



at the heart of critical care

ANIMAL EMERGENCY CENTER

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LYMPHOMA IN CATS

Lymphoma is one of the most common cancers diagnosed in cats. It is a cancer of the lymphocytes (a type of blood cell) and lymphoid tissues. Lymphoid tissue is normally present in many places in the body including lymph nodes, spleen, liver, gastrointestinal tract and bone marrow.

The feline leukemia virus (FeLV) has been shown to cause lymphoma in some cats. Cats with the feline immunodeficiency virus (FIV) are also at higher risk of developing lymphoma. Cats of any age, breed and sex can be affected. We typically see lymphoma in younger cats that are infected with the feline leukaemia virus, and in older cats that are not infected with the virus. Because of the association between these viruses and lymphoma as well as its effect on prognosis, we will usually recommend that cats with lymphoma be tested for FeLV and FIV.

Types of Lymphoma

Lymphoma can be divided into several different forms, which depend upon the predominant location of the tumor. Some cats have multiple sites of involvement and do not fit well into just one category.

Digestive tract (Gastrointestinal): This is the most common form of lymphoma in cats. The digestive tract includes the stomach, intestines and liver as well as some of the lymph nodes surrounding the intestines. Cats with this type of lymphoma may have vomiting, diarrhea, weight loss or a decreased appetite.

Mediastinal: The mediastinum is a term used for a special group of lymph nodes in the chest. Cats with this type of lymphoma are usually younger and infected with FeLV. Symptoms include difficulty breathing due to a large mass in the chest or an accumulation of fluid around the lungs.

Kidney: The kidneys may be the primary sites of involvement. Cats that have this type are often seen because of signs related to kidney failure (increased thirst, increased urination, loss of appetite, vomiting).

Bone marrow: If the cancer is confined to the bone marrow, we call this leukemia. The signs that we see in cats are usually related to the decreased numbers of normal cells (such as red blood cells that carry oxygen, white blood cells that fight infection and platelets that help with clotting) which are made in the bone marrow.

External lymph nodes: In a few cats, the only site of involvement is the external lymph nodes. These cats may be seen because the owner notes "lumps" (enlarged lymph nodes) on their cat.

Other sites: We will occasionally see other sites such as the skin, nose, brain, and spinal cord as the primary site of involvement.

Diagnosis/Initial Evaluation

A biopsy sample is often required in order to make a diagnosis of lymphoma. A complete evaluation of a cat suspected of having lymphoma includes a search for tumor involvement

in other locations (this is called staging). A complete blood count (CBC), a serum chemistry profile, urinalysis and FeLV/FIV test are always performed and provide important information regarding the effects of the cancer on the body as well as the ability of the patient to tolerate chemotherapy. An abdominal ultrasound allows us to evaluate the liver, spleen, internal lymph nodes and intestinal tract for possible lymphoma involvement. Chest x-rays allow us to look for internal lymph nodes, lung involvement, an enlarged mediastinum, or fluid around the lungs. A bone marrow aspirate allows us to look for tumor cells in the bone marrow as well as to evaluate the marrow's ability to produce normal blood cells. Once we have these results, we can then provide better information regarding the outcome with treatment.

Treatment/Prognosis

Chemotherapy is the mainstay of treatment for lymphoma. There may be some situations when surgery may also be indicated in addition to chemotherapy. Specific recommendations will be discussed with you based on your cat's particular situation.

Lymphoma is very responsive to chemotherapy and up 75% of treated cats will go into remission. The definition of remission is the complete disappearance of all signs of cancer. However, microscopic amounts of tumor cells can remain hidden in the body. A remission is NOT a cure but it does allow your cat to experience a good quality of life. Because of this, chemotherapy should not be discontinued as soon as a remission is obtained. The length of the remission depends upon many factors, including the primary site, the degree of illness at the start of treatment, FeLV status, and the extent of disease. Using the most aggressive treatment, the average remission and survival times are between 7-9 months; however approximately one third of cats may do well for a considerably longer period of time (longer than 2 years).

The exact drugs and schedule will depend upon a number of factors that will be discussed with you at the time of your initial consultation. On a typical schedule, your cat will receive weekly treatments for the first 8 weeks. The treatments are then spread out to every two weeks and eventually, more and more time is allowed between treatments. Several different drugs are alternated (or combined) in order to reduce the chance that tumor cells will become resistant and to help reduce the risk of side effects. Some of the drugs are given by injection and some are given orally (this can be done at home). Blood tests and x-rays/ultrasound may be repeated to look for side effects and monitor remission status.

If your cat comes out of remission, we can try other drugs to put them back in remission. The chances of obtaining a second remission are somewhat lower, and the second remission is usually not as long as the first. There are other, less aggressive chemotherapy protocols that can be utilized as well that have varying degrees of effectiveness and cost.

Most cats tolerate their chemotherapy well with minimal side effects. Serious side effects are seen in less than 5% of the cats treated. If they are serious or intolerable, steps will be taken to eliminate or reduce these effects to a tolerable level. Side effects might include nausea, vomiting and loss of appetite, diarrhea, tiredness or infection. Cats do not lose their hair, but may lose their whiskers and have a different texture to their fur. Please also see our handout CHEMOTHERAPY IN PETS.