Cancer in Cats

Introduction

The most common cancers of cats include lymphoma (Figure 1), squamous cell carcinoma, mammary carcinoma and soft tissue sarcoma (Table 1 over page). When lumps, bumps and enlarged lymph nodes (glands) are found in a cat, there are more non-cancerous disease possibilities or differential diagnoses than for dogs. As a result of infection or reactive inflammation, cats can develop markedly enlarged lymph nodes.

Clinical presentation

As cats are both a predator and a prey species, they tend to hide the fact that they are not feeling well, making a diagnosis more difficult in the early stages. Affected cats may present with a lump or a mass lesion or nonspecific signs that may include lack of appetite, reduced activity and weight loss. Cases present in many different ways depending on the organ(s) affected. Clinical signs may include vomiting, diarrhoea, a palpable mass in the abdomen or breathing difficulties. Unfortunately, many cats hide disease well and will only present with advanced disease and not always as a result of the primary tumour. An example of this is when a cat with a primary lung tumour presents with secondary lesions of the digits (usually multiple) due to metastasis of bronchial or bronchioalveolar adenocarcinoma. This lung-digit syndrome results in swelling and reddening of the digit with purulent discharge from the nail bed which might suggest infection although radiographs (x-rays) will show destruction of bone.

Diagnosis

A thorough physical examination of the cat is always an essential part of the diagnostic process (or work-up) as it will determine which further tests will be required. Complete blood cell counts and biochemistry tests can help to reveal which organs are involved and whether there is any concurrent disease. Various imaging modalities, including x-rays (radiographs), ultrasound studies and sometimes also CT or MRI scans may be helpful in determining the extent of the disease (Figure 3).

A diagnosis of cancer is usually based on histopathological examination of a sample that is obtained by a fine needle aspirate (FNA, Figure 1) or biopsy. Once the diagnosis of tumour type is made, further evaluation by a pathologist may be necessary to help establish the grade of the tumour as this will affect prognosis and treatment options.

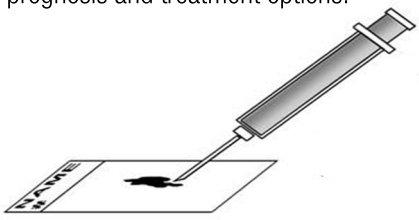

Figure 2. Fine needle aspiration.

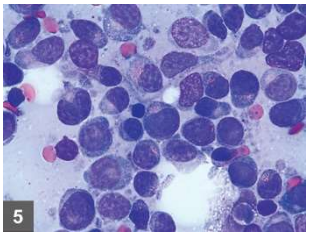

Figure 1. Lymphoma aspirate

Staging

Once a diagnosis of cancer has been established, the cancer should be staged. Staging is the process that determine to what extent the cancer has spread throughout the cat's body. The degree of spread will affect prognosis and may affect treatment options. Clinical staging using the TNM system to assess the primary tumour (T), including involvement of adjacent structures, metastasis to local and regional lymph nodes (N) and distant sites (M) should be carried out, as indicated by the biological behaviour of the tumour. The aim of staging is to ensure the best treatment possible is offered and to give a more accurate prognosis (expected outcome). Carcinomas and mast cell tumours mainly undergo metastasis (spread) via the lymphatic system. Cats develop the classical well defined 'cannon ball' pulmonary metastases much less commonly than dogs and lung metastases tend to appear as ill-defined mass lesions.

Treatment

There are many different types of tumours and the treatment for each will differ. There have been major advances in the treatment of cancer in humans and many new medicines and techniques can be used in cats too.

Surgery remains one of the best ways to treat most tumours and in many cases can be curative. However, surgery must be bold and well planned; any tumour cells left behind will cause the tumour to grow back.

Radiation therapy is used to treat some tumours, particularly those that occur in the mouth, nose, skin and brain. Certain tumours can be cured, some have their growth slowed and some, unfortunately do not respond at all.

Chemotherapy is used to treat several tumour types. Doses used in animals are carefully calculated to aim to avoid the most serious side effects. For this reason, most forms of chemotherapy used in veterinary medicine are considered to be a form of palliative therapy rather than curative although we can achieve periods of remission with a return to a good quality of life in some cases.

Surgery may be used with adjunctive radiation or chemotherapy.

Your vet will discuss with you the diagnosis and type of cancer as well as the prognosis and management plan. It is up to you to make an informed decision but it is the responsibility of your vet to tell you all the options.

To help remember what you are told, you may wish to take notes or have another family member or friend with you. You do not need to ask all your questions at once. You will have other chances to ask the veterinary surgeon or nurse to explain things that are not clear and to ask for more information.

Before starting treatment, you may want another opinion about your cat's diagnosis and treatment plan. A second opinion is usually sought when there is doubt about the diagnosis whereas a referral is usually to seek specialist management of the case. Your veterinary surgeon may refer you to a specialist, or you may ask for a referral. Specialists who treat cancer include surgeons, medical oncologists and radiation oncologists. As cats have a tendency to mask illness, it can be harder to detect to detect cancer which often leads to later diagnosis and more difficult and costly treatments.

When is it time to say good-bye?

Sadly, there will come a time when your cat is suffering and has lost their quality of life. Often there is a change in behaviour such as hiding or flinching when touched, becoming withdrawn, loss of appetite, reluctance to move, restlessness or difficulty in getting comfortable. It is also important to remember that purring is not a sign that your cat is free from pain, as even an injured or dying cat may purr. If your animal is no longer it's "old self", then usually you will know that it is time. It is useful to note the number of good days and bad days in a week and perhaps observe your cat over several weeks to see how they are responding to any treatment you are giving them.

A "good" day might be one where your cat spends some time curled up enjoying the sunshine coming in through the window, manages toileting in the litterbox, does a bit of grooming and eats and drinks without too much coaxing. A "bad" day might be one where you cannot tempt your cat to eat or drink much, there may have a toileting accident or straining to do any eliminations. When the bad days outweigh the good, you will know that it is time to start making decisions about end of life options.
There is a quality of life scale available on our website that can help you to ask yourself if you are able to provide enough help to maintain your ailing cat without further compromising quality of life.

Table 1. The 4 most common types of cancer in cats and sites of predilection compared to similar cancers in dogs.

Type of Cancer	Site/Sub-type	Comments
Lymphoma (Lymphosarcoma)	**Alimentary** (gastrointestinal)	More common in cats than dogs
	Cranial mediastinal (chest)	More common in cats than dogs
	Extranodal – can occur at any site, including the nose, kidneys and central nervous system	More common in cats than dogs
	Multicentric (lymph nodes throughout body)	FNAs from LNs are less likely to be diagnostic of lymphoma in cats compared to dogs
Squamous cell carcinoma	Mouth, nose, ear, eyelid or other skin sites	Non-steroidal anti-inflammatory drugs may help prolong quality of life
Mammary carcinoma	Mammary glands	Differences in lymphatic drainage
Soft tissue sarcoma	Injection site Other skin sites or under the skin, mouth	

* Adapted from a presentation given by Dr. Laura Blackwood at BSAVA Congress April 2015: Approach to the Feline [Cancer] Patient

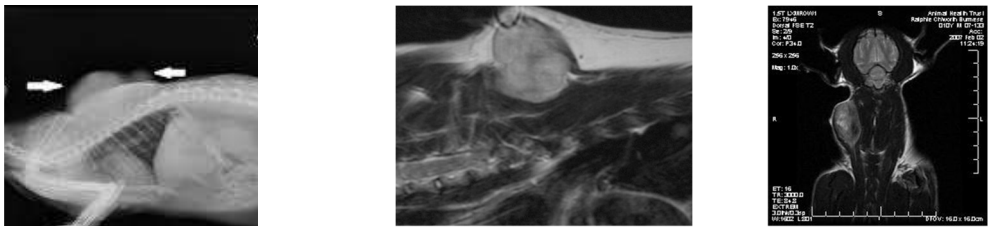

Figure 3. X-ray, MRI and CT images of a feline injection site sarcoma.

References

Blackwood L. Approach to the Feline Patient. BSAVA Congress, April 2015.
Goldfinch N, Argyle DJ. Feline lung-digit syndrome: unusual metastatic patterns of primary lung tumours in cats. J Feline Med Surg. 2012 March; 14(3):202-8. doi: 10.1177/1098612X12439267.

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