Cats and Cancer

Matthew Kornya, DVM; Susan Little, DVM, DABVP (Feline)
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Cancer is one of the most important causes of illness and death in domestic cats. Though cancers occur in cats at less than half the rate of dogs, it is still a significant burden in the aging cat population. Like all animals, a cat’s chances of developing cancer increase with age. Why cancer develops at all, and why it is seen more commonly in older animals, is not well understood. Many elements, including genetic and environmental ones, have been identified as potential causes. It has been recently proposed that as much as 2/3 of cancers occur as a result of random mutations, with no predisposing factors.

Cancer (also referred to as “neoplasia”) is a general term used to encompass many different diseases, and each disease may well have its own causative factors. Cancer refers to an uncontrolled growth of abnormal cells. This cell growth may damage the structure and function of normal tissues, secrete hormones and chemicals that alter bodily functions, and result in masses of fluid buildup that impede function. Cancers generally start in one location, but tend to spread (or “metastasize”) throughout the body. Some of the factors that cause cancer are known, but in most cases, the cause of an individual cat’s cancer is not. Fortunately, cancers in cats and dogs often have counterparts in humans so that cancer research tends to benefit both our pets and us.

Some feline cancers are associated with viral infections, particularly Feline Leukemia Virus (FeLV) and Feline Immunodeficiency Virus (FIV). Cats infected with FeLV have an over 600% increase in their risk of developing lymphoma. FIV has less of an effect, but may be associated with development of several cancers. One way to decrease the risk of cancer in cats is to protect against infection with these two viruses. Other specific ways to decrease the risk of some cancers also exist. For instance, avoiding exposure to strong sunlight reduces the risk of squamous cell carcinoma of the skin in white cats and early spaying reduces the risk of mammary cancer (and eliminates the risk of ovarian and uterine cancer) for all female cats.

Regardless of the type of cancer a cat may have, the disease usually causes common clinical signs. These may include lethargy, poor appetite, depression, and weight loss. Sometimes the presence of a possible cancer is obvious (such as a skin mass) but in many cases, it is not. Veterinarians rely on a thorough physical examination and diagnostic testing to pinpoint the cause of a cat’s illness. Screening tests for specific types of cancer are on the horizon, but have not been fully developed for most cancers in veterinary medicine. When evaluating a cat that may have cancer, it is important not only to get a definitive diagnosis of the type of cancer, but also to evaluate the cat’s overall health status. Many elderly cats have more than one disease process present.

The Veterinary Cancer Society (www.vetcancersociety.org) lists ten common signs of cancer that pet owners should be aware of. Most, but not all cancers will lead cats to exhibit one or more of these signs. Many of these signs may also be exhibited in cats with other issues, such as infections or kidney disease. These signs include:
- Abnormal swellings that persist or continue to grow
- Sores that do not heal
- Weight loss
- Loss of appetite
- Bleeding or discharge from any body opening
- Offensive odor
- Difficulty eating or swallowing
- Hesitation to exercise or loss of stamina
- Persistent lameness or stiffness
- Difficulty breathing, urinating, or defecating

Diagnosis of the type of cancer present involves a combination of clinical signs and diagnostic tests such as bloodwork, X-rays, and ultrasound. Definitive diagnosis of the type and grade of cancer almost always requires sampling the tumor, generally with either a biopsy (collecting a piece of tissue) or fine needle aspirate (sampling with a needle). A process called staging is also used in the evaluation of cancers. Staging determines the extent of cancer spread and invasion in the patient. It can help determine the prognosis and suggest treatment options.

There are various systems devised to stage a cancer, but they primarily rely on answering three questions:
1. How large is the primary tumor?
2. Are local lymph nodes involved (local metastasis)?
3. Are tissues distant from the primary tumor involved (distant metastasis)?

Imaging techniques such as radiology (x-rays), ultrasonography, or less commonly MRI or CT (computed tomography) scans are very useful. For instance, MRI scans are the tool of choice to image tumors of the brain, CT allows imaging of nasal passages, and ultrasonography is the tool of choice for imaging tumors in the abdomen. Conventional x-rays are often used for tumors in the chest, but may be a valuable tool for investigating many cancers. A veterinarian’s choice of imaging technique will also be influenced by what services are available locally.

One of the most important tools for evaluating cancer is a biopsy. This can be performed by several different methods, such as fine needle aspiration or a surgical biopsy. The type of cancer suspected and its location often dictate the type of biopsy that is performed. Biopsies of internal masses may be accomplished by using ultrasound guidance. Biopsies can help determine not only the type of cancer present, but whether it is aggressive in its behavior or not. This information is necessary to help owners and veterinarians decide which course of action is in the cat’s best interests.

The decision whether to treat a given cancer can be a difficult one. In some cases, where the prognosis is poor or the owner is not in an emotional or financial position to attempt treatment, the best option might be euthanasia. Some cancers are potentially curable; others have a poorer prognosis and therapy may provide short- or long-term survival possibilities. In every situation, the quality of life for the cat must be considered. Certain types of treatment itself may not be appropriate for some patients, even if it could provide long-term remission or a cure.
Just as for humans with cancer, various treatment options are available for cats, depending on the type of cancer and what is available locally. In many cases, cancer is still a surgically treated disease. If possible, surgery may allow for full removal of a cancer with minimal long or short-term quality of life effects. Some cancers, such as lymphoma, and non-surgical and are most amenable to chemotherapy; while others, such as certain sarcomas, may respond better to radiation. Often a combination of therapies are required for maximal effect. As newer modalities, such as photodynamic therapy, targeted therapies, cancer vaccines, and immunotherapy, are established for cats more options will be available.

Treatment of cancer may also involve other tools, such as nutritional support and pain management. Tools such as appetite stimulants, feeding tubes, and anti nauseates are often used in conjunction with therapy.

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References:

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http://vetcancersociety.org/

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