

Cancer in dogs and cats

The topic of cancer has been an issue that has attracted much research and attention over the past few decades, both in animal and human medicine alike. The **purpose** of this newsletter/article is to provide a simple overview of cancer, focusing on the approach to cancer from a clinician's point of view in order to make a diagnosis and determine a prognosis. The relevance of the latter has massive implications on pet owners which will ultimately affect the way a pet owner deals with the concept of cancer, not only in a clinical setting but also in a decision-making, emotional and personal level too.

Cancer is caused by uncontrolled and purposeless growth of cells in the body. Other terms for cancer are malignancy, tumour and neoplasia. Cancer can arise from any tissue in the body so there are many types of cancer.

Certain **forms of cancer** have the ability to spread to other sites in the body which are often far from the original site. In the majority of these cases this happens when cancer cells enter the blood or lymph vessels and are then carried to other organs. Cancers with this type of behaviour are considered malignant. Often, it is the spread of a cancer that causes the greatest problems. When a cancer has spread in this fashion, it is said to have metastasized. Some cancers lack the ability to metastasize, but may cause significant damage due to growth and invasion into local tissues. Tumours that do not metastasize are generally considered non-invasive and thus are termed benign. Tumour is a general term for cancer whether it is benign ("good cancer") or malignant ("bad cancer"). Oncology is the branch of medicine dedicated to the study of cancer, and the doctors treating people with cancer are called Oncologists and Oncology nurses. In veterinary medicine, specifically in South Africa, we do not have veterinary oncologists per se, but we do have a number of amazing veterinary internal medicine specialists amongst us whose expertise (amongst many) include the treatment of cancer patients. Some veterinarians may express it as a special interest amongst their work commitments, which means that even though they may not be registered veterinary oncologists (no such course exists in South Africa) they are more familiar with the various forms of cancer and the treatments involved which puts them in a more informed position to help pet owners that have pets dealing with cancer and give tailor-made specific advice, treatment options and prognoses.

In my mind the best way to deal with cancer is to **know and understand exactly what you are dealing with**, which means that the cancer/growth/tumour must be identified and evaluated fully. The advantage of the above is self-explanatory and obvious once you think about it:

- Identifying the tumour allows you to study the subject in more depth which will facilitate understanding of the clinical condition.
- Identifying the tumour will provide information in terms of the behaviour of the tumour. Is it benign or malignant? Is there any chance of spreading?
- Identifying the tumour will provide information in terms of treatment options available. There is nothing worse than treating blindly, no getting results and lengthening the suffering of a patient. If financial constraints exist, knowing what options are available and how much they cost will allow you to make the relevant decisions at the appropriate time, always keeping in mind the animal's condition top of mind.
- Identifying/evaluating the tumour and treatment options determines a relative prognosis and puts the pet owner, in consultation with the attending veterinarian, in a much better position to make an educated decision on what will be the best way forward.
- Identifying an aggressive tumour that has a poor prognosis is not what you want to hear, but the benefit to the animal involved will be far less suffering due to informed and timeously made clinical decisions.

Tumour Evaluation (Work-up): Tumour Staging

The first task for the veterinarian is to determine the extent of the tumour which is a process called tumour staging. Staging information is vital for several reasons including:

1. Determination of your pet's prognosis (i.e., the expected outcome for your pet from the illness) and,
2. Formulation of a plan for treatment.

To gather information that can help to determine the extent of the cancer, your veterinarian will need to evaluate your pet by several methods. These usually include blood tests (e.g., blood count, chemistry profile), urinalysis, radiographs (x-rays), tissue aspirate (a sample taken with a fine needle) and biopsy. Tests which your veterinarian may have performed might be repeated due to the changing nature of your pet's illness. In addition, as indicated for specific patients, other testing procedures may include: ultrasound, specialized radiologic studies (e.g., CT scan, dye contrast studies), bone marrow aspirate, lymph node aspirate, endoscopy (direct examination of the stomach, colon or bronchi with a specialized scope/camera), and immunologic studies. It is important to note that medicine is not an exact science and despite these staging procedures, it is still possible to fail to recognize microscopic sites of tumour or the presence of tumour in organs that are difficult to study.

Once the tumour staging has been completed, your veterinarian will better be able to discuss treatment options for your pet. The goal of such therapy will also be discussed. Tumours that have metastasized extensively are usually not curable. Therefore, the objective of therapy for these animals is palliation (i.e., afford relief of signs without providing cure, and possibly, prolong life). Localized tumours that are not deeply invasive have the best chance to be cured through surgical removal.

Cancer Therapy

There are several types of therapy used to treat cancer in dogs and cats. These include surgery, chemotherapy, radiation therapy, and immunotherapy. For some tumours, treatment will consist of a single type of therapy, while combination therapy may be recommended for other types of cancer or for animals with a more advanced stage of disease. On occasion, due to the rarity of a particular tumour, a precise treatment recommendation may not be known. In an effort to test newer (and hopefully more effective) forms of therapy, you may be asked to enrol your pet in an investigative clinical trial. The purpose of such a trial is to learn more about the specific type of treatment (that may be of value to humans and other pets with cancer) as well as hopefully providing a benefit to your pet. Pet owners of animals with tumours for which there is no effective treatment, or tumours that have not responded to conventional treatment will be offered investigative therapy for their pets.

Should You Treat Your Pet?

Treating animals with cancer is not appropriate for every pet owner. It takes a strong commitment on the part of the owner. Therapy requires frequent trips to the veterinary hospital and can be expensive. For some forms of cancer treatment, once begun treatment is never stopped during the animal's life although the frequency of these treatments can be decreased. Your veterinarian cannot do it alone since treating pets with cancer is truly a team effort and the pet owner is on the team. It is important for you to present your pet for treatment precisely when requested to do so by your veterinarian since the timing of cancer therapy is critical for obtaining an optimal outcome. In addition, medicines to be given to your pet at home should be administered by you exactly as instructed by your veterinarian. Any abnormalities or problems you encounter should be reported to your veterinarian promptly. Always feel free to ask questions and communicate with your veterinary team.

Keep in mind your veterinarian is as concerned about the quality of your pet's life as you are. The goal of the therapy is to keep your pet happy and minimize discomfort. Although some animals may experience transient discomfort from therapy, treatment of most pets with cancer can be accomplished without major distress or detracting from your pet's enjoyment of life. Just because an animal has been diagnosed with cancer does not mean its life is immediately over. Know and understand exactly what you are dealing with before making the best possible decisions for your beloved pet and yourself. Your commitment to your pet and your veterinarian's dedication to providing state-of-the-art care will work together to keep your pet as happy as possible.