

Dispelling the Myths of Canine Cancer and its Treatment

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One third to half of all dogs will develop cancer in their lifetime, Dr. Thamm said. This does not mean the disease is more prevalent than in the past, but rather that dogs are living longer because they are receiving better care, including vaccinations, nutrition, and supervision.

“[We are] allowing them to get to an age where diseases like cancer are being a problem,” he said. “There’s also more reporting of disease going on, so we’re much more aware of it.”

There appears to be a link between the incidence of certain cancers and exposure to environmental factors—including nasal tumors and passive smoke, lymphoma and certain herbicides, mesothelioma and asbestos, and bladder cancer and insecticides. However, Dr. Thamm said, these associations are either weak or have not been studied enough to make a solid conclusion.

Even if it cannot always be cured, cancer is treatable or at least manageable, Dr. Thamm said. Some statistics suggest that more than half of all tumors can be cured with surgery alone if the surgery is performed correctly. Furthermore, in those situations where a cure is not possible, “our real goal is to extend an excellent quality of life for whatever time is left.”

Dr. Thamm said he discourages owners and breeders from taking a “wait and see” attitude regarding their dogs’ cancer. Early diagnosis is critical. The larger the tumor, generally the harder it is to remove and more likely it is to spread.

Contrary to popular belief, neither biopsy using fine needle aspiration nor removal of the tumor will cause the cancer to spread. When surgery is performed, a complete histopathology should be submitted for proper diagnosis. Tumors that are removed completely are less likely to recur, Dr. Thamm said. Recurrent tumors are often more aggressive than first-time tumors and may be associated with a worse long-term outcome.

A study of dogs with mast cell tumor illustrates this point: 70% of first-time tumors did not recur if treated immediately with surgery and chemotherapy. When allowed to recur, the risk of death within one year increased to 90%.

Tumors sometimes recur because all the cancer cells were not removed during the initial treatment, Dr. Thamm said. The most aggressive tumor cells reside at the edges of a mass, so taking tissue from around and under the tumor, or using radiation to kill cells that may be left behind, is critical to a successful outcome.

A pathology report will evaluate the tumor type and its histologic grade—how bad it is—as well as its margins. Margins that are clean indicate complete removal of the tumor; dirty margins are a sign of incomplete removal. A study of mast cell tumors showed that survival was 54 months when margins were clean, compared to 11 months when they were dirty. When the tumor was removed completely, Dr. Thamm said, 70% of subjects lived an additional 18 months. Incomplete removal meant only 15% survived that long.

Chemotherapy is used as a primary treatment for most forms of lymphoma, multiple myeloma, and leukemia. It also is used to help delay or prevent the spread of osteosarcoma, angiosarcoma, and certain mast cell tumors, among others.

Although dogs receive the same chemotherapy drugs as humans, the dosing is much lower in dogs, and fewer drugs are given at the same time, so the likelihood of adverse effects is considerably less. Dr. Thamm said fewer than one-third to one-fourth of patients experience significant unpleasant side effects such as nausea, diarrhea, and other intestinal symptoms. These can be readily treated, and in most cases, alleviated, by changing the dosage or switching to an alternate drug.

Other side effects may include lower white blood cell count and hair loss in certain breeds. Almost all chemotherapy is done on an outpatient basis. The risk of chemotherapy-related fatality is less than 1 in 200, Dr. Thamm said.

Owners and breeders need not be concerned about cross contamination, as few chemotherapy drugs are excreted longer than 48–72 hours after treatment. Dr. Thamm advised that gloves should be worn when handling feces, and pills should not be opened or crushed as this increases the risk of human exposure.

Age is not a factor during cancer treatment, Dr. Thamm said. The risks are no greater with older dogs, provided they are otherwise healthy. Treatment can vary from very conservative to very aggressive, depending on a number of factors, including finances.

It is impossible to guarantee how long an animal will live after chemotherapy. In studies of dogs with standard multicentric lymphoma, patients who received no treatment lived one month. Those that followed the full protocol of 16 injections over a period of six months averaged one more year of life, and 20% lived two years or longer. Overall, Dr. Thamm said, 90% of treated dogs showed improvement.

Radiation is a localized therapy used on sarcomas, mast cell tumors, and oral tumors, among others, to kill cancer cells left behind after incomplete removal of a tumor. It is used to shrink a tumor before surgery, as a primary therapy for certain tumors, or to ease pain or swelling. Radiation rarely has systemic side effects, Dr. Thamm said. Temporary side effects may include a sunburn-like reaction at the treatment site. Treatment involves general anesthesia and a short hospital stay, with costs ranging from \$4,000 to \$7,000.

More information about canine cancer can be found on the Colorado State University Animal Cancer Center website at www.csuanimalcancercenter.org, or by calling the Center's free consultation line at (970) 297-4195.

Discussion

A participant said cancer remission in dogs is often misunderstood. Since one year of a dog's life is equivalent to 7–10 human years, one year of remission is a long time.

Another participant asked for Dr. Thamm's opinion on radioactive seed implant therapy. While still in its infancy in veterinary oncology, this treatment is being used on equine tumors of the head and neck, Dr. Thamm said. Similarly, radioactive iodine therapy—used on cats for some time to treat hyperthyroidism—is available, but only at a few centers across the country. This therapy renders the pet radioactive and requires a long hospital stay. Some studies on its use with dogs appear promising, he said, although finding a facility that offers this treatment can be difficult.