

Understanding Feline Lymphoma

part 1 of 2

Elizabeth Jennings

It is Monday at 8 AM on a frigid January morning, as I frantically call my veterinary office to beg for an appointment. My treasured six-year-old Siamese pet/show cat is suddenly losing weight at an alarming rate. We are given a Friday appointment, which could not come soon enough.

Unfortunately, Friday brings with it a massive blizzard, and as a result, my veterinarian will not be in until the following Monday. Meanwhile, just four days from the initial phone call, my beloved Polar has gone from somewhat thin to alarmingly thin.

So, first thing the next morning, once the driveway has been plowed, Polar and I head to Matthew J. Ryan Veterinary Hospital emergency at the University of Pennsylvania from Long Island, a hefty 6-hour trek in traffic. I do not have a good feeling about this.

Upon arrival, Polar is admitted through emergency, and eventually a senior resident meets me in an exam room. After a very brief exam, the senior resident who, ironically, would go on to specialize in renal issues, announces that he believes Polar has a tumor on his kidney. He is fairly certain it is lymphoma. I ask if there is another possibility, and he replies “No.”

Later, after an ultrasound and biopsy, the dreaded renal lymphoma diagnosis is confirmed.

Without treatment, his prognosis is maybe two weeks. The oncologists at Penn felt that the tumor developed within the last two weeks, progressed quickly and there was no time to waste in treating him. So begins a 15-month protocol of injectable chemotherapy treatment.

Dealing with the Diagnosis

Many cat owners, faced with this situation, are understandably panicked and confused about how or if to proceed with treatment. The more you understand about the condition, the better armed you will be to make the right decision for your cat.

First, what is feline lymphoma? The following definition is from small animal veterinarian Douglas Palma DVM: “Lymphoma is a neoplastic (cancerous) condition of white blood cells called lymphocytes. Lymphocytes travel through the blood stream and lymphatics. Lymphocytes can therefore exist in any organ and therefore, cancer can arise from any of these organs. Lymphoma is generally classified in cats as “large cell” or lymphoblastic lymphoma (LSA) or small cell lymphoma. They are further subdivided into the location within



The author's cat, GP, RW Geishagoll Polaris of Seasweep “Polar”

the body that they are identified, for example, gastrointestinal lymphoma, nasal lymphoma, renal lymphoma, CNS/spinal lymphoma, multicentric (multiple location) lymphoma, etc. These locations and subtypes (large vs. small) carry different prognoses.”¹

Asked what percentage of his cancer cases in cats are diagnosed as lymphoma, Palma replied “Gastrointestinal disease in cats, when chronic—30%.” He added that the majority of lymphoma cases he sees are in domestic cats, not pedigreed. This is partly because the domestic cat population is far greater than that of pedigree cats.

Weight loss stands out as the biggest concern and most overlooked finding which may signal lymphoma, according to Palma. “Most patients can be candidates for treatment, generally based on prognosis and concurrent disease process,” he said.¹

What factors determine if treatment is more or less likely to be successful? “The presence of concurrent feline leukemia,” said Palma. “Leukemia can induce a form of lymphoma that tends to be more resistant and more likely to be associated with severe complications of chemotherapy.”¹

According to Palma, small cell lymphoma will tend to respond to treatment better than large cell lymphoma and generally can be treated with less aggressive chemotherapy (oral chemotherapy) with high expectations for long-term survival. Large cell lymphoma will require injectable chemotherapy and long-term survival is generally uncommon but sporadically present. The prognosis is also dependent on location (kidney, spine/CNS having the worst prognosis). Of course, it's important to note there is a significant variation and individuality in response to treatment, with some patients exceeding expectations.¹

The number of cats that respond to treatment is significantly influenced by the incidence of large cell versus small cell lymphoma; 50-75% response with the large cell form versus close to 90% for the small cell form.¹

How Effective is Treatment?

What should cat owners who opt for treatment expect in terms of survival time?

“Gastrointestinal large cell lymphoma is associated with a six-to-nine-month median survival time when treated with injectable chemotherapy,” said Palma. “Small cell lymphoma (currently known as feline low grade intestinal T cell lymphoma or LGITL) has a median survival time of approximately two years. However, many patients survive much longer, in our experience.”¹

Palma went on to explain that nasal lymphoma has an average survival time of one to two years. Some of these patients may be “cured” with radiation treatment. Patients that have any disease outside the nose at the time of diagnosis have the worst prognosis. “Rarely, we have cases that are cured,” he noted. “Mainly nasal, but occasionally other sites.”¹

Small cell lymphoma, on the other hand, can have an excellent prognosis with treatment; in many cases, death is caused by some other illness. In summary, there is a significant variability in clinical response, response rates and overall prognosis depending upon the site and size of the cells.”¹

Asked if there is anything else important for cat owners to know, Palma replied, “In general, lymphoma is one of the most common types of malignancy in cats. The most common location is

the gastrointestinal site. Many patients have low grade intestinal T cell lymphoma which can do quite well with medical management. However, other patients have more aggressive forms of lymphoma that require injectable chemotherapy. The response to treatment can be quite variable dependent upon the location of the disease and the cytologic/histologic appearance of the lymphocytes.”¹

Because lymphoma can develop rapidly, it may not demonstrate chronic symptoms prior to presentation. It is therefore of key importance for owners to react to acute symptoms and obtain a diagnosis as promptly as possible in order for treatment to become a viable option. From a gastrointestinal perspective, weight loss can be a telltale sign of small cell lymphoma, whereas vomiting, in combination with weight loss and inappetence, are more likely to be indications of large cell lymphoma.¹

SOURCES

1. Interview with Douglas Palma DVM, DAVCIM (Small Animal Medicine) Veterinarian, Specialist in Internal Medicine, Department Head of Internal Medicine, Internal Medicine Residency Program Director, Schwartzman Animal Medical Center, New York City, NY, 9/08/2022

Life With Patrick

Web MD

Jacqui Bennett

Patrick is a floppy-eared Maine Coon Cat who shares his home with his humans Jacqui and David, and (reluctantly) with his canine companions Dexter (a husky), Bo (a shelter rescue), Mosie (an elderly basset hound), and Lucy (a not-so-miniature pinscher). He has opinions about most things, and is not afraid to express them.

Patrick: “Nobody knows the trouble I’ve seen Nobody knows my sorrows Nobody ...”

Me: Patrick?

Patrick: Oh, hi Mommy.

Me: Singing the blues, are you?

Patrick: I’m just feeling my age in my bones I’m not long for this world you know.

Me: Really???

Patrick: Really!!! You heard the vet! I’m dying!!!!

Me: He did not say that!

Patrick: He did He said I was ready to shuffle off this mortal coil!!!! Just look at me!!! I’m a shell of my former self! I can barely walk! I can’t jump! It’s time to put me out on an ice flow so the village doesn’t waste resources on me. I can’t eat my kibbles at all, and barely manage my meaty treaties!

Me: Really, Patrick? He said you had arthritis.

Patrick: Same thing

Me: And you conned us out of morning meatie treaties three times yesterday so You’re not really wasting away

Patrick: Well I NEVER I try to keep my spirits up and not scare you and this is the thanks I get?!

Me: And for a cat who can’t jump, you were sure wrapped around my head last night! And there is nothing wrong with your jaws or your teeth. You’re just spoiled.

Patrick: I suppose I might be able to muster the strength for some meaty treaties but you’ll need to pick me up to my platform.

Me: I’m so grateful that you are willing to devote your remaining strength to eating ...

Patrick: You are going to miss me when I’m gone!!!!

Me: Patrick?

Patrick: Yes, callous human ...

Me: You’re limping on the wrong leg.

Feline Lymphoma, Part 2

Elizabeth Jennings

It is now three and a half years since my beloved Siamese, Polar, was diagnosed with renal lymphoma. After 15 months of treatments, countless trips back and forth from Long Island to the University of Pennsylvania Veterinary Hospital in Philadelphia, endless ultrasounds and follow-up visits, my warrior boy was declared not just in remission, but miraculously “cured.”

“I think at this point, you can consider him cured,” said Dr. Pascale Salah, DVM, DACVIM (oncology). Dr. Salah is the Oncology department head and Associate Professor of Clinical Medical Oncology at the University of Pennsylvania Veterinary School. “If anything else comes up after this, I think you could consider it unrelated,” he continued. Dr. Salah also pointed out that Polar was one of only three cats in Penn Vet history to make it through the treatment protocol for renal lymphoma and be in remission.

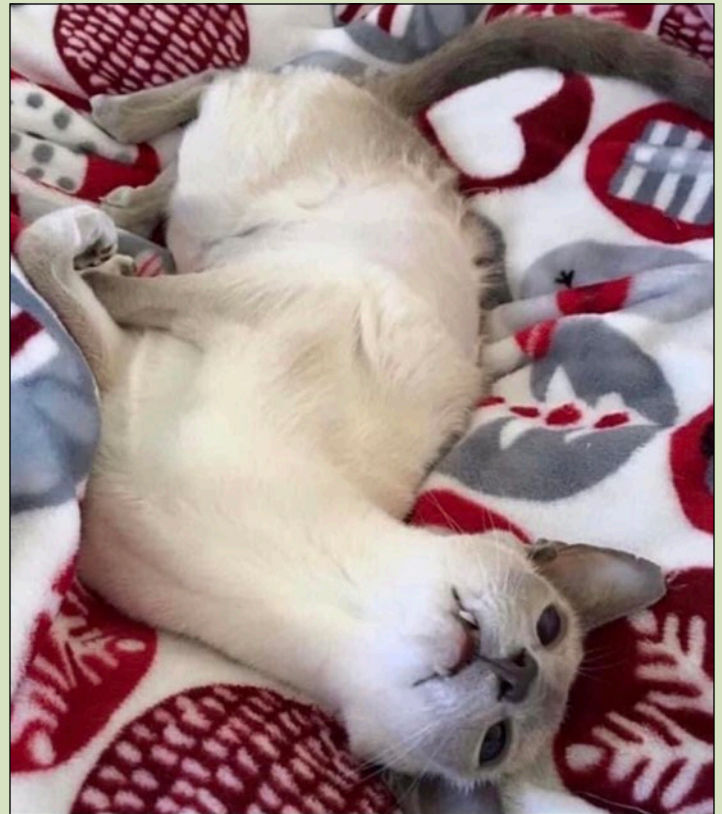
While Polar proved an exception in this very serious case, there are many success stories in less serious types of lymphoma.

Is lymphoma more or less treatable than other cancers in cats?

“There are several types of lymphoma that can occur in cats, and they can have very different behaviors,” said Dr. Katherine Skorupski, DVM, DACVIM (oncology). She is Chief of Medical Oncology and Professor of Clinical Medical Oncology at the University of California, Davis. “Lymphoma can be high-grade or low-grade, and grade predicts the behavior of the cancer. This includes the speed at which the cancer grows.”

Skorupski further explained that high-grade lymphoma can occur anywhere in the body, often affects many organs at once, and usually grows quickly. In the case of Polar, who was diagnosed with a large tumor on his kidney (renal lymphoma), the oncologists at the University of Pennsylvania Veterinary Hospital felt the tumor had only been there for an estimated two weeks. In other words, very fast-growing.

“Compared to other cancer in cats and to high-grade lymphoma in dogs, response rates with chemotherapy are lower and survival is not as good (for high-grade lymphoma),” said Skorupski. “Low-grade (also called small-cell) lymphoma is a slower-moving form of lymphoma that most commonly affects the intestines. Low-grade lymphoma responds very well to oral chemotherapy, and cats usually live many years after diagnosis.”



Polar relaxed and unstressed after having his belly shaved for an ultrasound

Are purebred cats more prone to lymphoma than domestics?

“Purebred cats are a small minority of patients in my practice, and as a result, most cats that are diagnosed with lymphoma are domestics,” Skorupski said. “Research about breed predispositions for lymphoma in cats is inconclusive, but some studies have found a higher incidence in purebred Siamese.”

Several universities, including the University of Pennsylvania and the University of California, Davis, continually work to improve cancer treatments for cats. “Some recent research in cats with localized nasal lymphoma indicates that they can do very well with radiation therapy alone,” said Skorupski. “Historically, we have tended to recommend chemotherapy for these cats. This data is helpful in that it spares some cats additional treatment which may not be necessary.” Skorupski further explained that while most radiation is administered over the course of three to four weeks, a recent study indicated a fair outcome in cats treated with stereotactic radiation therapy. This treatment is advantageous and more convenient for owners because it is delivered over the course of only one to three days.

“Our oncology and cancer therapeutics groups at UC Davis are currently studying how several commonly used chemotherapy drugs are metabolized in cats,” Skorupski added. “Despite wide use of these

drugs, little is known about how they affect cats. We hope to learn why the response rate to these drugs is lower in cats and how to optimize use of these drugs in cats with lymphoma.” She also noted ongoing research at UC Davis studying the immune system’s role in feline lymphoma. Although this work is in the early stages, they are hopeful it could lead to immunotherapy treatment options for cats in the future.

How is the type of treatment for lymphoma in cats determined?

Options include radiation therapy, injectable chemotherapy, and oral chemotherapy medications. “Grade of lymphoma and whether it is localized or throughout the entire body are important factors that affect how treatable a certain cat’s lymphoma may be,” said Skorupski. For example, low-grade (small cell) lymphoma can be managed over the long term, in many instances, and nasal lymphoma can be effectively treated with radiation therapy, she noted. “An important predictor of outcome in cats with high-grade (large cell) lymphoma is how the cancer responds to chemotherapy,” Skorupski continued. “Cats that go into full remission live much longer and have a higher chance of cure than cats that have a partial response or no response at all to treatment.”

Skorupski explained that several chemotherapy protocols have been studied in cats with large-cell lymphoma. Most commonly, treatments are given as weekly injections for four to six months. Cats that are in remission after the chemotherapy protocol is complete are monitored closely for possible relapse. She noted that radiation therapy schedules can vary depending upon the case. Most commonly, for nasal lymphoma, radiation is given in small doses, Monday through Friday, for 16 treatments. In some cases, larger doses may be given over four to six days, though the long-term outcome is often poorer in those cases. Oral chemotherapy for small-cell lymphoma in cats is usually in combination with a daily steroid (prednisolone). Once the cancer is well controlled, doses can usually be gradually decreased. Some cats are able to stop chemotherapy temporarily or even permanently if the disease is successfully controlled.

Asked if cats can be cured from lymphoma, Skorupski replied, “Yes, absolutely. Although most cats with high-grade (large-cell) lymphoma will die of their cancer, some cats respond extremely well to chemotherapy and enjoy long-term survival.” Skorupski cited a study published a few years ago by UC Davis in which approximately 20% of their cat patients with large-cell lymphoma treated with radiation therapy lived over two years and did not die of lymphoma. Cures are even more likely in cats with localized nasal lymphoma who undergo radiation therapy. Cats with small-cell lymphoma are less often cured, but their disease can usually be managed for several years and may not be life-threatening.

Most owners are concerned with possible side effects from chemotherapy or radiation therapy when considering treatment for their cat. “The oral chemotherapy drug we use to treat low-grade lymphoma (chlorambicil) is usually very well tolerated and side effects are rare,” said Skorupski. “Injectable chemotherapy for high-grade

lymphoma may cause stomach upset in some cats, and a low appetite or vomiting can occur.” This is not always the case, however. Skorupski also noted that white blood cell levels may be affected. Consequently, CBCs are checked often to ensure levels do not drop too low, which increases risk of infection. Less serious side effects of chemotherapy may include loss of guard hairs, giving the coat a different texture. “Research indicates that cats are more resistant to side effects from radiation therapy than any other species,” Skorupski said. “If side effects occur, you might see mild redness or peeling of the skin in the local area where radiation was delivered, though hair regrowth in the area can be slow, and hair often grows back grey or white.”

Can cats live a normal, happy life during treatment, or will they suffer the entire time?

“Chemotherapy in cats is very different from chemotherapy in people because we prioritize the quality of life over quantity,” Skorupski explained. “Although we use similar drugs to those humans receive, the doses we use in cats are very low in comparison. We aim to control cancer as well as possible while also maintaining a good appetite, attitude, and overall good quality of life. Oncologists work closely with the individual cat and owner to adjust treatments to keep them most comfortable.”

Sources

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Interview 9/12/23
2. Dr. Katherine Skorupski
DVM, DAVCIM (oncology)
Chief of Medical Oncology
Professor of Clinical Medical Oncology
University of California, Davis
Interview 9/28/23



Polar curled up with his best buddy, Wonder