts due mainly to lymphocytosis and eosinophilia.