

Information about Canine Lymphoma

What is Lymphoma?

Lymphoma is a cancer of lymphocytes (white blood cells), which are present throughout the body. As such, dogs can have this type of cancer in multiple places, including lymph nodes, liver, spleen, bone marrow, blood, and various other organs. We are able to determine where lymphoma is located based on diagnostic tests, like bloodwork, chest x-rays, and abdominal ultrasounds. This information also helps us to categorize lymphoma into different stages (see below).

What causes Lymphoma?

The cause of lymphoma in dogs is unknown but is likely due to a combination of factors including genetic predisposition, exposure to chemicals and/or radiation, and viral or bacterial exposure.

How is Lymphoma diagnosed?

Lymphoma can be diagnosed either with a small needle aspirate, or a biopsy of the affected lymph node or organ.

What are the stages of Lymphoma?

Lymphoma is typically categorized into 5 stages, depending on the extent of the disease in the body, and two substages, depending on if the patient is clinically sick or not. This information can help us to categorize the disease and may help us to better understand prognosis for an individual patient.

Stage I: single lymph node enlargement (rare)

Stage II: regional lymph node enlargement

Stage III: generalized lymph node enlargement

Stage IV: generalized lymph node enlargement with liver and/or spleen involvement

Stage V: bone marrow and/or blood involvement, other organ involvement

Substage a: patient shows no clinical signs of illness

Substage b: patient shows signs of illness

What are the types of Lymphoma?

In general, lymphoma can be categorized into two types: B-cell or T-cell. Two thirds of dogs with lymphoma have B-cell lymphoma; one third have T-cell. T-cell lymphoma typically carries a worse prognosis, as patients with T-cell lymphoma become resistant to standard chemotherapy drugs quicker than those with B-cell lymphoma. Patients with T-cell lymphoma are also more likely to have high calcium, which can negatively impact prognosis. There are several tests (FLOW/PARR) that can be completed to help determine the type of lymphoma your dog has. This may be important for treatment and/or prognosis but is an optional test.

What are the treatment options for Lymphoma?

Since lymphoma is a systemic disease (throughout the whole body), the treatment of choice is systemic chemotherapy. There are many different protocols for treating lymphoma, ranging from conservative prednisone therapy alone, to aggressive multi-drug protocols, and even bone marrow transplants.

In general, dogs receiving chemotherapy for lymphoma enjoy a very good quality of life and can participate in all of their normal activities. Eighty to ninety percent of dogs treated with the L-CHOP protocol (see below) achieve complete remission with a median survival time* of 12-16 months (this is lower in dogs with T-cell lymphoma). When the cancer relapses, we are able to discuss additional treatment protocols.

Some protocol options are outlined below. However, each case is different, and our treatments are not one-size-fits-all. It is important to remember that dogs are individuals, and we will work with you and your family veterinarian to find a treatment plan that works best for you and your canine companion.

1) L-CHOP lymphoma treatment protocol: This protocol involves the combination of four or five chemotherapy drugs (vincristine, doxorubicin, cyclophosphamide, prednisone, and occasionally L-asparaginase) given once weekly over 16 weeks. Once this protocol is completed, we monitor for recurrence of disease with monthly physical examinations. Survival times are generally 12-16 months, but this depends on response and type of lymphoma.

2) Doxorubicin Alone: Doxorubicin is an injectable drug given once every 2-3 weeks for a total of 6 doses. This drug can cause damage to the heart, so additional monitoring is recommended. Remission times are typically 4-6 months.

3) Oral CCNU/Lomustine: CCNU is an oral chemotherapeutic agent given once every 3 weeks, with weekly blood tests in between. This drug is used most commonly as a rescue agent, meaning that it is generally given when patients have failed other drug protocols. This drug can cause liver damage, so liver values are monitored closely throughout treatment. One study evaluating this drug with prednisone as a first-line treatment showed a 50% overall response rate for roughly 2-3 months, sometimes longer.

4) Oral prednisone alone: If you are not interested in pursuing any injectable chemotherapy, an oral steroid alone is an option. Median survival is roughly 1-2 months, and cost is minimal. HOWEVER, it is important NOT to start steroids prior to diagnosis or until a treatment/chemotherapy decision is made, as it can make getting a diagnosis difficult, and can make lymphoma cells resistant to other treatments.

**We often talk about median survival times in our patients. These survival times mean that 50% of our patients will live beyond this time frame, but 50% will not survive to that time frame.*