



NEWS FROM THE WORLD OF ONCOLOGY

KEVIN FINORA DVM, DIPLOMATE ACVIM (ONCOLOGY AND SMALL ANIMAL INTERNAL MEDICINE)

Feline Mammary Gland Tumours

Mammary gland tumours (MGT) are common in cats and are the third most common tumour seen in this species. Cats have four pairs of mammary glands. MGT in cats, in contrast to dogs, are highly malignant. For any given mass seen in a feline mammary gland there is a 90% chance the mass is malignant. Eighty per cent of malignant tumours have metastasized by the time of diagnosis. DSH cats and Siamese cats appear to have a higher incidence of MGT development. MGT can develop in cats of any age but are most commonly seen, on average, between the ages of 10-12 years. Spaying cats offers a significant protective benefit against the development of MGT. Cats spayed by the age of 6 months are 7 times less likely to develop MGT, compared to intact cats. This translates into a 91% reduction in risk of developing MGT. Cats spayed between 6 months and one year of age have an 86% risk reduction, suggesting that there is an added protective benefit to spaying prior to 6 months.



Feline MGT, like aggressive breast cancers in humans, infrequently express estrogen or progesterone receptors. This suggests that as the malignancy progresses, steroid signals become less important in disease progression. This also suggests that hormone therapy would be unlikely to offer any future treatment options. However, feline MGT do tend to over express the HER2/neu oncogene. Over expression of HER2/neu is seen in aggressive metastatic human breast cancer and a molecular therapy exists for women who are HER2/neu positive. To date the use of Herceptin has not been reliably evaluated in HER2/neu positive cats.

Any tumour in a cat's mammary gland chain must be assumed to be malignant and dealt with accordingly. Surgery is the hallmark of therapy for cats with MGT. Staging to include chest radiographs and abdominal ultrasound must be completed prior to surgery. Feline MGT have an unusual metastatic pattern in that usually a miliary pleural pattern is seen as opposed to large "cannon ball" lung lesions. Additionally, enlargement of the sternal lymph node is a common finding with metastatic disease in cats.

In most cases surgery can proceed without prior biopsy due to the high likelihood of malignancy. Cytology as an initial screening test tends to be unrewarding due to the fact that MGT exfoliate poorly. A chain mastectomy is the surgery of choice with bilateral surgery being recommended. Bilateral radical mastectomy is recommended due to the strong lymphatic connections between mammary glands in cats. Surgery is usually staged, meaning one mammary chain is radically removed and then 2 to 3 weeks later the second chain is removed. This type of surgery is recommended even if only one mammary gland in a single chain is involved. When survival times are compared, survival with bilateral surgery is 3 times greater than with unilateral surgery.

Surgery should always be followed with chemotherapy. When surgery and chemotherapy are used as treatments for feline MGT average survival times range between 1.25 and 2.5 years. There is a 59% 1 year survival rate, 37% 2 year survival rate and 17% 5 year survival rate. Feline MGT are COX2 negative and, as opposed to dogs, COX2 inhibition would not appear to offer a survival advantage.

Factors that appear to offer the best prognosis include small tumour size (<2cm), bilateral radical surgery, low histologic tumour grade, negative HER2/neu status and low proliferation marker status (AgNOR).

DR. KEVIN FINORA IS A BOARD CERTIFIED ONCOLOGIST AND SMALL ANIMAL INTERNIST. HE SEES PATIENTS WEDNESDAY (INCLUDING EVENINGS) TO SATURDAY AT VEC/RC SOUTH. PLEASE DO NOT HESITATE TO CONTACT DR. FINORA IF YOU HAVE ANY CANCER RELATED QUESTIONS.

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