

Feline lymphoma



Epidemiology and clinical presentations

Lymphoma is more correctly called lymphosarcoma (LSA) and it is a multifactorial systemic disease with many types. It is a haematopoietic neoplasia that affects a specific type of white blood cells; it is a cancer of lymphocytes accounting for about one-third of new cancer diagnoses in cats.

The most common form of LSA in cats is alimentary or gastrointestinal (GI) lymphoma and it accounts for 50-70% of all feline LSA cases. It is most common in senior with an average age at diagnosis of 9 to 13 years. Mediastinal lymphoma affects lymphoid organs (thymus or lymph nodes) in the chest and is more often seen in younger cats with an average age at onset of 5 years. This type of LSA is associated with feline leukaemia virus (FeLV) infection and is less common now with the decline in FeLV infection in cats. Renal and nasal lymphoma are additional forms of LSA known as extra nodal since they do not occur in the lymph nodes (LNs).

Diagnosis

Diagnosing lymphoma requires finding cancerous cells on microscopic examination. Your veterinarian also may perform baseline screening bloodwork before testing for lymphoma to assess your cat's overall health and rule out other causes of your cat's clinical signs.

In some cases, feline lymphoma can be diagnosed with a fine needle aspirate. In this test, a veterinarian will insert a needle into an area of concern (an enlarged lymph node, enlarged kidney, thickened region of intestine, or fluid present within the chest) and remove a small number of cells. These cells will then be examined under a microscope, looking for cancer cells that indicate lymphoma. Although it is not always possible to obtain a high-quality diagnostic sample via aspirate, many veterinarians start with this test because it carries minimal risks, side effects, and costs compared to surgical biopsy.

If a fine needle aspirate is inconclusive or impractical due to the location of the lesion, your veterinarian may instead perform a surgical biopsy. This involves the removal of a piece of tissue from the lesion. In cases of suspected gastrointestinal lymphoma, this sample may be obtained surgically (by opening your cat's abdomen and surgically removing a piece of the thickened intestine) or endoscopically (by threading an endoscope down your cat's intestine and using a camera and specialized tools to remove a piece of the interior surface of the intestine). This sample will be processed and examined under a microscope regardless of the collection technique to assess for lymphoma.

If lymphoma is diagnosed via biopsy, the pathologist can also determine whether your cat possesses high-grade or low-grade lymphoma. This determination is based on how rapidly the cancer cells appear to be dividing and how malignant the cells appear; high-grade lymphoma is fast-growing and more malignant. Low-grade lymphoma in cats is more likely to respond to chemotherapy, and chemotherapy often results in longer periods of remission.

If your cat is diagnosed with lymphoma, additional testing, such as immunohistochemistry, may be needed to help further characterise the type of lymphoma and develop a treatment plan.

Treatment

Treatment is based on the use of radiation therapy (radiotherapy), chemotherapy or both; however, it is unclear which approach is most effective. LSA is sensitive to both radiotherapy and chemotherapy, and your veterinarian (or veterinary oncologist) will make recommendations on the best course of treatment for your pet. Given that LSA is usually a systemic disease, if tests cannot rule out the presence of disease elsewhere in the body, then chemotherapy is often pursued instead of radiotherapy.

The exact chemotherapy drugs and schedule used depend on the goal of treatment, how aggressively the cancer is behaving, how sick an animal is at the start of treatment and any abnormalities in organ function (particularly kidneys and liver). Chemotherapy is most effective when we use a combination of drugs so most protocols use 4 to 6 different drugs in a multi-drug protocol (such as COP or CHOP). Initially, treatments are given more frequently (such as once weekly) and then, depending upon the response and protocol used, are gradually spread out and/or discontinued. Other options for therapy may consist of using a single chemotherapy drug (single agent therapy) at 3-week intervals or palliative care which is designed to keep your pet comfortable at home using less toxic drugs to provide as good a quality of life for as long as possible. A disadvantage of single agent therapy is that remission rates and expected survival times are much more difficult to predict. Blood tests, radiographs and/or ultrasound scans are generally repeated at to monitor for side effects (such as a low blood cell counts) and to determine response to treatment.

If a patient comes out of remission or relapses, we can try to put them back into remission using either new combinations or doses of the same drugs or different drugs. While the chances of obtaining a second remission are lower, there are some cats that do respond well and have additional time with a good quality of life.

Side effects

Most cats tolerate chemotherapy very well and experience minimal side effects. Serious side effects are only seen in 5 to 10% of the patients we treat. If side effects are serious or intolerable, we can usually deal with these by either lowering or delaying the dose of the offending drug or by substituting a different drug. Side effects may include nausea, loss of appetite, vomiting, diarrhoea, extreme tiredness or infection. Certain chemotherapy agents can affect organ function over time. Cats tend not to lose their hair but may lose their whiskers and have a different texture to their fur secondary to chemotherapy.

Lymphoma is usually treated with chemotherapy. Low-grade lymphoma is treated with prednisone (a steroid) and chlorambucil (an oral chemotherapy agent). High-grade lymphoma is treated using one of several injectable chemotherapy protocols. Cats tolerate chemotherapy much better than humans; they rarely lose their hair or appear sick. The most common side effects include vomiting, diarrhea, and decreased appetite. However, even these effects are seen in only about 10% of patients.

Surgery and/or radiation may be appropriate for lymphoma confined to one area, such as nasal tumors or abdominal masses, but this is uncommon. Most cases cannot be successfully treated with surgery or radiation and will require chemotherapy.

If chemotherapy is not an option due to a cat's illness or owner's finances, prednisone can be used for palliative, or hospice, care. Although prednisone does not treat lymphoma, it can temporarily reduce clinical signs and buy the pet some time.

Prognosis

The prognosis for feline lymphoma depends on the location of the lymphoma, how sick the cat is at the start of treatment, the cat's feline leukaemia status and how quickly the disease is diagnosed and treated. A positive response to treatment (remission) is probably the best positive prognostic factor and patients that respond to chemotherapy, radiotherapy or a combination of both seem to achieve the longest survival. The response rate for either chemotherapy or radiotherapy are reported to be between 66% and 75%.

Most cases of gastrointestinal lymphoma are low-grade lymphoma. With treatment, approximately 70% of cats with low-grade lymphoma will go into remission. Lymphoma is never truly cured, but remission is a term used to describe the temporary resolution of all signs of lymphoma. The average remission for low-grade lymphoma is two to three years, meaning two to three years without any signs of disease.

High-grade gastrointestinal lymphoma, however, does not respond as well to treatment. Only 25-50% of cats with high-grade lymphoma achieve remission with treatment. Typically, this period of remission lasts only 2-9 months, and then cats become ill again.

Mediastinal lymphoma in cats with FeLV infection carries a poor prognosis, with an average survival time of 3 months. In cats unaffected by FeLV, mediastinal lymphoma often shows at least a partial response to chemotherapy. These cats show an average survival time of 9-12 months, with the initial response to treatment often indicating survival time.

Nasal lymphoma has a fair to good prognosis as it is often a localised disease, with a reported median survival time (MST) from 12-30 months. Most cases that recur are due to local recurrence rather than due to systemic disease, although kidneys appear to be a frequent site for distant disease development.

Renal lymphoma, unfortunately, carries a poor prognosis. Average survival with this type of lymphoma is only 3-6 months, though there are isolated reports of cats surviving far longer. Renal lymphoma tends to spread to the brain and central nervous system; this occurs in approximately 40% of renal lymphoma cases and worsens the prognosis for this disease.

For an in-depth description of a case of nasal lymphoma in a cat, please visit our website for Darcey's story.

www.animalcancertrustcharity.co.uk/information/owner-stories-and-case-studies

The content of this information sheet does not constitute advice and should not be relied upon in making or refraining from making, any decision. ACT recommends discussing this with your vet practice.