

Feline Mast Cell Tumors

What Owners Need to Know

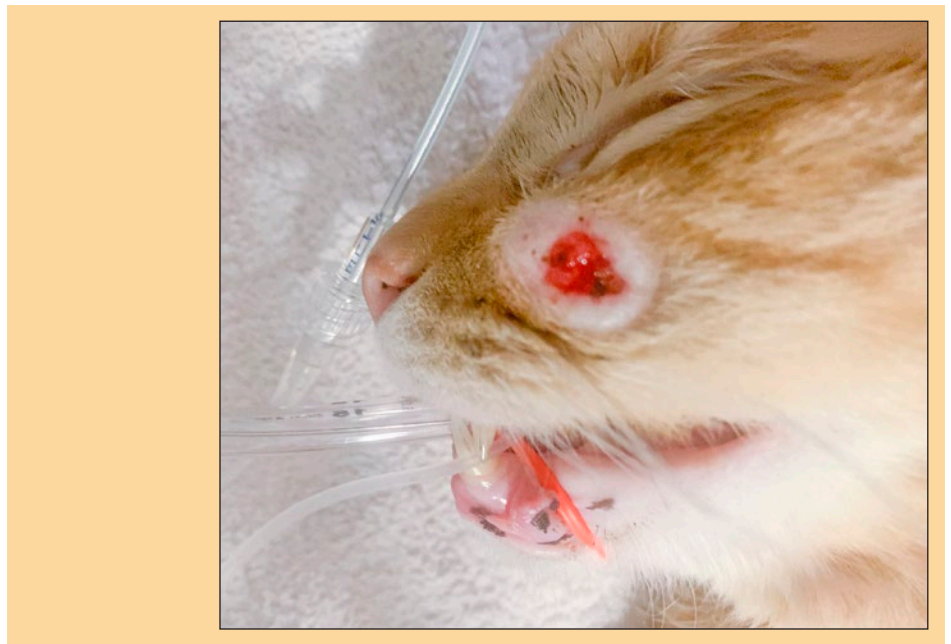
Andrea Dorn

Lando Calrissian was one of six kittens born in 1980 amidst the peak of the Star Wars frenzy. Ten years later, while brushing the brown tabby Maine Coon-look-alike, I noticed that the whiskers on one side of his face pointed forward more than usual. On closer examination, I realized that a small lump on his lip was pushing his whiskers forward. Later that day, I found two more lumps behind his ear. His veterinarian removed all three lumps and submitted them to the diagnostic lab at Iowa State University. The biopsy revealed a cluster of mature mast cells typical of a mast cell tumor.

Two Common Forms of Feline Cancer

Mast cells normally occur throughout the body and are involved in hypersensitivity reactions such as allergies or parasitic infestation. They also play a part in the initial reaction of the body to an injury. A mast cell tumor (MCT) forms when mast cells begin to grow and multiply abnormally. Mastocytosis is the term used to describe the two forms of MCTs: cutaneous (on the skin, CMCT) and visceral (involving the abdominal organs).

CMCTs are the second most common tumor of the skin in cats.¹⁰ They usually occur in cats 10 years of age or older, although some breeds (Siamese, Burmese, Russian Blue, Ragdoll, and Havana Brown)^{3,10} are prone to a rare form of atypical CMCT. These tumors may appear at one year of age or younger, usually on the head, and may recede without treatment. One paper reported that CMCTs were more likely to be found on or around the head in cats aged seven or older, whereas older cats, those aged eight or over, were more likely to have CMCTs on the body³.



“But MCTs could appear on any cat,” says John Gonzalez, DVM, Medical Director at Your Pets Vets in Houston. Gonzalez’s practice is about 40% cats, and he sees a few (5-6) feline MCT cases every year. While feline CMCTs are usually benign, if you find more than one on a single cat, it could indicate a more serious condition. “They usually appear as light-tan bumps,” according to Gonzalez, “but may be red or look like some other growth. Darier’s sign—a key indication—is when the bumps appear red and enlarged and change in size to small and pale-colored.”

CMCTs are usually single, well-differentiated, and benign (non-spreading) tumors, but they can grow rapidly in size. Your veterinarian may consider any small lump on your cat’s skin as a possible CMCT. Many individual tumors can appear on the same cat. The occurrence of a single CMCT does not necessarily mean it will lead to further disease. In many cases, the small, tan lump is removed, and no further lumps appear.

Watchful Owners Should Take Prompt Action

“Usually, it’s the owner who finds the mast cell tumor,” Gonzalez says. “Veterinarians try to be thorough in their physical examinations, but the owner is more familiar with their own cat, and handles the cat more. Still, the physical exam is vital, as are thorough home exams.”

If you find a lump or any abnormal mass on your cat, your veterinarian may either take a fine-needle aspirate, or sampling, from the lump and examine the stained cells under a microscope. Alternatively, your veterinarian could surgically remove the mass entirely and submit it to a diagnostic laboratory for pathology exam, or biopsy.

In the meantime, watch your cat for more serious symptoms such as decreased appetite, depression, weight loss, or vomiting. Of course, there are many other conditions that produce similar signs. If your cat does show these symptoms in combination with a suspected CMCT, your veterinarian will run a normal bloodwork panel and look for any abnormal cells in the blood. It is important to take these lumps seriously and have them removed as soon as possible. Mast cell tumors can grow quickly. However, the overall prognosis for cats with only CMCT is good, and most of the time you won’t see any more tumors.⁴

Possible Complications of CMCTs

When multiple CMCTs occur in the same cat, the disease could progress to the systemic mastocytosis. If the disease affects the viscera, or abdominal organs, you will likely be referred to a veterinary oncologist for further tests and treatments.



“We don’t normally see cats with mast cell tumors unless they have progressed to the organs,” says Margaret Musser, Diplomate ACVM (Oncology), Associate Professor of Veterinary Clinical Sciences, Hixson-Lied Small Animal Hospital, College of Veterinary Medicine, Iowa State University. “With an ultrasound we will locate the affected organ(s) and obtain a fine-needle aspirate for biopsy. Then, if we find abnormal MCTs, we’d use a chemotherapy agent, such as Palladia, Lomustine (CCNU), or Vinblastin.”

According to Musser, any of these medications may have serious side effects like vomiting, anorexia, lethargy, and diarrhea. Some can even cause liver or kidney problems, much like any other chemotherapy agent, so your cat’s blood will be checked regularly to monitor its organ function.

The systemic MCTs will often appear on the spleen. Mastocytosis of the spleen is considered the second most common disease of the spleen, while that of the intestines is the third most common intestinal tumor. In many cases, the cat’s spleen is removed and no further problems arise. However, mastocytosis of the viscera may become malignant, spreading to other organs such as the liver, lymph nodes, bone marrow, pancreas, and intestines. If your cat develops any of the serious symptoms mentioned above, prognosis is dependent on the location of the tumors⁸. You must decide if your cat’s quality of life is affected.

Because mast cells contain substances including histamine and heparin, the breakdown, or degranulation, of mast cells during manipulation of CMCTs may cause life-threatening side effects such as stomach ulcers and blood-clotting abnormalities, according to Dr. Musser. This is also the reason radiation therapy (stereotactic radiation treatment) is not used for MCTs. Even with chemotherapy, your veterinarian or oncologist will likely prescribe medications to help prevent or control any histamine release⁸, gastrointestinal or blood-clotting complications.

Cats with only the cutaneous form may live a normal, healthy lifespan, but you must constantly monitor your cat for future lumps and have them removed and biopsied as soon as possible. Your veterinarian will likely recommend periodic blood screening for abnormal mast cells, even if there are no more lumps visible. If removal of the affected spleen is necessary, cats can live for many years after the splenectomy. Intestinal mastocytosis is more aggressive and not as amenable to treatment.

Work together with your veterinarian to closely monitor your cat’s condition and side effects from the tumors or the medications. Complications from both the disease state itself and the treatment may include the spread of disease to other organs, anemia (chemotherapy agent), development of diabetes mellitus (prednisolone), and lung involvement.

As noted previously, Lando’s first MCT appeared when he was 10 ½ years old. He went on to develop at least six more CMCTs. Several were on his face and neck, but one appeared at the base of his tail, and at least two were around his midsection. Interestingly, Lando’s brother, Zeit Geist, also had one CMCT removed but did not develop any others. Five years after Lando’s first tumor was removed, he progressed to the systemic form which affected his liver, pancreas, and spleen. After removal of Lando’s spleen, we placed him on chemotherapy and monitored his blood every two to four weeks for abnormal mast cells.

Most of us cringe when we hear the word “cancer,” but with early diagnosis and proper, timely medical treatment, you can still give your cat a very good chance for a longer, happier life. Following Lando’s splenectomy, he had a good quality of life for over three more years, although he did develop diabetes mellitus as a complication of taking prednisolone. Even though the second half of his life was involved with MCTs, Lando nevertheless enjoyed a long and happy life. He died quietly at home just shy of his nineteenth birthday.

Sources:

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