



Southern Counties

VETERINARY
SPECIALISTS

Chemotherapy: An Owner's Guide

**Southern Counties Veterinary Specialists
Specialist Referral Service**



Aim of chemotherapy in veterinary patients

The goal of chemotherapy in veterinary patients is, most importantly, to maintain a good quality of life but also to prolong your pet's life. Chemotherapy is used widely in human medicine and although we use similar drugs to those used when treating people we tend to use lower doses and less intensive protocols, significantly reducing the chance of side effects.

What is chemotherapy and how does it work?

Chemotherapy drugs are able to interfere with the ability of cancer cells to grow and multiply. Unfortunately they are not able to differentiate cancer cells from other normal rapidly dividing cells, especially those found in the bone marrow, gastrointestinal tract and the reproductive system. However, most normal cells are better able to recover and repair than cancer cells.

When do we use chemotherapy?

Chemotherapy is often used in combination with other treatment modalities. We can use chemotherapy alone if a tumour is especially sensitive (for example lymphoma). We can also use chemotherapy in combination with surgery and/or radiation therapy depending on the tumour type. A single chemotherapy drug may be used or in some cases a combination of different drugs working in different ways may be used if it is known to be more effective.

How is chemotherapy given?

Most chemotherapy drugs are either given by mouth or by injection. Some drugs will be injected into a vein while others may be injected under the skin.

How long will the chemotherapy protocol be?

The length of the chemotherapy protocol in addition to the frequency of administration of the drug(s) will depend on the type of tumour being treated, how well the treatment is tolerated, the response to treatment and the use of other treatment modalities. Treatment may be daily, every other day, weekly or every 2-3 weeks. Ultimately the treatment will be tailored to the individual patient.

What tests will be done prior to chemotherapy?

Prior to starting chemotherapy we will need a definitive diagnosis. We also need to know the extent of tumour spread both locally and throughout the body (we call this staging). We will therefore usually perform some diagnostic imaging procedures, dictated by the tumour and the patient, such as x-rays, abdominal ultrasonography or CT scan with possible sampling of some organs. Many pets with cancer are older, so we usually run blood tests to make sure that there is no concurrent disease (e.g. kidney or liver disease) that may affect the response to, or excretion of, chemotherapy agents.

Guidelines for patients receiving chemotherapy

Whenever possible, we will try to treat your pet on an outpatient basis, however this is not always possible. If serious side-effects do occur, your pet may need to be hospitalised for supportive care. Prior to each chemotherapy

dose, a blood sample is usually taken to check your pet's white blood cell and red blood cell count. This is known as a haematology sample. This must be done to ensure it is safe to give the drug. Occasionally, the white blood cell count may be too low to give the drug, and treatment may be delayed for several days to give the body time to recover. At times, other blood tests or urine sample tests may also be required, and it may be necessary for you to collect a urine sample from your pet.

As your pet will excrete the chemotherapy agent in urine, faeces, vomit and potentially saliva you must undertake strict hygiene procedures following the chemotherapy dose. Please see below for further information.

Health and Safety advice

Pregnant or breastfeeding women, children, the elderly and immunosuppressed individuals should not handle chemotherapy drugs. If you are unsure, please discuss this with the oncology department.

As previously stated, your pet will be excreting the chemotherapy drug following administration. The risk to you from your pet at this time should be minimal. However, as the risk cannot be quantified, there are some sensible precautions you should take to reduce your exposure during this time.

Minimize direct contact with your pet and always wash your hands after handling them. Do not allow your pet to sleep in the family beds and wear gloves when handling any urine, faeces, vomit or saliva. If your pet should have an accident in the house, you should clean the area as soon as you can, with water and bleach (should the flooring allow). Your pets bedding should be washed regularly and separately from your regular washing.

Dogs should be walked in quiet areas. Do not allow them to soil areas where children will be playing, picnics may be happening, or where

there is a high dog population or where urine cannot soak away. You should take a bottle of water with you on your walk to dilute down any urine passed in all areas especially where urine does not soak into the ground such as on concrete. All faeces should be picked up and disposed of in the bin. If your cat uses a litter tray, you should use a paper-based litter to reduce dust contamination. The tray should be emptied wearing gloves as soon as possible after soiling. Try to prevent your cat from scratching around in their dirty tray. Plastic litter tray liners are available that prevent any contamination of the tray and allow easy containment of waste. If possible try to have one litter tray per cat, if you have multiple cats.

How can I protect myself when administering oral medication?

At times, you may have to administer oral chemotherapy tablets at home. You should always wear gloves when handling your pet's medication. Most tablets will have a protective coating that is lost when the tablets are broken. Therefore, chemotherapy tablets must not be broken, split or crushed. You must make sure that your pet swallows the medication and does not spit it out. The medication should be stored away from food areas, children and other pets. You should wash your hands after removing the gloves.

If your pet spits out the medications, or parts of it, please clean the area very well with water and bleach (if flooring permit), and wear gloves.

Will my pet experience any side effects?

When choosing a chemotherapy protocol we will try to use drug doses and combinations that will cause the least side effects while still giving the best therapeutic benefit possible for your pet.

Potential drug side effects for your pet are not

dissimilar to those you may be familiar with in human patients. Generally, these side-effects occur much less commonly in our patients, and they are also usually less pronounced.

There are three body systems that can commonly be affected:

- 1) Gastrointestinal system** – nausea, vomiting, diarrhoea can be seen.
- 2) Bone marrow** – this can be suppressed to result in a low blood cell count and may leave your pet susceptible to infection.
- 3) Hair/coat** – a small degree of hair loss can occur, most commonly in dogs with continually growing hair coats, and cats commonly lose their whiskers. Bathing your pet or swimming may increase hair shedding. Clipped hair may not fully regrow until the chemotherapy regime is finished.

There is a chance, therefore, that your pet experiences the following symptoms after your visit:

- Lethargy
- Nausea (drooling)
- Inappetance
- Vomiting
- Diarrhoea
- Urinary issues
- Hair loss (less common in animals)

Depending on the specific chemotherapy drug used, other adverse effects may occur, and the oncology team will discuss this with you in detail.

If you notice any of these symptoms we would like to hear from you. We may be able to give your pet some medication to relieve symptoms or may need to see them for further assessment. This may include checking their blood parameters.

In a small number of cases hospitalisation may be required due to severe gastrointestinal upset

or decrease white blood cell count where your pet would be at increased risk of infections.

What happens if my pet experiences side effects?

The aim of treatment is that your pet feels well throughout their chemotherapy protocol. Unfortunately, every patient is different in how they respond and if they have any side effects. Therefore, we generally start with a dose that most patients tolerate well. If they do not tolerate it then we can consider a lower dose of the drug or even, in some cases, change the type of drug that is given, or even stop the chemotherapy treatment.

Are there any drugs with additional special side effects?

Steroid drugs:

These can have a role in cancer treatment protocols. You will probably notice some side effects. They will include drinking more and therefore your pet will need to have free access to water and frequent opportunities to urinate. Their appetite will often increase and they will pant more. These side effects are reversible and will improve as the dose reduces.

Cyclophosphamide:

Occasionally some dogs following cyclophosphamide therapy will experience signs of bladder discomfort (straining to urinate, urinating small amounts frequently, blood in the urine). Please call us if you notice any of these signs. To help reduce the risk of this happening following the cyclophosphamide treatment the medication should be given in the morning and make sure your pet has plenty of fresh water available at all times with frequent opportunities to urinate during the day. You may also be asked to give a diuretic (water tablet) in combination with the cyclophosphamide.

Doxorubicin:

Doxorubicin is a chemotherapy drug that has been associated with causing heart disease with long term use in some dogs. This side effect means that dogs will generally receive a limited amount of doxorubicin in their lifetime. There may be more concern with using doxorubicin in dogs with pre existing heart disease. If your dog is identified as having a form of pre existing heart disease or is a breed predisposed some heart conditions this will be discussed with you in more detail. Heart disease does not appear to be a problem in cats receiving doxorubicin although their kidneys need to be monitored closely.

Should I continue with preventative healthcare?

We strongly advise that flea and worming treatments are up to date and given to

patients that are receiving chemotherapy.

During courses of induction chemotherapy treatments, it may not be advisable for annual vaccination boosters to be administered, as patients may not be able to mount an appropriate immune system response to become immune to the diseases for which they are vaccinated against. Nevertheless if the vaccinations need to be administered for other reasons (e.g. travelling purposes) most of them shouldn't be harmful. Please note that no live vaccines (e.g. vaccine against kennel cough) should be administered during induction chemotherapy treatment. Please always check with the oncology team before proceeding with any vaccinations.

Questions

If you have any questions at all then do not hesitate to contact Southern Counties Veterinary Specialists on (01425) 485615.





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