



CANINE LYMPHOMA

What is lymphoma?

Lymphoma is a cancer of the lymphatic system, which is a special circulatory system that is made up of a complete network of lymphatic vessels and lymph nodes. This system is as extensive throughout the body as the venous and arterial bloodstreams. Normally the function of the lymphatic system is to filter out debris from dead cells and bacteria and produce antibodies against foreign substances encountered throughout the animal's life. In dogs, lymphoma is a rapidly progressive disease that results in death within a relatively short time, usually a few weeks from the time of diagnosis.

What causes lymphoma?

What causes a healthy cell to be transformed into a tumor cell is still largely unknown. Much research has been conducted in recent years concerning lymphoma. In cats and cows it can be associated with infection by the feline leukemia and bovine leukemia virus. In people and dogs a virus that causes lymphoma has not been identified.

What are the clinical signs?

Lymphoma is recognized in several clinical forms (generalized, intrathoracic, skin, gastrointestinal, and leukemia). The most common sign is painless enlargement of the lymph nodes. Because of the disease affects the whole body, any organ system can be affected and non-specific signs such as depression, weakness, weight loss, loss of appetite, diarrhea or vomiting, and difficulty breathing can also be seen. Often dogs with lymphoma are slightly anemic. The liver and spleen can also be involved and enlarge in size.

How is lymphoma diagnosed?

A fine needle aspirate of an enlarged lymph node is usually sufficient to diagnose lymphoma. In some cases a biopsy is necessary to confirm the diagnosis. Biopsy tissue may also be used to phenotype the lymphoma as either a B or a T cell. The phenotype of the lymphoma is useful for predicting prognosis (patients with T-cell lymphoma have shorter survival) but at this time does not change the recommendations for therapy. Blood work is recommended to evaluate your dog's overall health and evaluate for negative prognostic factors such as elevated blood calcium and evidence of leukemic extension (circulating lymphoblasts in the blood). More thorough staging with chest X-rays, abdominal X-rays or ultrasound, and bone marrow aspirate may be considered; however knowledge of this information, while prognostic, does not usually change the recommendations for treatment.

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How is lymphoma treated?

Because lymphoma affects every organ system in the dog, the entire body must be treated. This leaves chemotherapy as our most effective means of killing the rapidly growing and dividing cancer cells. The most commonly recommended protocols are those that incorporate multiple drugs. Research has shown that response rate and remission length are improved with the use of multi-drug chemotherapy protocols. At IVO, our current recommended protocol is the 25 week University of Wisconsin-Madison. This protocol involves weekly chemotherapy for the first 9 weeks and then every 2 weeks until week 25. Once chemotherapy has been completed, the patient is monitored monthly for signs of relapse. Other protocols may be also considered such as single agent doxorubicin, “COP”, or oral Cytoxan/prednisone. However, response rates and remission length is decreased over that of the 25 week protocol.

Isn't chemotherapy more harmful than the disease?

Any chemotherapy drugs we recommend provide benefits by their actions against the cancer cells that far outweigh any potential side effects associated with their use. Side effects are minimal and quality of life for the majority of patients is excellent. Patients are well monitored with blood cell counts and physical examinations at each treatment visit. We will try to outline any and all of the side effects you might see following chemotherapy and give you recommendations as to what can be done to monitor and prevent them. We would never recommend a treatment plan that is worse than the disease itself.

What is the life expectancy with treatment?

It is impossible to predict how long your pet will live. Unfortunately, most dogs with lymphoma are not cured of the disease. However, with treatment 80-90% of dogs will achieve remission. With the use of the 25 week University of Wisconsin-Madison protocol, average first remission lasts 10-14 months, with 20% 2 year survival. When a patient's lymphoma relapses, chemotherapy may be restarted and the majority of dogs (70-80%) will achieve a second remission. Generally the second remission is shorter than the first. Sometimes a third, fourth, and even fifth remission can be achieved, but each is generally shorter than the last as the cancer cells become resistant to the chemotherapy just as bacteria become resistant to antibiotics.

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