

Avian Tumors

Take an in-depth look at both benign and malign avian tumors, their treatment and prognosis.

By Rebecca Sweat

Pet birds can and do develop abnormal lumps and bumps, both on their skin and inside their body. Of course, these bumps may or may not be tumors. Some lumps are abscesses, which are areas of tissue that have become swollen and inflamed by bacterial infections. Other masses are actually large deposits of fat that are beneath the skin, similar to a “spare tire” in people. If the bird is a female, an abdominal bulge may in fact be an egg. Swellings can also be due to an organ, such as the kidney or liver, enlarging from disease.

Many times though, a lump is actually a cyst. A cyst is a tissue sac that is filled with fluid or other loose material. Feather cysts, for instance, are filled with keratin. “Cysts are not cancerous and do not grow or spread like tumors do, although they might get bigger because they have fluid inside,” noted David Phalen, DVM, an avian researcher and associate professor at Texas A & M University. Cysts are generally not serious, he added.

In contrast, a tumor (or “neoplasm” as it’s known by medical professionals) is a solid mass of tissue and, depending on the type of tumor, it may grow very quickly and spread. A tumor can occur anywhere on the body, and may protrude from the skin, under the skin, or grow inside the body. Tumors are usually much more urgent matters than the other kinds of lumps and bumps just mentioned.

Benign Vs. Malignant

Tumors come in two main types: the benign (non-cancerous) ones and the malignant (cancerous) kinds. Either type of tumor can be life-threatening to pet birds, but benign growths are generally considered to be less serious than malignant tumors.

“Benign tumors tend to stay within one location in the body and do not spread to other areas. They may still grow, but they proliferate very slowly,” explained Richard Nye, DVM, a veterinarian in Illinois. He said benign tumors can normally be removed without too much trouble, and in most cases, do not come back.

Malignant tumors, on the other hand, can invade and damage nearby tissues and organs. This is done through the process of metastasis, wherein cancer cells break away from a malignant tumor and travel through the bloodstream or the lymphatic system to form new, secondary tumors in other parts of the body. “Even if a malignant tumor is removed, its cells may have gone to other tissues in the body, resulting in the development of additional tumors,” Nye said. Malignant tumors also tend to grow faster than benign tumors, he added.

But while benign tumors do not metastasize, they are still not something to just ignore, Nye stressed. “If a benign tumor’s not getting any bigger and it’s in a spot where it’s not causing any problems, it may not need to be removed, but you still need to watch it” he said. “If the tumor suddenly starts growing, that would warrant a trip to the veterinary clinic to have the mass taken off.”

Your veterinarian may also want to remove a benign tumor even if it isn’t growing if it is in a spot that’s bothering your bird in some way.

Internal benign tumors can also put pressure on the bird’s organs, which can be painful or uncomfortable. “A tumor takes up space, and wherever it is in the body, if it continues to grow, it’s going to displace or change what’s going on with the surrounding organs,” Phalen said. A benign kidney tumor, for example, can put pressure on the sciatic nerves to the leg and make it painful for the bird to use that foot.

How Tumors Form

Tumors are caused by errors or mutations in the DNA of cells. These abnormal cells do not divide and replicate themselves to a certain point and then stop, like they should. For instance, a normal skin cell will divide and multiply just enough to make a new layer of skin and then quit. The abnormal cell, however, will keep dividing and forming more cells without order or control. These cells just keep multiplying, with no end in sight.

These out-of-control cells can be a tough enemy to stop. For one thing, “the outside of these cells appears as ‘self,’ so the body’s immune system does not try to destroy them or stop them,” Johnson-Delaney said. Furthermore, tumor cells are not controlled by the endocrine and neurological controls that the body’s cells are normally under. “Normally a cell is programmed to die after a certain period of time,” Johnson-Delaney explained. “A cancer cell, however, doesn’t have death programmed into it properly, so it doesn’t die when it’s supposed to. Instead it continues to multiply and pass on its errors to succeeding cells.”

Most medical researchers believe that factors such as environmental toxins, carcinogens in the diet, nutritional deficiencies, inbreeding, and old age can all contribute to errors in cell replication and weaken the body’s immune system. “It’s your immune system’s job to clean up aberrant cells,” Johnson-Delaney said. “Anything that compromises your immune system is going to increase the odds that some of these aberrant cells are going to slip through the cracks.”

Common Tumors In Birds

There are literally hundreds of types of cancers that can affect pet birds, everything from ovarian cancer and brain tumors, to leukemia, lymphoma and melanoma. Older birds and excessively bred birds are most likely to get cancer, however neoplasms can develop in any avian species.

The most common external tumor in pet birds is squamous cell carcinoma (malignant skin cancer). This form of cancer typically occurs on the skin of the head, on and around the beak, on the eyelids and around the uropygial (preen) gland. It is most often seen in parakeets, lovebirds and cockatiels, although any species can be affected. Certain factors that make the skin less healthy, such as “vitamin-A deficiency and repeated skin injuries, may make birds more susceptible to this type of cancer,” speculated Larry Nemetz, DVM, an exotics-only veterinarian in Santa Ana, California. Birds that are skin mutilators may be especially prone to this disease. “When a bird chews up its skin and mutilates an area over and over again, the cells can start losing their way and become cancerous,” he said.

Tumors of the fibrous, connective tissue — Fibromas or “fibroid tumors,” which are benign, and fibrosarcoma, which are malignant -- are commonly seen in pet birds. “These are fairly easy tumors to spot and may simply show up as an unusual bump on the skin, or there may be a couple feathers sticking up in a strange way on the bird’s body,” Nye said. Fibroids and fibrosarcomas most often appear on the wings, legs, junction of the beak and face, neck and sternum. The birds most often involved are budgerigars, parakeets, cockatoos and macaws.

Probably the most common internal tumor in pet birds is an intra-abdominal mass, which is a tumor of either the reproductive organs (ovaries or testicles) or kidneys. These could be either malignant or benign. Abdominal masses are most often seen in budgies that are between 5 and 8 years of age, according to Burge. More often than not, these types of tumors are not detected until the bird is emaciated and acting very sick. This, Burge said, “can be due to the pressure the tumor puts on the digestive tract, making it difficult for food to pass through, or droppings may accumulate around the vent causing blockage.” Some of these birds may be presented with labored breathing as the main symptom due to the large tumor causing collapse of the air sacs. Lameness may also be a presenting sign when the tumor puts pressure on the nerve supply to one leg.

Many birds also develop cancer of the lymphatic system. In a healthy animal, the lymphoid system is an important part of the body’s immune system defense against infectious agents such as viruses and bacteria. Lymphoid tissue normally is found in many parts of the body including lymph nodes, liver, spleen, gastrointestinal tract and skin. If malignant cells invade these tissues, the disease is known as lymphosarcoma. If the cells are benign, the disease is called lymphoma.

Lipomas are benign tumors that are composed of mature fat cells. “Most of them are found just under the skin, rarely infiltrating into muscles or organs,” Burge noted. “They are very commonly found on the upper chest and over the abdomen, although they may be found in other locations on the bird’s body.” Lipomas don’t usually cause birds a lot of problems unless they get so big that they interfere with leg movement. If they are becoming a problem, many times putting the bird on a low-fat diet will be enough to shrink down the fatty tumor, or even get rid of it all together. In extreme cases, lipomas can also be surgically removed. These tumors generally occur in overweight birds and are most commonly seen in budgerigars; and Gallah, rose-breasted and sulphur-crested cockatoos.

Unlike the other tumors on this list, papillomas are not caused by out-of-control cells but by a virus called Psittacid herpesvirus. Papillomas appear as wart-like lesions of the oral cavity of the mouth and of the vent. “The lesions are benign, and can sometimes come and go without treatment,” Phalen noted. “Other times they just keep getting worse and worse, and [can] be very irritating to the bird and start bleeding.” In that situation, the papillomas would need to be surgically removed. South American species (especially Amazons and macaws) are seen with papillomas more often than other species.

Detecting Tumors

Like with cancer in people, the sooner you notice an abnormal mass in your bird, the greater the success rate in treatment and the better the prognosis. Many times, though, tumors are not discovered until they are quite large. Or, sometimes pet owners will find a lump but choose to just wait and see if it will go away by itself, according to Burge. Then by the time they do take their bird to the veterinary clinic, the tumor has reached an enormous size and may have metastasized. "It is much safer and less expensive to remove a tumor or cyst when it is small," Burge said, "rather than waiting until it is the size of the bird's head!"

Regularly look your birds over and check them for unusual lumps and bumps. External tumors are usually fairly easy to detect. You may see a mass on the bird's skin or be able to feel an unusual bulge underneath the feathers. Or you may notice an irregular displacement of the feathers and that may clue you in. It's a good idea to have a regular time set aside every couple weeks to give your bird a quick examination.

If in doubt, consult with your avian veterinarian. The veterinarian may determine that the mass is suspicious and needs to be biopsied, where a tiny portion of it is taken and sent to a pathologist for examination. "The doctor cannot tell you what type of tumor it is without having a pathologist examine it since many different benign and malignant tumors may look the same," Burge said.

Internal tumors are much harder to detect. You may just notice that your bird won't stand on one of its feet, or maybe it is eating less, sleeping more or has lost some weight. Of course these symptoms are the same as would be present with many infectious diseases. The only way to know for sure what is wrong with your bird is to take it into the veterinary clinic for an examination. Your veterinarian will probably do a number of diagnostic tests, including blood tests, radiographs (X-rays) or even exploratory surgery in order to determine what's going on with your bird.

Tumor Treatment & Prognosis

In most cases, surgical removal of the tumor is recommended. The only exceptions would be if it is a benign tumor that is not growing or changing, and if it is in a location on the body where it is not interfering with the bird's normal behavior and activities. However, if the benign tumor is getting larger or is just in a spot on the bird's body where it is making the bird feel uncomfortable, that tumor should be taken off.

In general, benign growths have a better prognosis than malignant tumors. It may just be a matter of removing the tumor or the tissue where the growth is located and then, for all practical purposes, the bird is cured.

Malignant tumors are much more difficult to deal with because of their propensity for metastasizing (spreading to other areas of the body). The sooner these kinds of tumors are removed, the less likely they will have metastasized.

If it's an external malignant tumor, the tumor, as well as the tissue surrounding the growth, is usually removed. Johnson-Delaney has had cases where she's had to amputate a bird's wing or leg because the tumor cells were deep in the muscle or bone. "It may sound like a radical procedure," she said, "but sometimes this is what it takes to save a bird's life."

Kidney, reproductive and other internal tumors are the most difficult to surgically remove, because the tumor will usually have a large blood supply, and it often adheres to other organs. Trying to remove the tumor would cause the bird to bleed to death.

"It's a lot easier doing this kind of surgery on dogs and cats, because they're much bigger animals," Phalen said. "The challenge with birds is if they have cancer in their kidney, usually we can't get to it surgically because the breastbone and other organs are in the way. Plus, it's doubtful that the bird is even going to survive the surgical procedure." The budgerigar — one of the birds most prone to developing kidney and reproductive tumors — only weighs around 35 grams on average. "With a small bird, there's not a lot of room for blood loss," Phalen said.

The sad truth for bird owners is there's not always a lot that can be done for a bird with a cancer, other than supportive care (IV fluids, etc.). Sometimes veterinarians will try to "debulk" the tumor (removing as much of it as possible) to reduce the tumor's mass. "This is obviously not a cure," Johnson-Delaney said. "It just buys the animal some time and takes away some of the pain it is probably experiencing."

Chemotherapy & Radiation Treatment For Birds

In some cases, chemotherapy and radiation are utilized to treat malignant tumors, especially if it's suspected that they have spread. Usually these treatments are used in conjunction with surgery, and only in situations where the bird is in such bad shape that it has "nothing to lose" by undergoing them.

Chemotherapy and radiation have not been used in pet birds very long, so most veterinary practitioners have not had experience with them. They are still considered to be radical or experimental treatments. If you did opt for either of these procedures for your bird, you would probably have to go to a specialty veterinary clinic or a veterinary teaching hospital at a university to have it done.

"Chemotherapy uses harsh, dangerous, very toxic drugs," Nemetz said. "What you're basically trying to do is poison the cancer but not poison the animal. There's no guarantee it's going to work, and there's no guarantee your bird is going to survive the treatments."

The two chemotherapy drugs used, Cisplatin and Carboplatin, definitely kill cancer cells, but they can damage the cells in the bone marrow that are producing the white blood cells and the red blood cells. Any bird that is on this kind of treatment will be closely monitored to make sure the white blood cell count doesn't go down too low.

Radiation treatments can also have a lot of negative side effects. With birds in particular, Nye cautioned, "it's especially challenging to try to confine the radiation to the small area that needs it, so you end up radiating the entire animal. You kill the cancer cells, but you also blow the bone marrow out and every other rapidly growing cell in the body of the bird."

What's The Prognosis

If you find a lump on your bird, what are the chances of a good prognosis? "It depends on what kind of tumor it is, where the tumor is located, and how soon you catch it," Phalen replied. If it's a benign external tumor that only recently appeared, chances are your bird will be fine. But if the tumor is malignant and it's located somewhere inside your bird's body where surgeons are not going to be able to get at it, the prognosis, unfortunately, is probably not going to be very good.

Cancer is a tough enemy to confront, and that holds true whether you're talking about birds, people, dogs, cats or any animal. Still, the treatment options are more plentiful for people, dogs and cats than they are for pet birds.

"We're still very much in our infancy in our understanding of how to best treat the different kinds of cancers that we see in pet birds," Phalen said. If a person, for instance, develops liver cancer, there are definite treatment protocols that have been established. We don't have that yet for pet birds, in big part due to the fact that there are 300-plus psittacine species that each needs its own treatment protocols.